REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Module for Senior Treatment Supervisors

Ensuring Proper Treatment, Registration & Reporting

Central TB Division
Directorate General of Health Services
Ministry of Health and Family Welfare, Nirman Bhavan,
New Delhi 110011

Module for Senior Treatment Supervisors (STS)

Ensuring Proper Treatment, Registration and Reporting

Successful completion of the 'Module for Multi- purpose Workers' and other DOT Providers' is a prerequisite for successful completion of this module.

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PART 1: ENSURING PROPER TREATMENT

INTRODUCTION

Tuberculosis (TB) kills more adults in India than any other infectious disease. More than 1,000 people a day-one every one and half minute-die of TB in our country.

Despite the existence of a National Tuberculosis Programme (NTP) since 1962, the treatment completion rate had been around 30% and the desired results had not been achieved. There was an over-dependence on X-rays for diagnosis. Treatment regimens used are often non-standard and incomplete treatment is the norm rather than the exception.

The goal of RNTCP is to decrease mortality and morbidity due to TB and cut transmission of infection until TB ceases to be a major public health problem. The goal is achieved through the objectives.

The objectives of RNTCP are

- To achieve and maintain a cure rate of at least 85% among newly detected infectious (new sputum smear-positive) cases, and
- To achieve and maintain detection of at least 70% of such cases in the population

However, the objective for case detection should be attempted once the cure rate of 85% is achieved among new sputum smear-positive patients already detected.

STRUCTURE OF THE REVISED NATIONAL TUBERCULOSIS CONTROL (RNTCP) PROGRAMME

The structure of RNTCP comprises of five levels, as follows:

1. National
2. State
3. District
4. Sub-district
5. Peripheral health institutions

A major organizational change is the creation of a sub-district level – the tuberculosis unit (TU) for the systematic monitoring and supervision of diagnostic and treatment aspects of the programme. State TB Control Societies (STCSs) and District Tuberculosis Control Societies (DTCSs) have been formed to give more ownership to the states and districts. Hence, states will assume direct responsibility for monitoring

and supervision of the work of the District TB Control Societies (DTCSs) in the state for implementation of RNTCP. States will prepare and ensure the implementation of an action plan for the improvement of RNTCP on an annual basis. Establishment of societies provides greater discretion and enhanced responsibility to states/districts over financial matters.

National level (Central TB Division)

The Central TB Division (CTD) is a part of the Ministry of Health and Family Welfare (MoHFW), and is responsible for tuberculosis control in the whole country. A National Programme Manager, the Deputy Director General TB (DDG TB), is in charge of the tuberculosis programme for the entire country. CTD plans, supervises, monitors and evaluates programme activities throughout the country.

State level

With the rapid expansion of the programme, MoHFW has re-structured and strengthened the functions of the State TB Control Society (STCS). The States have increased ownership and accountability for implementation. Capacity building and de-centralization are taking place in the technical, financial as well as logistic aspects of the programme. The States, via the STCSs, are now directly responsible for monitoring and supervising the work of District TB Control Societies (DTCSs).

At the State level, the State Tuberculosis Officer (STO) is responsible for planning, training, supervising and monitoring the programme in their respective states as per the guidelines of the STCS. The STO based at the State TB Cell is administratively answerable to the State Government and technically follows the instructions of the CTD, and coordinates with CTD and the districts for executing the duties mentioned above. There should be a full-time STO trained in RNTCP for each state. In major states of the country, a state TB Training and Demonstration Centre (STDC) supports the state TB cell by providing training, supervision co-ordination, monitoring and technical functions.

District level

The district is the key level for the management of primary health care services. The district level (or municipal corporation level) performs functions similar to those of the state level in its respective area. The District Tuberculosis Control Society (DTCS) is responsible for monitoring programme implementation, arranging necessary logistics such as transport, and procuring materials such as laboratory consumables. This society functions with the District Collector/ Magistrate as Chairman, the District Tuberculosis Officer (DTO) as Member Secretary, and has governmental and non-governmental representatives.

The District Tuberculosis Centre (DTC) is the nodal point for TB control activities in the district. The District TB Officer (DTO) at the DTC has the overall responsibility of

physical and financial management of RNTCP at the district level as per the guidelines of the DTCS. The DTO is also responsible for involvement of other sectors in RNTCP and is assisted by an MO, Statistical Assistant and other paramedical staff. For each district, there should be a full-time DTO, who is trained in RNTCP.

Sub-district level (Tuberculosis Unit level)

A team, comprising a specifically designated Medical Officer–TB Control (MO-TC), Senior Treatment Supervisor (STS) and Senior Tuberculosis Laboratory Supervisor (STLS), is based in a Community Health Centre (CHC), Taluk Hospital (TH) or Block Primary Health Centre (BPHC). The team of STS and STLS at the Tuberculosis Unit level (TU level) are under the administrative supervision of the DTO / MO-TC.

The TU covers a population of approximately 5 Lakhs (2.5 Lakhs in tribal, desert, remote and hilly regions). The TU will have one Microscopy Centre for every 1 Lakh population (0.5 Lakh in tribal, desert, remote and hilly regions) referred to as the Designated Microscopy Centre (DMC). DMCs are also provided in Medical Colleges, Corporate hospitals, ESI, Railways, NGOs, private hospitals, etc, depending upon requirements. The TU is responsible for accurate maintenance of the Tuberculosis Register and timely submission of quarterly reports to the district level.

The TU is the nodal point for TB control activities in the sub-district. MOTC at the TU has the overall responsibility of management of RNTCP at the sub-district level and is assisted by the STS and STLS. MO-TC is also responsible for involvement of other sectors in RNTCP. The MO-TC is trained in RNTCP at a state level institution, preferably State TB Training and Demonstration Centre (STDC).

The MO-TC at the TU is responsible for organizing sputum smear examination at all DMCs of the sub-district, carrying out treatment categorization of diagnosed patients (and supporting other MOs of the sub-district to do the same), and ensuring that DOT is taking place as per guidelines at all DOT centres. He should ensure a regular supply of drugs and other logistics and ensure their uninterrupted availability in all peripheral health institutions in the sub-district. MOTC is responsible for updating records and preparing quarterly reports on case finding, sputum conversion, results of treatment outcome and programme management of the corresponding TU.

Key functions of the Tuberculosis Unit team are to

- **Maintain the Tuberculosis Register**
- **Organize and ensure effective diagnosis and direct observation of treatment**
- **Prepare quarterly reports on case finding, sputum conversion, results of treatment, and programme management**
- **Ensure adequate supply of drugs, reagents and logistics regularly**
- **Involvement of other sectors in RNTCP**
- **Ensure effective IEC activities**

As the STS, you are a part of the sub-district level. Each sub-district is a Tuberculosis Unit (TU). One of the core functions of this unit is to maintain the Tuberculosis Register, from which Quarterly Reports are compiled. A list of the responsibilities of the STS is given in Annexure I.

You are personally responsible for ensuring that policies of the RNTCP are followed, and results of treatment and laboratory examinations are accurately and promptly recorded in the Quarterly Reports.

Sub-district

Staff from the District Tuberculosis Centre (DTC) will also function as a Tuberculosis Unit (TU) for one sub-district in the area under the DTC.

The functions of the STS[1], in coordination with the STLS and designated Medical Officer, are to:

- supervise the diagnostic and treatment services in the TU area including onsite evaluation of microscopy centres and supervision of DOT providers;
- ensure a regular supply of drugs and other logistics for their uninterrupted availability in all designated centres of the sub-district;
- retrieve unfinished medicine boxes of patients who have died or defaulted (i.e. stopped treatment for two months or more continuously) for reconstitution at district level;

[1] detailed job responsibilities of STS is given in Annex A.

- establish liaison with medical college hospitals and large hospitals, private practitioners and NGOs providing TB services, referral and ensure registration and notification;

- organize regular training and continuing education;

- keep the Tuberculosis Register up-to-date;

- ensure preparation and timely submission of Quarterly Reports on case detection, sputum conversion and treatment outcome, and on programme management;

- make sure symptomatic patients are identified and referred for diagnosis;

- referral for treatment within the TU;

- ensure coordination with VCTC in cross referral and treatment and reporting; and

- maintain a map of the area detailing all health facilities in the area, including government organizations and NGOs which specifically carry out TB activities, as well as the staff responsible for these activities (name, position and location).

Peripheral Health Institutions (PHIs)

At this level are the dispensaries, PHCs, CHCs, referral hospitals, major hospitals, specialty clinics / hospitals (including other health facilities) within the district. Some of these PHIs will also be RNTCP Designated Microscopy Centres (DMCs), where sputum smear microscopy examination is performed under the programme.

Main responsibilities of the Medical Officer at the PHIs (MO-PHI) (including those at DMCs)

- Refer all patients with cough for 3 weeks or more (tuberculosis suspects) or send their sputum specimens to DMC for microscopy examination

- Carry out treatment categorization of diagnosed patients; give health education to them; ensure that Directly Observed Treatment (DOT) is implemented in all diagnosed cases; identify DOT providers (health worker or community volunteer, other than a family member, who administers DOT, and is accessible and acceptable to the patient and accountable to the health system) for them (in consultation with the concerned workers as well as the patients) and start DOT within 7 days of diagnosis.

- Ensure that patients who interrupt treatment are traced and brought back to treatment

- Maintain up-to-date Tuberculosis Treatment Cards and records and make them available to supervisory staff when they visit the health facilities.
- Monitor and facilitate follow-up sputum smear examinations.
- Identify and investigate contacts of smear-positive patients.
- Record treatment outcomes in the treatment cards.
- Identify and train DOT provider as and when needed, update list of DOT providers under intimation to MO-TC.
- Submit monthly report on programme management, logistics and microscopy to the TU.
- Supervise and monitor DOT services in their jurisdiction; ensuring DOT in all cases.
- MOs of DMC are also responsible for supervision and monitoring the microscopy activities of their institution.

DEFINITIONS: THE REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Case definitions	Types of cases	Treatment outcomes
Pulmonary Tuberculosis, Smear-Positive TB in a patient with at least 2 initial sputum smear examinations (direct smear microscopy) positive for AFB. Or: TB in a patient with one sputum smear examination positive for AFB and radiographic abnormalities consistent with active pulmonary TB as determined by the treating MO. Or: TB in a patient with one sputum smear specimen positive for AFB and culture positive for M.tuberculosis. **Pulmonary tuberculosis, Smear-negative** TB in a patient with symptoms suggestive of TB with at least 3 sputum smear examinations negative for AFB, and radiographic abnormalities consistent with active pulmonary TB as determined by the treating MO followed by a decision to treat the patient with a full course of anti-tuberculosis therapy. Or: Diagnosis based on positive culture but negative AFB sputum smear examinations. **Extra Pulmonary tuberculosis** TB of any organ other than the lungs, such as the pleura (TB pleurisy), lymph nodes, intestines, genitourinary tract, skin, joints and bones, meninges of the brain, etc. Diagnosis should be based on culture-positive specimen from the extra-pulmonary site, histological, radiological, or strong clinical evidence consistent with active extra pulmonary TB followed by decision of the treating MO to treat with a full course of anti-TB therapy. Pleurisy is classified as extra pulmonary TB. A patient diagnosed with both sputum smear positive pulmonary and extra pulmonary TB should be classified as pulmonary TB.	**New** A TB patient who has never had treatment for tuberculosis or has taken anti-tuberculosis drugs for less than one month. **Relapse** A TB patient who was declared cured or treatment completed by a physician, but who reports back to the health service and is now found to be sputum smear positive. **Transferred in** A TB patient who has been received for treatment into a Tuberculosis Unit, after starting treatment in another unit where s/he has been registered. **Treatment after default** A TB patient who received anti-tuberculosis treatment for one month or more from any source and returns to treatment after having defaulted, i.e., not taken anti-TB drugs consecutively for two months or more, and is found to be sputum smear positive. **Failure** Any TB patient who is smear positive at 5 months or more after starting treatment. Failure also includes a patient who was treated with Category III regimen but who becomes smear positive during treatment. **Chronic** A TB patient who remains smear positive after completing a re-treatment regimen. **Others** TB patients who do not fit into the above mentioned types. Reasons for putting a patient in this type must be specified.	**Cured** Initially sputum smear-positive patient who has completed treatment and had negative sputum smears, on two occasions, one of which was at the end of treatment **Treatment completed** Sputum smear-positive patient who has completed treatment, with negative smears at the end of the intensive phase but none at the end of treatment. Or: Sputum smear-negative TB patient who has received a full course of treatment and has not become smear-positive during or at the end of treatment. Or: Extra-pulmonary TB patient who has received a full course of treatment and has not become smear-positive during or at the end of treatment. **Died** Patient who died during the course of treatment regardless of cause **Failure** Any TB patient who is smear positive at 5 months or more after starting treatment. Failure also includes a patient who was treated with Category III regimen but who becomes smear positive during treatment. **Defaulted** A patient who has not taken anti-TB drugs for 2 months or more consecutively after starting treatment. **Transferred out** A patient who has been transferred to another Tuberculosis Unit/District and his/her treatment result (outcome) is not known.

ENSURE IDENTIFICATION OF TUBERCULOSIS SUSPECTS

The Medical Officer (MO) at the health facility screens the patients and sends those who are suspected of having pulmonary TB for sputum smear examination. Patients suspected of having pulmonary TB may also be referred by private practitioners to the government services for diagnosis and treatment.

Adult outpatients should be asked if they have cough for 3 weeks or more. All persons who have cough for 3 weeks duration or longer should have 3 sputum smear examinations for acid-fast bacilli (AFB). Sputum smear examination facility and anti-tuberculosis treatment are available free of charge at RNTCP implementing facilities.

MESSAGE FOR HEALTH STAFF

Always suspect TB when adult patients complain of cough for 3 weeks or longer duration. Send them for 3 sputum smear examinations at the RNTCP designated microscopy centre where these facilities are available free of cost.

Patients of extra-pulmonary TB, and contacts of sputum smear-positive patients, should have three sputum smears examined for AFB irrespective of the duration of cough.

The patient receives sputum containers and instructions for bringing out sputum. S/he then provides the sputum samples which are examined in the designated microscopy laboratory. If sputum microscopy is not available at the health facility, the patient's sputum is sent to the nearest designated microscopy centre, or the patient himself/herself may be referred to these centres if they are close by. Three sputum samples are collected over two consecutive days - one spot specimen on the first day, the patient is given a sputum container to bring one early morning specimen the next day and another spot specimen is collected when he comes to deliver the second specimen.

TRANSPORT OF SPUTUM SPECIMENS

The health worker is responsible for making sure that after the sputum is collected, it is taken to the laboratory as soon as possible. Local arrangements should be made for transport of specimens to the designated microscopy centre and the results of sputum smear examinations from the microscopy centre back to the treating physician. Guidelines for transport of sputum specimens are given in the Manual for Laboratory Technicians.

Sputum specimens should be examined by sputum smear microscopy not later than 1 week after they are collected.

Patients with **two positive smear results** are diagnosed as smear-positive cases. Based on their treatment history, they are further classified as New or previously treated cases (Relapses, Failures, Treatment After Default) and appropriate treatment regimen is prescribed.

Patients with **only one positive smear result** are referred to the nearest X-ray facility. Of these, patients who have chest X-ray compatible with TB as diagnosed by an MO, are considered to be suffering from TB and are registered as smear-positive cases.

Patients **with three initial negative smear results** are prescribed broad spectrum antibiotics for 10-14 days. Most patients are likely to improve with a course of antibiotics if they are not suffering from TB. If the symptoms persist after the course of antibiotics, the patient is re-evaluated by repeat sputum examination and X-ray examination. Thereafter, if in the opinion of the treating physician, patient is having Tuberculosis, treatment is initiated accordingly. (See diagnostic algorithm on page 11)

Depending upon their clinical condition they will be classified as, seriously ill and, not seriously ill cases, and placed under the appropriate treatment regimen. (The severity of the disease depends on the bacillary load, the extent of the disease, and the anatomical site of the disease. The involvement of an anatomical site helps in classifying if the disease is severe, depending on whether it is life threatening or has high risk of developing subsequent severe handicap or both. See table given below for examples of TB classified as seriously ill). If the patient is put into the seriously ill category, reasons for the same should be mentioned in the Remarks column of the Tuberculosis Treatment Card and Tuberculosis Register.

Extra-pulmonary TB are classified as "seriously ill":	**Smear-negative pulmonary TB are classified as seriously ill:**
• meningitis • pericarditis • peritonitis • bilateral or extensive pleural effusion • spinal TB with neurological involvement • intestinal • genito-urinary • co-infection with HIV • All forms of pediatric extra-pulmonary TB other than lymph node TB and unilateral pleural effusion are considered to be seriously ill.	• miliary TB • extensive parenchymal infiltration • co-infection with HIV • cavitary disease • All forms of pediatric sputum smear-negative pulmonary TB except primary complex

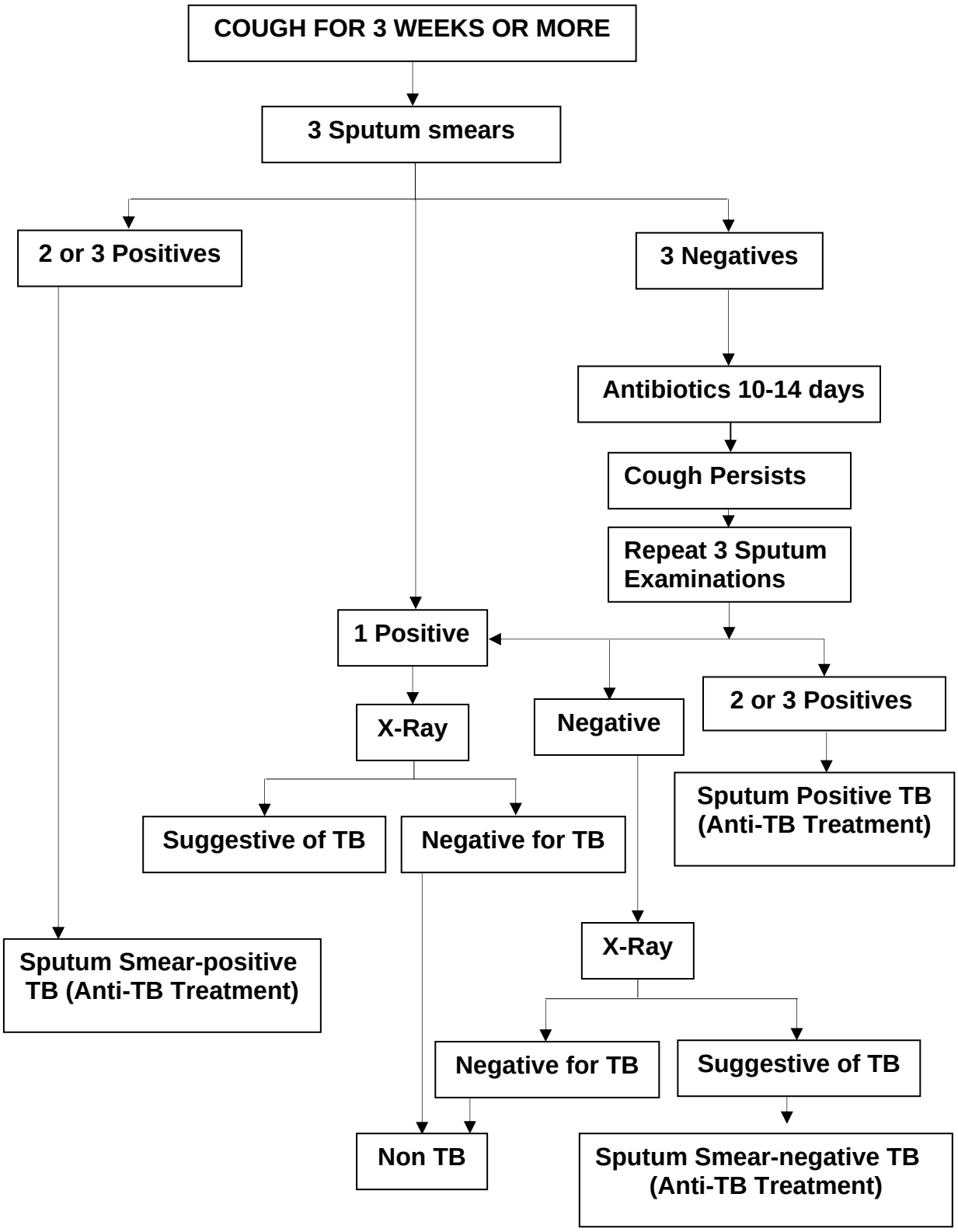
If good diagnostic practices are followed as indicated above it is expected that at least 45-50% of the New Pulmonary TB patients diagnosed will be smear-positive.

Extra-pulmonary TB cases will be diagnosed by physicians. Diagnostic procedures undertaken to arrive at the diagnosis must be mentioned in the Tuberculosis Treatment Card.

Unless the diagnostic algorithm given on the next page is followed, a large proportion of the patients treated for tuberculosis on the basis of abnormal X-rays alone, may actually not be suffering from tuberculosis and thus put on treatment which they do not require.

Every patient who has cough for 3 weeks or more, with or without other symptoms suggestive of tuberculosis, should have 3 sputum samples examined for AFB.

DIAGNOSTIC ALGORITHM FOR PULMONARY TB



ENSURE PROPER TREATMENT OF PATIENTS

Before a patient begins chemotherapy, it is very important to find out from the patient whether he has previously taken drugs for tuberculosis and if so for how long. Treatment regimens differ in respect of type of drugs and the duration of treatment regimen for different categories. A patient who has never taken anti-tuberculosis drugs (or has taken these drugs for less than one month) will start on a different treatment regimen as compared to a patient who has taken anti-tuberculosis drugs in the past for one month or more.

Verify disease classification, type of patient, and category of treatment

Refer to page 7 for information on definitions used in the RNTCP. Study these definitions carefully and ensure that they are strictly adhered to.

Treatment is given according to categories. These categories must be strictly adhered to. Please review carefully the table given below.

Thrice a week treatment is as effective as daily treatment provided you ensure that the patient swallows the drugs in the presence of a health worker/ volunteer as per the policy of Directly Observed Treatment (DOT).

RNTCP DOTS Treatment Regimens

Category of Treatment	**Type of Patient**	**Regimen***
Category I	New sputum smear-positive Seriously ill** new sputum smear-negative Seriously ill** new extra-pulmonary	$2H_3R_3Z_3E_3$/ $4H_3R_3$
Category II	Sputum smear-positive Relapse Sputum smear-positive Failure Sputum smear-positive Treatment After Default Others***	$2H_3R_3Z_3E_3S_3$ / $1H_3R_3Z_3E_3$ / $5H_3R_3E_3$
Category III	New Sputum smear-negative, not seriously ill New Extra-pulmonary, not seriously ill	$2H_3R_3Z_3$ / $4H_3R_3$

* *The number before the letters refers to the number of months of treatment. The subscript after the letters refers to the number of doses per week. The dosage strengths are as follows: H: Isoniazid (600 mg), R: Rifampicin (450 mg), Z: Pyrazinamide (1500 mg), E: Ethambutol (1200 mg), S: Streptomycin (750 mg). Patients who weigh 60 kg or more receive additional rifampicin 150 mg. Patients who are more than 50 years old receive streptomycin 500 mg. Patients who weigh less than 30 kg, receive drugs as per body weight. Patients in Categories I and II who have a positive sputum smear at the end of the initial intensive phase receive an additional month of intensive phase treatment.*

** *Seriously ill also includes, any patient, pulmonary or extra-pulmonary who is HIV positive and declares his sero-status to the categorizing/ treating medical officer. For the purpose of categorization, HIV testing should not be done*

*** *In rare and exceptional cases, patients who are smear-negative or who have extra-pulmonary disease can have Relapse or Failure. This diagnosis in all such cases should always be made by an MO and should be supported by culture or histological evidence of current, active TB. In these cases, the patient should be categorized as 'Others' and given Category II treatment.*

Each patient who begins treatment for tuberculosis must have a Tuberculosis Treatment Card. It is very important to ensure that during the intensive phase of treatment (which is 2 to 4 months of directly observed administration of drugs) patients are **swallowing every dose** of their medication under the direct observation of the DOT provider. To ensure proper drug administration, observe DOT providers administering drugs to the patients and speak directly with the patients to determine whether they have been receiving the correct number and type of drugs. After the patients swallow their drugs in the presence of a health functionary, those receiving streptomycin should be given the injections with **sterile syringes** and **needles**.

The patients' houses should be visited by health staff for confirmation of address before commencement of treatment. This opportunity should also be used for screening of contacts and motivating the patient for taking the complete treatment regularly. The Medical Officer at the diagnostic health facility (PHC/CHC/DTC) prepares the treatment card for the patient.

The DOT Provider records the drug administration in the Tuberculosis Treatment Card at the time of directly observed intake of drugs, and refers the patient to the microscopy unit when follow-up sputum smear examinations are due. He also enquires about any side effect to the drugs and if necessary, refers the patient to the MO.

Responsibility of administration of streptomycin injections at the periphery can be entrusted to the Auxiliary Nurse Midwife (ANM) or equivalent at the sub-centre level or to any registered medical practitioner who is acceptable and accessible to the patient. If this is not possible, the patient has to come to the PHC, CHC, or any other nearest health institution. The streptomycin injection should be given using disposable or sterilized syringes and needles. Water-for-injection should be made available. Empty blister packs must be preserved.

During the continuation phase the patients collect drugs from the DOT centre (DOT provider) on a weekly basis, and must present at the time of next week's collection the empty strip/blister pack of the drugs consumed. When the patient comes to collect the drug every week during the continuation phase, the first dose must be administered under direct observation.

Arrange for the treatment to be as convenient to the patient as possible. Patients should be administered their drugs from a identified DOT centre close to their home. During

supervisory visits to the DOT centres, review the Tuberculosis Treatment Cards to determine whether these patients are **regularly coming to the DOT Centre to take their drugs**. In selected cases, visit the patients to ensure the authenticity of the information recorded in the Tuberculosis Treatment Cards. Make sure any patient who has stopped taking drugs is traced and brought back under treatment.

As part of your responsibilities in administering treatment, make sure that child under 6 years of age with a family member who is smear-positive are evaluated for tuberculosis. If they do not have tuberculosis, they should get proper preventive treatment. However, if they have tuberculosis, make sure they receive the appropriate treatment.

Regimen for non-DOTS (ND) treatment in RNTCP areas

In RNTCP areas, nearly all patients should be treated with a DOTS regimen. However, RNTCP-non-DOTS treatment (self administered non rifampicin containing regimen) may be needed in a few exceptional cases (e.g. adverse reaction to rifampicin and pyrazinamide). To facilitate registration of patients started on RNTCP's non-DOTS regimens, a Tuberculosis Treatment Card should be filled. Up to a maximum of 5% of patients may get non-DOTS treatment in an RNTCP area. However, this is an admission of failure of the programme to ensure convenient and effective treatment observation, and should be gradually phased out. The justification for initiating a patient on non-DOTS treatment should be specified in the "Remarks" column of the treatment card and TB register. The prescribed non- DOTS treatment regimen and dosages are presented below.

Treatment	Type of patient	Regimen
Non-DOTS Regimen 1 (ND1)	Smear-positive pulmonary Smear-negative pulmonary, seriously ill Extra-pulmonary, seriously ill	2HSE +10HE
Non-DOTS Regimen 2 (ND2)	Smear-negative pulmonary, not seriously ill Extra-pulmonary, not seriously ill	12 HE

Non-DOTS Regimen 1 (ND1): 12-months conventional chemotherapy regimen, with streptomycin given in the first 2 months. This is given to patients who are:

All cases of sputum smear-positive pulmonary TB and Seriously ill cases of smear-negative and extra-pulmonary TB The treatment consists of 12-month conventional chemotherapy. The initial intensive phase lasts for 2 months and the continuation phase for 10 months. Isoniazid and ethambutol are self-administered by the patient daily for 12 months. Streptomycin is administered daily in the initial intensive phase.

Dosage for adults is one tablet of isoniazid (300 mg) and one tablet ethambutol (800 mg) every day. The dosage for streptomycin injection is 0.75 g per day (0.5 g for those over 50 year of age). Those who weigh less than 30 kgs receive dosages calculated as per body-weight.

Non-DOTS Regimen 2 (ND2): 12-months conventional chemotherapy regimen, without streptomycin for:

All patients with smear-negative pulmonary TB who are not seriously ill; and

All patients with extra-pulmonary TB who are not seriously ill

The treatment consists of 12-month conventional chemotherapy. Isoniazid (300 mg) and ethambutol (800 mg) are self-administered by the patient daily for 12 months.

Rifampicin containing regimen should never be given unsupervised.

Symptom-based approach to evaluation of possible side-effects of anti-tuberculosis drugs used in the RNTCP

In some cases, patients face problems with medicines prescribed in the RNTCP. The table below gives some symptoms which patients may experience, the drug that is most likely responsible for these symptoms, and the appropriate action that should be taken.

Symptom	Drug (abbreviation)	Action to be taken
Drowsiness	Isoniazid (H)	Reassure patient
Red-orange urine/tears	Rifampicin (R)	Reassure patient
Gastrointestinal Upset	Any oral medication	Reassure patient Give drugs with less water. Give drugs over a longer period of time. Do not give drugs on empty stomach. If above fails, consult MO regarding anti- emetic if appropriate
Itching	Isoniazid (H) (other drugs also)	Reassure patient If severe, stop all drugs and refer patent to MO
Burning in the hands and feet	Isoniazid (H)	Refer to MO who will give pyridoxine 100 mg/day symptoms subside

Joint pains	Pyrazinamide (Z)	If severe, refer patient for evaluation
Impaired vision	Ethambutol (E)	STOP treatment, refer patient for evaluation
Ringing in the ears	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Loss of hearing	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Dizziness, loss of balance	Streptomycin (S)	STOP streptomycin, refer patient for evaluation
Jaundice	Isoniazid (H) Rifampicin (R) Pyrazinamide (Z)	STOP treatment, refer patient for evaluation

In all cases of jaundice, anti-tuberculosis drugs should be stopped immediately and the patient referred for evaluation.

Patient flow for DOT

After receiving the sputum results, the MO of the Peripheral Health Institution (PHI) takes the following measures:

- establishes the diagnosis of tuberculosis;
- decides the type of patient and category of treatment;
- explains to the patient about:
  - the disease;
  - the treatment (dosage schedule, duration, common side-effects and methods to prevent them);
  - examination of contacts (especially, if patient is smear-positive);
  - frequency of monitoring of progress until cure; and
  - importance of directly observed treatment (DOT).

- determines the DOT Centre and the DOT Provider (both of which should be accessible and acceptable to the patient and accountable to health system);

- initiates the Tuberculosis Treatment Card (in duplicate) and the TB Identity Card. The original Tuberculosis Treatment Card is maintained at the PHC or CHC where the patient belongs; and

- arranges for the transfer of patient-wise box to the DOT Centre along with the TB treatment Card, TB Identity Card and sputum containers for morning samples of follow-up sputum examinations.

At the centre where treatment is begun, the patient is given an Identity Card indicating name, address, sex, age, TB No. (when assigned) name of health centre, disease classification, date of starting treatment, type of patient, category of treatment and sputum examination results. The patient is supposed to bring the Identity Card during every visit to the health centre. The TB No. written thereon facilitates retrieval of his records. Treatment regimen and appointment dates are noted and at the end of treatment the MO indicates the outcome, signs and affixes his stamp.

If the patient is to be treated by a Peripheral Health Worker (PHW) or community volunteer DOT provider, a duplicate Tuberculosis Treatment Card will be prepared and given to the PHW/DOT provider to record the DOT. The MO of the PHI will give the patient's medicine box for the entire duration of treatment to the PHW/ DOT provider. The date when this medicine box is issued to the PHW will be duly recorded in the Stock Register maintained at the PHI. The PHW visits the house of the patient (definitely within a week) and has a detailed dialogue with the patient and other members of the family. S/he emphasizes the treatment schedule, importance of regular uninterrupted intake of drug, completion of the entire course of treatment, possible intolerance, etc. as well as the need for evaluation of symptomatic contacts and treatment of child contacts (if the patient is smear-positive). After this visit, treatment is commenced by the PHW (MPW, Anganwadi worker, Village Health Guide) or community volunteer. For drug administration the PHW and the patient mutually decide upon a convenient location.

During the intensive phase of treatment each and every dose of medicine is to be taken under direct observation of the PHW/DOT provider. Where no government health worker can provide DOT, a community volunteer who is accessible, willing and acceptable to the patient and who can be accountable to the health system can do so. Possible community volunteers include Anganwadi workers, Dais, teachers, Panchayat leaders, religious leaders, and others. Family members should not give DOT, as it has been found that this arrangement is not reliably effective.

Patients should be visited by the peripheral health worker before commencement of treatment. Treatment should be started only after the visit has been made by the PHW.

Only under very exceptional circumstances can unsupervised drug administration be allowed (and only for a limited number of doses). For instance, if a patient is being discharged from hospital after initiation of treatment, s/he can be provided with 3 doses of treatment so that her/his treatment does not get interrupted during her/his transfer to a nearby PHI. In such circumstances, the entries for the unsupervised doses should be encircled on the Tuberculosis Treatment Card and the reason for the same should be stated in the **Remarks** column of the treatment card.

Phases and duration of treatment

Category	Duration (number of doses)		Total
	Intensive phase	Continuation phase	
CAT I	8 weeks (24 doses)	18 weeks (54 doses)	26 weeks (78 doses)
CAT II	12 weeks (36 doses)	22 weeks (66 doses)	34 weeks (102 doses)
CAT III	8 weeks (24 doses)	18 weeks (54 doses)	26 weeks (78 doses)

Duration of treatment if sputum smear is positive at 2/3* months

Category	Duration (number of doses)		Total
	Intensive phase	Continuation phase	
CAT I	12 weeks (36 doses)	18 weeks (54 doses)	30 weeks (90 doses)
CAT II	16 weeks (48 doses)	22 weeks (66 doses)	38 weeks (114 doses)

* CAT I--positive at 2 months CAT II--positive at 3 months

Action to be taken in case the patient interrupts treatment

Patients who miss a dose must be contacted and put back on treatment through home visits. This should be done by the health staff or community health worker no later than the day after the patient was due to come for treatment in the intensive phase, and within a week of the missed dose in the continuation phase. It is important to take action immediately after knowing that the patient missed a dose.

Delays in retrieval actions can lead to irretrievable loss of the patient. This action taken to retrieve such patients has to be recorded in the space provided at the back of the treatment card with details of the retriever, date/time of attempted retrieval and the outcome of such efforts.

The health worker should discuss problems with the patient and find ways of preventing him from defaulting. S/he should convince the patient that cure depends on regular intake of drugs and convey the same message to his/her relatives so that they take an interest and ensure that the patient regularly takes his drug. The health worker should discuss with the patient where and what time s/he would prefer to take treatment and all possible efforts should be made to adjust to the convenience of the patient. The patient should not be blamed. Try to understand his/her difficulties and then motivate accordingly. It is best to negotiate with the patient and plan for cure. If the DOT Provider is unsuccessful in retrieving such patients, it should be reported to next level of supervisors (e.g. MPW, MO-PHI, STS, MO-TC etc.). Motivation and health education of the patient should be reinforced periodically during the course of treatment.

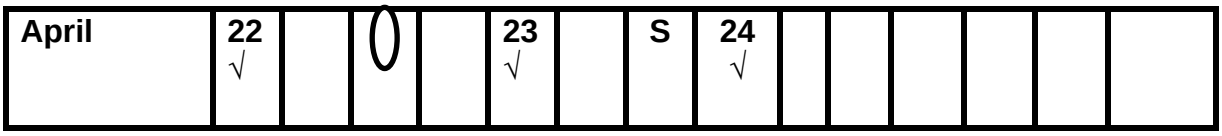
Manage treatment of pulmonary tuberculosis patients who interrupt treatment

If a patient does not take medication as scheduled in the intensive phase, s/he should be traced and given the medication on the next day. The medication for the following day is then given as scheduled. For example, if a patient is receiving directly observed treatment on Mondays, Wednesdays and Fridays, but does not take medication on Wednesday, then he should be found on Thursday and given medication. His next dose of medication should be administered on Friday, thus returning to the previous schedule.

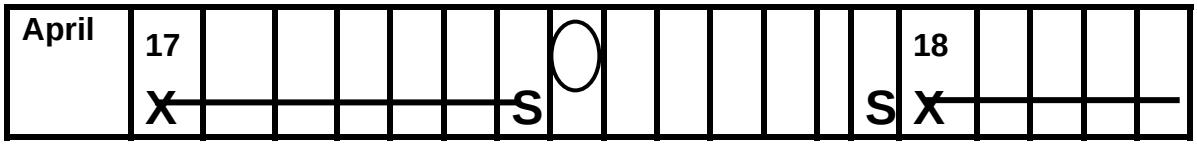
If a patient completely misses any doses of medicine (does not come on two successive days in IP or 7 days in CP), these doses must be made up at the end of the scheduled period. The category wise dose schedule in IP and CP is given in the tables on page 18. For example, a patient being treated under CAT I misses the 23rd dose of the intensive phase, but is given that dose on the following day, this would be recorded as follows:

April	**22** √		0	**23** √	**24** √		**S**						

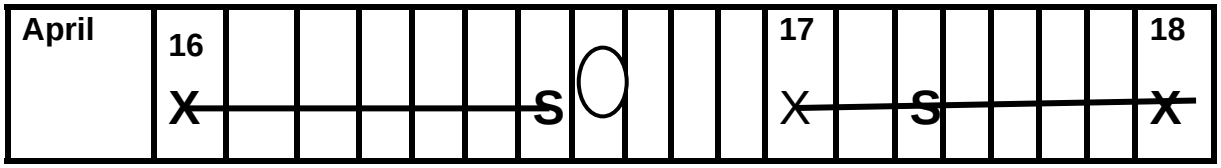
If, on the other hand, the dose is missed and the patient does not report to the health facility the next day, then the dose is given on the next scheduled day, as follows:



In the same manner, if the patient misses a weekly drug collection in the continuation phase, the treatment is given and recorded as follows:



During the continuation phase, if the patient is late by a single day for drug collection, the dose may be given and other doses taken as scheduled. If the patient is late by two days or more from the date on which he was scheduled to have the first directly observed dose of the weekly blister pack and collects drugs for the remainder of the week, the treatment is given and recorded as follows:



Tuberculosis Treatment Cards should be arranged according to the day of scheduled observation and the phase of treatment (i.e. intensive phase and continuation phase). When the patient swallows the medication under direct observation, the Tuberculosis Treatment Card should be placed after the divider for the next scheduled observation (e.g. from Monday to Wednesday during the intensive phase). In this manner, the Tuberculosis Treatment Cards of patients who do not present for treatment will be apparent on the same day, facilitating appropriate action for their retrieval.

Sometimes, a patient may stop taking his/her drugs. This can happen when a patient does not understand that s/he needs to take all his/her drugs for the full duration of treatment. When such a patient returns to the treatment unit, the health worker must take the patient back on treatment. The treatment prescribed depends on the type of patient, the duration of treatment, the duration of interruption of treatment, and whether s/he is smear-positive or smear-negative when s/he returns for treatment. Consult the MO-TC for management of such patients.

The reason any dose has been missed, and the actions taken to return the patient to treatment should be recorded in the **Remarks** column of the Tuberculosis Treatment Card. If the interruption of treatment is for 2 weeks or more, refer to the tables in Annexure B for management of the patient.

RECORD RESULTS OF FOLLOW-UP SPUTUM SMEAR EXAMINATIONS

Two sputum specimens are taken each time for follow-up sputum smear examinations at specified intervals: at the end of the intensive phase, two months into the continuation phase and at the end of treatment. Results must be available by the end of the intensive phase and end of treatment. For example, in CAT I, a sputum container is given to the patient at the time of the 22nd dose, the container with the early morning specimen and a spot specimen is collected at the time when the 23rd dose is given, so as to have results available when the patient comes to take the 24th dose. Similarly, collect 2 sputum samples (early morning—spot) two weeks before the end of treatment, so that the patient can be told about the sputum results and her/his treatment outcome when s/he comes to collect the medicine for the last week. The results of follow up sputum smear examination done at the end of treatment should be available not later than one week of completion of treatment, so that appropriate outcome for the patient can be given in the TB Treatment Card. **The outcome should be recorded in the TB register within one month of the last dose of treatment.**

During follow-up sputum smear examinations, if 2 specimens are examined and one of them is positive, the patient is considered smear-positive. If both specimens are positive, the higher grade out of the two results (for example 2+) is written on the patient's Tuberculosis Treatment Card. If both specimens are negative, the patient is smear-negative and NEG is recorded in the appropriate space.

The schedule of follow-up sputum smear examinations is given in the table below:

Schedule of follow-up sputum smear examinations

Category of treatment	Pre-treatment sputum	Test at month	IF: Result is →	THEN:
Category I	+	2	-	Start continuation phase, test sputum again at 4 and 6 months‡
			+	Continue intensive phase for one more month, test sputum again at 3, 5 and 7 months ‡
	-	2	-	Start continuation phase, test sputum again at 6 months ‡
			+	Continue intensive phase for one more month, test sputum again at 3, 5 and 7 months ‡

Category of treatment	Pre-treatment sputum	Test at month	IF: Result is →	THEN:
Category II	+	3	-	Start continuation phase, test sputum again at 5 and 8 months
			+	Continue intensive phase for one more month, test sputum again at 4, 6 and 9 months
Category III	-	2	-	Start continuation phase, test sputum again at 6 months
			+	Re-register the patient and begin Category II treatment

‡ : Any patient treated with Category I , who has positive smear at 5, 6 or 7 months of treatment should be considered a Failure and started on Category II treatment afresh.

Schedule of follow-up sputum smear examinations for patients put on non-DOTS (ND_1 and ND_2 regimens):

Regimen	Sputum examinations for pulmonary TB			
	Pre-treatment sputum	Test at 2 months	Test at 6 months – If result is	THEN
ND_1 (2SHE/10HE)	Positive	Positive	+	Failure
			-	Continue treatment
		Negative	-	Continue treatment
			+	Failure
	Negative	Negative	-	Continue treatment
			+	Failure
		Positive	+	Failure
			-	Continue treatment
ND_2 (12HE)	Negative	Positive	+	Failure
			-	Continue treatment
		Negative	-	Continue treatment
			+	Failure

The most important follow-up of smear-positive cases are sputum smear examinations done at the end of 2 months (New smear-positive cases), at the end of 3 months (retreatment cases and New smear-positive cases who were smear-positive even at the end of 2 months), and at the completion of treatment. These results determine the conversion rate from smear-positive to smear-negative at the end of the intensive phase of treatment. The follow-up sputum smear examination done at the completion of treatment is essential to determine the cure rate.

A patient who is diagnosed as a **New pulmonary smear-positive** case will have his sputum examined at the end of IP (2 months). If the patient is smear-negative at the end of IP the date, name of the DMC, laboratory serial number of the sputum smear examination result should be recorded next to the row " End IP/ Extended IP **"** on the Tuberculosis Treatment Card.

If the patient is smear-positive at the end of IP (2 months), forward slashes (/) should be drawn on the Tuberculosis Treatment Card in the row " End IP/ Extended IP" under all columns. The date of the sputum smear examination should be recorded above the slash under the Date column. The name of the DMC should be recorded above the slash under the DMC column. The laboratory serial number should also be recorded above the slash under the Lab No. column The highest number associated with the positive smear results (for example 2+) should be written above the slash under the Smear result column. The initial intensive phase of drug treatment should continue for another 4 weeks. At the end of the additional 4 weeks of intensive phase i.e. at the end of 3 months (Extended IP) two samples of sputum should be examined. The date, name of DMC, lab No and smear result should be recorded below the forward slash under the appropriate columns. Sputum will then be examined at the end of Month 5 (2 months in CP), and at the end of treatment. The date, name of DMC, lab No and smear result of the highest grade sputum smear examination should be recorded in the same way.

Month	**Date**	**DMC**	**Lab. No.**	**Smear result**	**Weight**
End IP/Extended IP	17/3 / 16/4	Pushkar / Ajmer	164 / 234	1+ / NEG	45 Kg / 46 kg

A patient who is diagnosed as a *pulmonary smear-positive Relapse, Failure or Treatment After Default case* will have his/her sputum examined at the end of IP (3 months).

If the patient is smear-positive at the end of IP (3 months), forward slashes (/) should be drawn on the Tuberculosis Treatment Card in the Date, name of DMC, Lab No, smear result columns. The date of the sputum smear examination should be recorded above the forward slash under the Date column. The name of the DMC should be recorded above the slash under the DMC column. The laboratory serial number should also be recorded above the slash under the Lab No column. The highest number associated

with the positive smear results (for example 1+) should be written above the slash under the Smear result column. The laboratory serial number should also be recorded above the slash under the Lab No. column. The initial intensive phase of drug treatment should continue for another 4 weeks. At the end of the “Extended IP” (i.e. at the end of 4 months), a sputum smear should be examined. The date, name of DMC, Lab No, smear result, should be written below the forward slash under the appropriate columns.

A patient who is diagnosed as a pulmonary smear-negative or extra-pulmonary (not seriously ill with cough) will have her/his sputum examined at the end of IP (2 months) of treatment and at the end of treatment (6 months). The date, name of DMC, lab No. smear result should be recorded next to the row “End IP / Extended IP” on the Tuberculosis Treatment Card. If a patient on category III is found to be smear-positive at the end of 2 months, the patient should be placed on re-treatment regimen (CAT II) and re-registered as failure**.**

RECORD DRUG ADMINISTRATION IN INTENSIVE PHASE

A chart on the front of the Tuberculosis Treatment Card is used to indicate the days (1-31) on which a patient takes her/his drugs during the Intensive Phase of treatment. The months in which the patient will be administered drugs during the intensive phase are written under the **Month** column in the drug administration table on the bottom of the Tuberculosis Treatment Card. The appropriate box (1–31) is ticked (✓) after the drugs are administered and streptomycin injection is given (if applicable) thrice a week to the patient under direct observation. For your convenience you can mark Sunday as “S”.

RECORD DRUG ADMINISTRATION AND COLLECTION IN CONTINUATION PHASE

On the back of the tuberculosis treatment card, there is a chart to indicate when a patient collects her/his drug during the continuation phase of treatment. During the continuation phase of treatment, all patients collect drugs once a week on a designated day. One dose is administered under direct observation on the day of collection and the next two doses of the week are given to the patient for self- administration. The months in which the patient will be collecting drugs during the continuation phase are written under the Month column in the table at the back of the Tuberculosis Treatment Card. An **‘X’** is entered in the appropriate box (1–31) to indicate the day the drugs were swallowed under direct observation. A line is drawn through the remaining days of the week (after the X) to indicate that the drugs for the remaining period of the week have been given (**X**--------).

For non-DOTS treatment in RNTCP areas (in intensive as well as continuation phases)

Write **C** on the date when drugs were collected by the patient and draw a horizontal line (**C**----------) to indicate the period for which drugs were supplied for self-administration.

Other details in the treatment card

The following details are entered in the *appropriate spaces* provided at the back of the treatment card:

- Results of X-ray examination for smear-negative pulmonary TB and investigations for extra-pulmonary TB (such as histopathology report on lymph node examination)
- Treatment outcome with date and signature.
- Details of number of children under the age of 6 years in contact with a smear-positive case who are prescribed preventive chemotherapy
- Details of retrieval actions taken for patients missing one or more doses /collections in the intensive or continuation phase of treatment.

RECORD REMARKS

Any other relevant information about the patient can be written in the space for "Remarks". Remarks can include:

- Reasons for considering the patient as seriously ill
- Adverse drug reactions
- Reasons for unsupervised dose(s)
- Reason for discontinuation of drug collection (e.g., patient transferred to another district)

Keep remarks short and legible.

RECORD TREATMENT OUTCOME

Identify a patient's treatment outcome by reviewing her/his Tuberculosis Treatment Card. Write the outcome and the date the patient stopped treatment in the appropriate column. The date a patient stopped treatment is the last date s/he should have taken the drugs from the blister s/he collected in the last week of collection. The last date on which a patient collects drugs is marked with an **X'** (or **'C'** for non-DOTS) on the drug collection chart in the Tuberculosis Treatment Card. A horizontal line extends to the last

date s/he should have taken her/his last dose in the blister pack. This is the date to be entered as the date of outcome.

Use the information on the Tuberculosis Treatment Card and the Table below to identify patient's treatment outcome.

Table 2: Determination of treatment outcomes

If the patient	**Then identify the treatment outcome as**
Was registered as pulmonary smear-positive, completed treatment and had negative smear results on 2 occasions, one of which is at end of treatment	Cured
Was registered as pulmonary smear-positive, completed treatment with negative smears at the end of the intensive phase but none end of treatment	Treatment completed
Was registered as pulmonary smear-negative or extra-pulmonary, and completed treatment	
Was known to have died from any cause whatsoever while on treatment	Died
Was registered as pulmonary smear-positive CAT I, and was smear-positive at 5 months or later*	Failure
Was registered as pulmonary smear-positive CAT II (retreatment), and was smear-positive after five months of CAT II treatment	
Was registered as pulmonary smear-negative or extra-pulmonary on CAT III, but was smear-positive any time during treatment*	
Has not taken drugs for more than 2 months consecutively any time after starting treatment	Defaulted
Was transferred to another district with Transfer Form sent and treatment outcome not available	Transferred out

*Also, re-register immediately as Category II and begin the retreatment regimen

Every patient MUST have ONE and only ONE Treatment Outcome

FOLLOW-UP AFTER THE END OF TREATMENT

A patient, who has taken the full course of anti-TB treatment and has been declared cured / Treatment completed, should be advised to report only if symptoms suggestive of TB recur. Routine follow up is not required.

COMMUNICATE WITH PATIENTS

During your initial contact, discuss **health education** issues with the patient, and, if possible, with his/her family. Communicate health education messages including:

- the infectious nature of tuberculosis;
- the treatment prescribed to cure him/her and duration of treatment;
- the type of drugs he will be taking;
- importance of screening of symptomatic contacts of smear-positive cases;
- the importance of directly observed treatment;
- the necessity of sputum smear examinations during treatment; and
- completing the full course of prescribed treatment

It is very important for the patient to know the duration of her/his treatment and understand the necessity of taking *all* her/his prescribed drugs regularly. Tell the patient that s/he will continue to spread TB if s/he does not take all her/his drugs. Inform the patient that although TB is a life-threatening disease, if the prescribed treatment is taken for the complete duration, it is curable.

Explain to the patient that TB treatment is only effective if s/he takes all her/his drugs for the entire period prescribed. It is dangerous to take only part of the prescribed drugs because in such cases the disease may become incurable.

You and the other staff should emphasize to the patient the necessity of direct observation of every dose of drugs taken during the intensive phase and the first dose of the weekly blister pack during the continuation phase. Also explain the importance of sputum smear examination at the end of 2(3) months and at the completion of treatment.

Reassure the patient that anti-TB drugs are generally safe. Counsel them that their urine and tears may turn orange-red as a result of one of the pills, but that this is harmless and normal and will stop when they stop taking the drugs. Explain that to ensure cure, they need to take medicines under direct observation.

Always speak respectfully to patients. Reassure them frequently that TB is curable. Emphasize that direct observation of treatment is as important as the drugs themselves. The real purpose of direct observation is to develop a human bond with the patient and not to mechanically watch the patient swallow the drugs. Remember that patients are in need of a friend; reassure them that they are being provided effective, high-quality curative care. Constantly during treatment, remind patients of how much weight they have gained, to what extent their cough has decreased, and how well they are looking now. Spend time getting to know patients' problems. Encourage patients by telling them what proportion of the treatment they have finished. Always remind patients of the next appointment. Patients who are treated respectfully develop trust not only in their treatment observer but also in the health system as a whole and are less likely to default.

In RNTCP, the patient should be the VIP of the program not only in theory but also in practice.

Determine if a patient has been previously treated for tuberculosis

It is very important to determine if the patient has been previously treated for TB. If the initial interview of the patient does not provide enough information on her/his medical history, s/he could be prescribed the wrong regimen. For example, a pulmonary smear-positive patient who was previously treated for TB might omit information about her/his past treatment if s/he does not understand why it is important to tell this to the interviewer. Then, instead of being prescribed the required retreatment regimen (CAT II), s/he could be incorrectly placed on a regimen for new patients (CAT I), which may lead to death or failure of treatment.

It is very important to verify with the patient that the information about the "Type" of patient has been correctly recorded so that you can make sure s/he has been prescribed the correct treatment regimen.

To do this, ask the patient if s/he has been treated for TB in the past. Ask every patient if s/he has ever taken injections for more than one or two weeks (streptomycin is likely) or taken a medicine, which turned the urine orange–red (rifampicin is likely). If you think a patient is hiding her/his past treatment for TB, explain that new patients do not receive *better* drugs than retreatment patients and that wrong treatment history can lead to failure of treatment and even death. When a previously diagnosed and partially treated smear-positive patient begins treatment again, s/he must take the drugs prescribed under the retreatment regimen to be cured. The retreatment patient needs a stronger regimen than a new patient to be cured.

Provide health education to patients during initial contact

During your first contact with a patient, which is usually when you register him/her, you will educate him regarding essential information about his/her disease. Make sure he feels comfortable enough to ask you whatever he does not understand. Keep in mind that the patient is probably very sick and might still be feeling disturbed about having the disease. Ask the patient essential questions throughout the discussion to make sure he understands what is being said. During later discussions with the patient, you will explain more detailed items.

The topics that you initially need to discuss with the patient are as follows:

- **What is tuberculosis?**
  Explain in simple terms that tuberculosis is caused by a bacteria, or germ, and affects any part of the patient's body (for example tuberculosis of the lungs). Reassure the patient that if he takes the prescribed treatment for the complete period, tuberculosis is curable.

- **Treatment of tuberculosis**
  Explain general information about the patient's treatment:

  - duration of treatment;
  - frequency of his visits to the health unit/ DOT centre for taking treatment;
  - the place he will receive treatment; and
  - treatment is free of charge at RNTCP centres.

- **Necessity of directly observed intake of drugs**
  Explain the importance of having directly observed treatment. This means that the health worker watches the patient swallow all his/her drugs.

- **How tuberculosis spreads**
  Explain in simple terms that tuberculosis can spread when a patient coughs. People in close contact with the patient can become infected when they breathe in these germs (tubercle bacilli). Also explain how to prevent tuberculosis from spreading (for example, covering the mouth when coughing and sneezing, and avoiding spitting in public places).

- **Looking for symptoms of tuberculosis**
  Describe the following symptoms of tuberculosis of the lungs to the patient so that he can recognize whether a family member might be a tuberculosis suspect:

  - A cough which lasts for 3 weeks or more.

Usually, a person also has one or more of the symptoms listed below:

- weight loss
- tiredness
- fever especially with rise in temperature in the evenings
- night sweats
- chest pain
- shortness of breath
- loss of appetite
- coughing up blood-stained sputum

Patients will generally recall their own symptoms.

Stress the importance of taking all family members who are exposed to the disease and have symptoms suggestive of tuberculosis (symptomatic contacts) to the nearest health unit for screening for tuberculosis. In particular, all children under 6 years of age should be screened because they are at risk of developing severe forms of the disease.

Refer to Annex X for sample role plays and sample key messages for STSs.

ENSURE PROPER DRUG ADMINISTRATION

Periodically, during supervisory visits, look at a patient's Tuberculosis Treatment Card to check the drugs he should be getting, and then observe the health workers administer these drugs. Health workers must give the patient the tablets according to what is written on his/her Tuberculosis Treatment Card. They must observe the drug intake to make sure that the patient has swallowed the drugs. After watching the patient swallow the drugs, streptomycin injections should be given to patients under Category II treatment regimen (except for pregnant women).

If the health worker does not properly administer the drugs, inform him/her about the proper procedure.

Since it is more likely that the health worker will properly administer drugs in your presence, another option is to meet with the patient in private to determine if he/she is receiving the correct number and type of drugs. To do this, refer to the patient's Tuberculosis Treatment Card to check the drugs he should be taking. Then, in private, ask the patient to describe how he is receiving the drugs. If you cannot determine from

the patient's response whether the health worker is properly administering the drugs, ask the patient specific questions, such as:

- How many tablets are you receiving?
- What do the tablets look like?
- When are you given the tablets?
- How are you given the tablets?
- Do you have to pay for the medicines?

It is very important to make sure that each patient receives the correct number and type of drugs, especially during the intensive phase of treatment when the patient's sputum should convert from smear-positive to smear-negative. There are many reasons why patients may not receive the correct number and types of drugs. Some of them are as follows:

- health workers may not have directly observed the intake of drugs;
- health workers may have forgotten to give patients all their tablets or may have given them the wrong number of tablets;
- injections may not have been given to patients who were prescribed streptomycin;
- health workers may not have given the tablets to the patients before the injection;
- health workers may have only given certain drugs to patients they like, for whatever reason; and
- health workers may have made their patients pay for their drugs, and therefore, the patients without money did not receive all the prescribed drugs.

If you discover that some patients are not properly receiving their drugs, speak with the health worker who is responsible for administering the drugs. Stress the importance of patients receiving the correct number and types of drugs during the intensive phase of treatment so they can convert from smear-positive to smear-negative.

Another method of monitoring drug administration is to compare the stock of drugs available in the patient-wise boxes with the dosages given and marked in the Tuberculosis Treatment Card. Any observed variation should be looked into and remedial measures taken.

Health workers and others may be reluctant to provide directly observed treatment. Concerns raised and possible responses to them are provided in the table below.

Concerns	Possible responses
Fear of infection with the tuberculosis bacteria	▪ Patients on treatment rapidly stop being infectious ▪ Without directly observed treatment, such patients ▪ will continue to be infectious ▪ Contracting tuberculosis infection generally requires prolonged, direct contact with a smear-positive patient who is not on effective treatment*

* Risk of spread of infection depends on the level of infectiousness of the patient and the duration and intensity of contact. Most TB patients are not highly infectious and therefore contracting infection requires prolonged direct contact with a smear-positive patient who is not on effective treatment. Patients put on effective treatment rapidly become non-infectious and are not a risk to others. A patient on regular and effective treatment, particularly one on directly observed treatment, presents virtually no risk of infection. The highest risk is from patients who are undiagnosed and not on treatment.

Concerns	Possible responses
Too much work will interfere with other responsibilities	▪ Tuberculosis is one of the major killers in India ▪ Tuberculosis treatment is effective ▪ Curing TB patients is a top priority ▪ Providing tuberculosis treatment will improve status and credibility of health workers in the community
Drugs will not be Available	▪ In the RNTCP, drug supplies will be regular ▪ Each patient has a patient-wise box with his full course of treatment in it

Similarly, multi-purpose health workers and others who provide directly observed treatment may find that patients are reluctant to come for direct observation of intake of drugs. Concerns which may be raised by patients, and possible responses are given in the table that follows. It is essential that DOT facility should be convenient to the patient (e.g. a walkable distance from home or work). NGOs and peripheral health workers can provide DOTS effectively at a location which is convenient for the patient.

Concerns	Possible responses
Takes too much time to come for treatment	▪ TB can be cured if you take medicine now, and you need not have to worry about it again ▪ The first phase is only 24 doses (36 for Category II patients), after which direct observation will be once a week.
Too many pills	▪ TB is caused by a strong germ. Many pills are needed to get rid of it completely.

	▪ This is one reason why coming here to take treatment is important. ▪ There will be fewer pills after the first phase of treatment
Medicine causes nausea	▪ This happens to some people who take these effective sleepiness, medicines. There is however no need to worry. ▪ The sleepiness and nausea will usually stop after a few days or weeks when you get accustomed to taking the medicine.
Not necessary to come for direct observation	▪ By taking treatment under direct observation, any ▪ problem will be easily and quickly identified and brought to the attention of the MO. ▪ By taking treatment under direct observation, correct ▪ doses of all medications will be assured ▪ In India and many other countries, this is the only way to take medicine that has been proven to cure almost all patients.
Medicine is not effective	▪ These are the safest and most effective medicines available to treat TB anywhere in the world. ▪ Almost all patients who take their medicines as prescribed, are cured.

The most effective means of ensuring that patients participate in DOTS is to simply present this as the way *TB treatment is to be given*. Some patients may be unable to participate in DOT. Such patients should account for less than 5% of all patients. Such patients should be given Non DOTS regimens (ND1 and ND2) chemotherapy as per guidelines.

Review Tuberculosis Treatment Cards

During supervisory visits to the health units, review the front part of the Tuberculosis Treatment Cards for all patients in the intensive phase of treatment. Check whether a visit was made to the patient's home to verify the address prior to starting treatment. Verify that each patient came to the DOT centre/DOT provider to take his/her drugs at the correct times. If a patient did not come to take his/her drugs for one day, the box on that particular day of the Tuberculosis Treatment Card will be marked with "**O**".

If the patient is to be treated by a PHW/DOT provider, a duplicate Tuberculosis Treatment Card will be prepared and given to the PHW to record the DOT. Verify that Tuberculosis Treatment Cards are being updated promptly.

If a patient on ambulatory treatment in the intensive phase has not taken his drugs for two consecutive doses, look at the back of the Tuberculosis Treatment Card. See if there are any remarks health workers might have written (in the **Retrieval actions for missed doses** section) to suggest why the patient has not taken his/her drugs. If there is no indication regarding the reasons for the patient's absence, a health worker should go to the patient's residence to trace this patient and get him/her back under treatment. If s/he cannot find the patient, he should locate the patient's contact person whose name and address is listed on the patient's Tuberculosis Treatment Card. The contact person might know where the patient is currently living.

After drug administration, health workers should look through all the Tuberculosis Treatment Cards of the patients who were due to come on that particular day and put aside any cards of patients who have not come for treatment. A health worker should trace these patients immediately and try to get them back under treatment.

Also, during the supervisory visits, review the back of the Tuberculosis Treatment Cards for all patients in the continuation phase of treatment. Verify that each patient came to the DOT centre/DOT provider to collect his/her drugs on time. If a box on the last row is blank, determine whether it has been **one week** since the patient was supposed to collect his/her drugs. If the patient is one week late in collecting his/her drugs, look for any remarks health workers might have written (in the **Retrieval actions for missed doses** section) indicating the reasons why the patient has not collected his/her drugs. A health worker should trace this patient if there is no indication of a reason for the patient's absence.

Ensure that health workers use sterile syringes and needles

During supervisory visits to the hospitals and health units within your sub-district, make sure the health workers are using sterile needles and syringes. When health workers administer streptomycin injections during the intensive phase of treatment, they must always use sterile syringes and needles for each patient. **Unsterile syringes and needles may transmit infection. If syringes and needles are not properly sterilized, the risk of transmission of the deadly HIV infection and Hepatitis B is high. In areas with high prevalence of HIV infection disposable needles and syringes should be used.** Health workers should already know why sterilization is important and how to sterilize their instruments. You must observe them to make sure that they follow the basic rules of sterilization.

MANAGEMENT OF PEDIATRIC TB UNDER RNTCP

Children who have family members suffering from tuberculosis can most likely become infected. The infection may develop later into tuberculosis disease. Young children may develop a very serious form of the disease and may die if they are not diagnosed and treated early.

In children, tuberculosis is most severe for those under 6 years of age.

Contacts of smear-positive TB cases, below 6 years of age, must be screened for symptoms of tuberculosis. TB should be suspected in any child who presents with fever and / or cough for more than 3 weeks, with or without weight loss or no weight gain; and history of contact with a suspected or diagnosed case of active TB disease within the last 2 years. Children showing neurological symptoms like irritability, refusal to feed, headache, vomiting or altered sensorium should be suspected of having TB meningitis.

For asymptomatic children and those who are not found to be suffering from TB under the age of 6 years, chemoprophylaxis with isoniazid (5 mg per kg body wt) should be administered daily for a period of six months. This is regardless of the BCG vaccination status. In case of symptoms being present, the child should be referred to the Medical Officer. The diagnostic algorithm for pediatric TB should be followed and the child should be given a full course of anti TB treatment if s/he is diagnosed as a TB case.

TREATMENT OF TB IN HIV INFECTED PATIENTS

Tuberculosis (TB) is one of the earliest opportunistic disease to develop amongst HIV (Human Immunodeficiency virus) infected individuals.

The risk of developing TB is higher amongst HIV infected individuals compared to a HIV non-infected person. The higher risk to develop TB in HIV positives is because of decrease in their immunity

Anti-TB treatment is the same for HIV-infected persons as it is for HIV-negative TB patients. They should be treated with RNTCP regimens under DOTS strategy.

All new TB cases known to be HIV positive should be treated with Category I regimen since they are more likely to be seriously ill. The re-treatment cases are to be treated with Category II regimen. RNTCP regimens, if supervised properly, are as effective in HIV positive as in HIV negative patients.

It is important to maintain confidentiality regarding HIV-positive status of TB patients under anti-TB treatment, in order to prevent stigmatization and discrimination against the patient. The HIV status of patients under TB treatment should be voluntarily shared by the patient with the treating physician for the purpose of taking clinical decisions like categorization for treatment of TB, treatment of other opportunistic infections and provision of anti retroviral therapy (ART). However, the national policy is **NOT** to test all TB patients for HIV. Only those TB patients who have other HIV-associated opportunistic infections, or report high risk behavior for HIV, may be offered referral for voluntary counseling and testing to the nearest Voluntary Counseling and Testing Centre (VCTC). The HIV-positive status of any individual should not be disclosed to any

other staff involved in RNTCP. In addition, the HIV-positive status should not be mentioned in any RNTCP records.

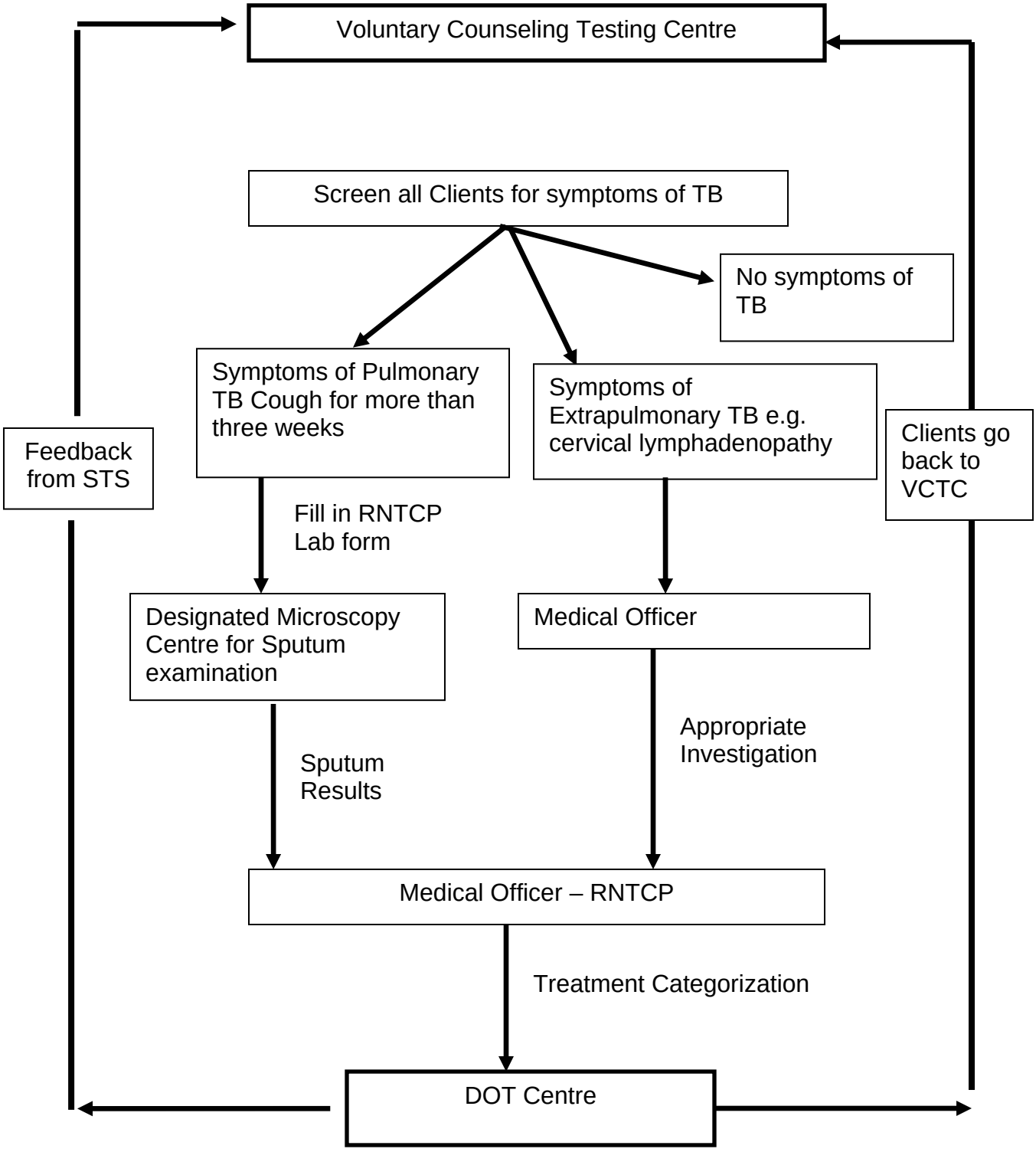
Adverse effects of anti-TB drugs could be more common in HIV-positive than in HIV-negative TB patients.

How effective is DOTS in TB-HIV?

Directly observed treatment with effective short-course treatment regimen is even more important for HIV-positive TB patients. Self-administration of treatment is associated with higher case fatality rates. Hence a DOTS strategy that ensures adherence to therapy should be used for all HIV-positive TB patients.

Failure to use DOTS in the face of HIV can lead to a rapid spread of TB.

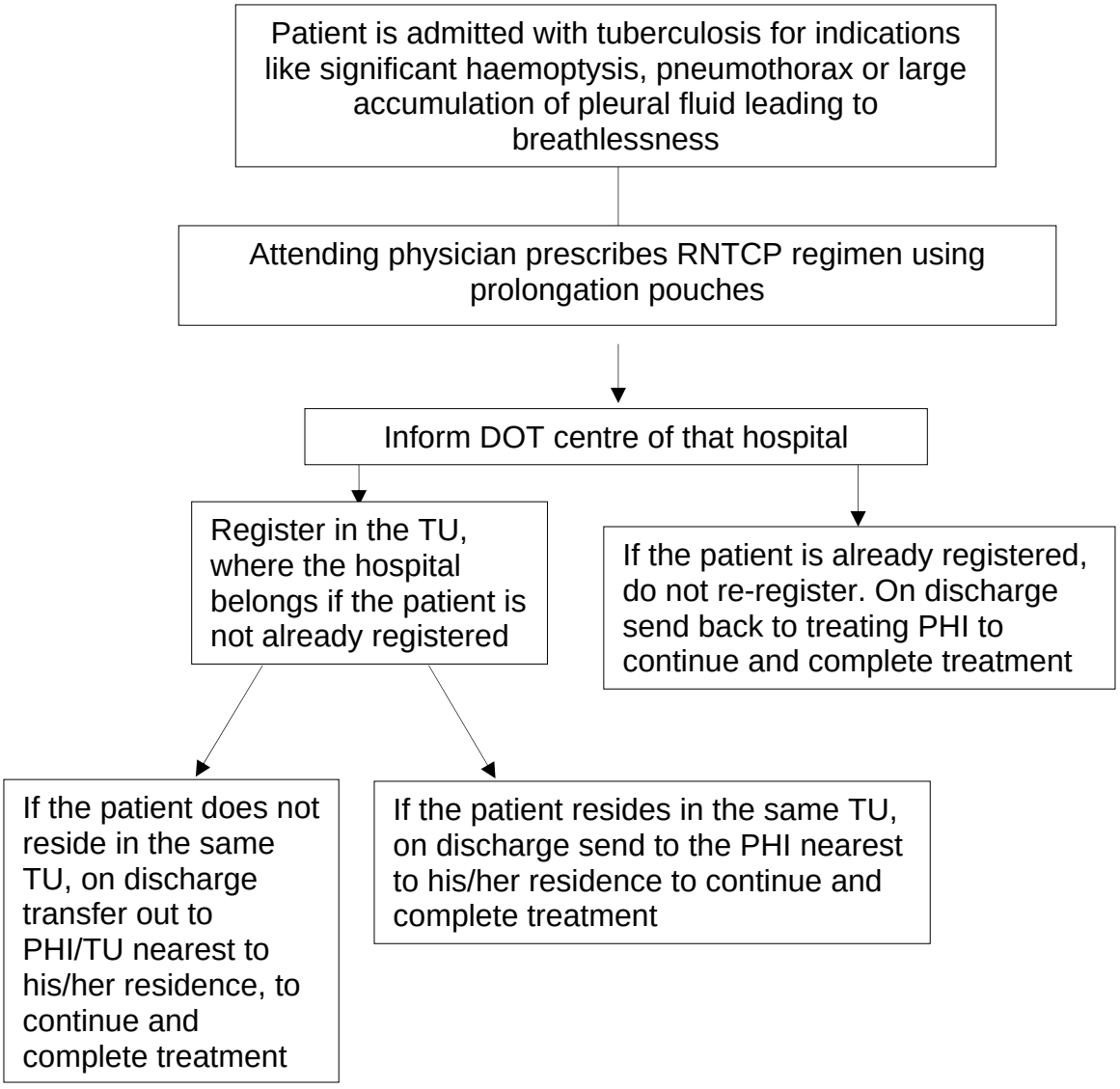
Referrals from VCTCs to RNTCP diagnostic and DOT Centres



HOSPITALIZATION OF TB PATIENTS

Some TB patients may need hospitalization during their illness and these patients may be admitted and managed in general hospitals. All indoor patients are to be treated with RNTCP regimens. The treatment is given using prolongation pouches which will be supplied by District TB Officer through the STS of that TU. On discharge, patients may be given a maximum of up to three doses (1 week drug supply) to cover the intervening period prior to their continuation of treatment at their respective DOT Centre, which may/ may not be in the same district, and thereby ensuring no interruption in treatment. All indoor patients treated under RNTCP, should be registered under the local TU in which the hospital is located. (Refer to the flow chart below for Management of Indoor Patients).

Management of Hospitalized patients



Annexures

Annex A: Responsibilities of the Senior Treatment Supervisor (STS) in the Revised National Tuberculosis Control Programme (RNTCP)

- Ensure the quality of the DOTS services provided in order to achieve the programme objectives in the assigned areas.

- Organize direct observation of treatment in the sub-district and ensure registration of all cases diagnosed and initiated on treatment in the sub-district.

- Maintain the Tuberculosis Register, incorporating required information in respect of all cases diagnosed in the sub-district in a timely manner.

- Prepare Quarterly Reports on case-detection, sputum conversion, treatment outcome, and programme management and send them to the DTO after review and approval by MO-TC. Ensure timely submission of these reports.

- Maintain a map of the area detailing all health facilities in the area, both government organizations and NGOs which specifically carry out TB activities, including the staff responsible for these TB activities (name, position and location).

- Supervise each PHC, CHC and hospitals in the area at least once in a month, on a systematic basis and visit all treatment observation centres once in quarter.

- Visit all new sputum positive patients at their homes within one month of treatment initiation.

- Ensure that patients are correctly classified; appropriate treatment indicated, provided and taken; laboratory tests carried out and treatment outcome indicated appropriately at the completion of treatment. This can be done by checking Tuberculosis Treatment Cards, comparing the Tuberculosis Register and the Laboratory Register, by visiting the field and comparing findings with diaries of field workers (particularly in relation to retrieval of defaulters); by discussing with staff; and by interviewing patients at random. Any discrepancies found during checking should be brought to the notice of MO-TC/DTO.

- Ensure that all patients presenting with productive cough of 3 weeks or more duration undergo 3 sputum smear examinations for AFB.

- Provide continuous training to the staff of health facilities under his/ her jurisdiction to carry out TB control related activities.

- Establish liaison with private practitioners, NGOs and other sector dispensaries / hospitals who provide TB services to promote compliance with national norms, facilitate referral, and ensure registration and notification.

- If the STS is visiting without the STLS, collect information on all parameters of laboratory performance, cross-check whether all sputum smear-positive cases have been placed under treatment. Also, take necessary steps to trace initial defaulters and bring them back under treatment. Inform the MO in-charge and the STLS about any deficiencies observed in laboratory functioning.

- Undertake all such activities which are required to achieve the stipulated performance indicators, with special emphasis on poorly performing area and difficult section of society.

- Make a monthly tour programme in advance in such a fashion that all the field units are covered at least once a month and get it approved from the MO-TC.

- Maintain a tour diary recording the details of field visits and feedback given on the observations made. Also record observations in supervisory register at all PHIs visited.

- Assist MOTC/ DTO in undertaking such activities with a view to improve overall performance.

- Participate in review meetings convened at the district level for advocacy among other health functionaries.

- Ensure that tuberculosis treatment cards reach the TB unit from the treatment centres as soon as the treatment outcome is recorded and within a maximum of one month’s time.

- Ensure that the treatment outcome is recorded in the TB Register within one month of the completion of the treatment in case of cured and treatment completed cases. Similarly the outcomes of patients declared defaulted or died should be recorded within one month of the event.

- Conduct death and default audit and report to MOTC/ DTO.

- Maintain drug stock register at TU level and monitor movement of drug to PHI according to guidelines, including prolongation pouches for indoor patients

- Ensure no stock outs at PHI. Monitor drug expiry dates and inform MOTC/ DTO about short expiry drugs under his charges.

- Ensure opened drug boxes of patients who die or default from treatment are returned to the districts TB centre for reconstitution.

- Organize community based IEC activities like patient – provider group interaction meetings and community meetings.

- Co-ordinate with VCTC Centres by providing feedback on referred persons regarding the TB status and their treatment.

ANNEX B: MANAGEMENT OF PATIENTS WHO INTERRUPT TREATMENT

Management of patients who were *smear-negative* at diagnosis and who interrupt treatment

Treatment received before interruption	Length of interruption	Do a sputum Smear examination	Result of sputum Smear examination	Outcome	Re-registration	Treatment
Less than 1 month	Less than 2 months	No	—	—	—	Resume Treatment and Complete All doses
	2 months or more	Yes	Negative	—	—	Resume Treatment
			Positive	Default	New	Begin CAT I Afresh
More than 1 month	Less than 2 months	No	—	—	—	Resume Treatment and Complete All doses
	More than 2 months	Yes	Negative	—	—	Resume Treatment and Complete All doses
			Positive	Default	Treatment After Default	Begin CAT II Treatment Afresh

Management for *New smear-positive* cases who interrupt treatment (Category I)

Treatment received before interruption	Length of interruption	Do a sputum Smear examin-tion?	Result of sputum Smear examination	Outcome	Re-registration	Treatment
Less than 1 month	Less than 2 weeks	No	—	—	—	Continue CAT I*
	2-7 weeks	No	—	—	—	Start again on CAT I**
	8 weeks or more	Yes	Positive	Default	New	Start again on CAT I**
			Negative	—	—	Continue CAT I*
1-2 months	Less than 2 weeks	No	—	—	—	Continue CAT I*
	2-7 weeks	Yes	Positive	—	—	1 extra month of intensive phase of CAT I
			Negative	—	—	Continue CAT I*
	8 weeks or more	Yes	Positive	Default	Treatment After Default	Start on CAT II*
			Negative	—	—	Continue CAT I*
More than 2 months	Less than 2 weeks	No	—	—	—	Continue CAT I*
	2-7 weeks	Yes	Positive	Default***	Other	Start on CAT II**
			Negative	—	—	Continue CAT I*
	8 weeks or more	Yes	Positive	Default	Treatment After Default	Start on CAT II**
			Negative	—	—	Continue CAT I*

* A patient must complete all 24 doses of the initial intensive phase. For example, if a patient has to continue his previous treatment and he took 1 month of treatment (12 doses) before interrupting, he will have to take 1 more month (12 doses) of the intensive phase treatment. He will then start the continuation phase of treatment.

** A patient who must , ”start again” will restart treatment from the beginning.

*** Although this patient does not strictly fit the definition of default, default most closely describes the outcome of this patient, although at re-registration he should be categorized as,’Other’.

Management for smear-positive cases who interrupt treatment (Category II)

Treatment received before interruption	Length of interruption	Do a sputum Smear examin-tion?	Result of sputum Smear examination	Outcome	Re-registra-tion	Treatment
Less than 1 month	Less than 2 weeks	No	—	—	—	Continue CAT II*
	2-7 weeks	No	—	—	—	Start again on CAT II**
	8 weeks or more	Yes	Positive	Default	New	Start again on CAT II**
			Negative	—	—	Continue CAT II*
1-2 months	Less than 2 weeks	No	—	—	—	Continue CAT II*
	2-7 weeks	Yes	Positive	—	—	1 extra month of intensive phase of CAT II
			Negative	—	—	Continue CAT II*
	8 weeks or more	Yes	Positive	Default	Treatment After Default	Start on CAT II*
			Negative	—	—	Continue CAT II*
More than 2 months	Less than 2 weeks	No	—	—	—	Continue CAT II*
	2-7 weeks	Yes	Positive	Default***	Other	Start on CAT II**
			Negative	—	—	Continue CAT I*
	8 weeks or more	Yes	Positive	Default	Treatment After Default	Start on CAT II**
			Negative	—	—	Continue CAT I*

* A patient must complete all 36 doses of the initial intensive phase.
** A patient who must ,"start again" will restart treatment from the beginning.
*** Although this patient does not strictly fit the definition of default, default most closely describes the outcome of this patient, although at re-registration he should be categorized as,'Other'.

PART 2: ENSURING PROPER REGISTRATION AND REPORTING

MAINTAIN THE TUBERCULOSIS REGISTER

It is essential that the Tuberculosis Register is accurate and up-to-date. Quarterly Reports, which are the primary means of programme evaluation, are completed using the information contained in the Tuberculosis Register.

It is very important to register in the Tuberculosis Register **every** patient who is starting treatment for tuberculosis under RNTCP. Relevant information should be collected from the Tuberculosis Treatment Cards and then recorded in the Tuberculosis Register. Whenever possible, meet with the patient when you register him/her and at the same time verify the information. When it is not possible to meet with the patient directly, speak with a health worker who knows the patient. Use the patient's Tuberculosis Treatment Card and any additional information provided to you in order to complete the LEFT side of the Tuberculosis Register.

Make sure that the information on the patient's Tuberculosis Treatment Card is correct before writing it in the Tuberculosis Register. Read out the general information (for example name, age and address) to the patient and ask him if it is correct. For example, the spelling of the patient's name could have been recorded incorrectly, or the patient might have given an incomplete address. If needed, correct the information on the Tuberculosis Treatment Card before writing it in the Tuberculosis Register. (There is some information in the Tuberculosis Treatment Card that is not recorded in the Tuberculosis Register, such as name and address of the contact person. This information should also be verified for completeness and accuracy at this time.)

Tuberculosis register

The Tuberculosis Register is used to record the following information about the patient:

- Tuberculosis Number (TB No.)
- Date of registration
- Name (in full), address, sex and age
- Name of PHI
- Date of starting treatment
- Regimen/Category
- Disease classification
- Type of patient

- Details of sputum examinations
- Treatment outcome with date
- Remarks
- Summary

Tuberculosis number

Each patient who is being registered is assigned a new Tuberculosis Number and this number is written in the Tuberculosis Register. Start with the number 1 at the beginning of every year and register patients serially. After you write the patient's TB No. in the Tuberculosis Register, write this number on his/her Tuberculosis Treatment Card too. When you use the Tuberculosis Treatment Card to record information in the Tuberculosis Register (for example, the results of sputum examinations), you can easily identify the patient in the Tuberculosis Register by referring to their TB No. An individual TB patient may have more than one TB number if he is reregistered (e.g. after declaring him as default and restarting on treatment afresh or after declaring as failure and initiating on category II, details of which will be recorded in the remarks column).

The STS should write the TB number in the following records:

- **TB register**
- **TB treatment card**
- **TB laboratory register (Remarks column)**

Example
Today is 14 March and 3 patients are to be registered. The last TB No. in the Tuberculosis Register is 64. The 3 patients are assigned Tuberculosis Numbers 65, 66, and 67

Date of registration
Write the date on which the patient is registered in the Tuberculosis Register. The date should be written as: day/month/year (for example 22 May 2004 would be written as 22/5/2004). This is the date used for determining a 'quarterly cohort' for case finding, smear conversion and treatment outcome reports.

Name (in full), Sex, Age, Complete Address
This information can be found in a patient's Tuberculosis Treatment Card. Make sure the information is correct before you write it in the Tuberculosis Register.

Name of PHI

The name of the centre where the patient is initiated on treatment (i.e., where the original card is kept) should be written on the **PHI** line of the patient's Tuberculosis Treatment Card. If this information is not on the Tuberculosis Treatment Card, ask the patient or the health worker to provide you with this information. Then record the name of the treatment centre in the Tuberculosis Register and on the patient's Tuberculosis Treatment Card.

Date of starting treatment

To determine if the patient has started treatment, look at the drug administration table at the bottom of his Tuberculosis Treatment Card. If a box has been ticked, the patient has already started treatment. The first box that is ticked (√) is the **first** day that the drugs were administered to the patient. Write the date the patient has been started on treatment on the first line of this column. Enter the date as: date/month/year (for example 09 April 2004 would be written as 09/4/2004). The date of starting treatment will either precede or be the same as the date of registration but will never be after the date of registration. Thus, some patients who may be started on treatment in the last few days of one quarter, say 1st Quarter 2005, may be registered in the next quarter, viz., 2nd Quarter 2005. Such patients would be considered to be a part of the cohort of 2nd Quarter 2005. However, in no case should patients be registered later than one month from the date of starting treatment.

Regimen/Category

To determine which treatment regimen was assigned to the patient, look on the patient's Tuberculosis Treatment Card under the **Intensive Phase** section. One of the boxes will be ticked to indicate whether the patient was assigned Category I (CAT I), Category II (CAT II) or Category III (CAT III) for DOTS treatment; or Non DOTS Regimen 1 (ND1) or Non DOTS Regimen 2 (ND2) for non-DOTS treatment.

Write the treatment regimen (CAT I, CAT II, CAT III, ND1 or ND2) in this column in the Tuberculosis Register.

Patients often begin treatment before they are registered. The STS registers patients who began treatment in a health facility or hospital during his periodic supervisory visit.

Disease classification

Write **P** if the patient has pulmonary TB. Write **EP** if the patient has extra pulmonary TB. This information is on the patient's Tuberculosis Treatment Card under the **Disease Classification**. In the rare case of a patient who has both smear-positive pulmonary and extra-pulmonary TB, s/he should be classified as pulmonary (P).

Type of Patient
Look at the patient's Tuberculosis Treatment Card under **Type of Patient** to determine whether the patient is a New case, Relapse, Transfer in, Failure, Treatment After Default, or Others. Write the appropriate **Type of Patient** in the Tuberculosis Register in the column "Type of Patient".

For a patient classified as Others, specify the reason in the **Remarks** column.

Details of Sputum examination
Write the results of the patient's pretreatment sputum examination in the **Pretreatment Sputum Examination** column. This information is on the patient's Tuberculosis Treatment Card in the table giving results of sputum examination. Enter the smear result, laboratory number with name of DMC and the date of sputum examination under appropriate columns in the TB register. Similarly results of follow up sputum examinations are also recorded (details are given in monitoring treatment section)

Treatment Outcome with date
Description of treatment outcome is given later

Remarks
This column is for entries such as:

- Site -in case of EP
- X-ray reports for Smear-negative patients
- Method of diagnosis, histopathological and other results in case of EP
- Transfer details
- In case of Cat – II patients: write old TB number (i.e. TB number when patient was on Cat I or III) and whether taken treatment in past under RNTCP or non RNTCP
- In case of failure and defaulted patients of Cat I and Cat III, if they are re-registered later for Cat II treatment: write the new TB number.
- Reason for Non-DOTS treatment initiation

Summary
A box is provided at the bottom of the left-hand side of the Tuberculosis Register. It is for recording the number of patients, who are on DOTS as well as on non-DOTS, according to disease classification (new smear-positives, relapses, smear-negatives, extra-pulmonary). This data is necessary for completing Quarterly Reports on Programme Management and Logistics. However, in the Quarterly Reports on New and Re-treatment Cases, only those patients who are on DOTS should be reported. Ensure that each and every patient started on anti-TB treatment under RNTCP is recorded in the Tuberculosis Register.

Another box is provided at the bottom of the right-hand side of the Tuberculosis Register. It is for recording treatment outcomes of registered DOTS patients (Cured, Treatment Completed, Died, Failure, Default or Transferred out). This data is necessary for completing Quarterly Reports on Results of Treatment.

Ensure that all patients started on treatment under RNTCP—both DOTS and non-DOTS—are registered in the *same* Tuberculosis Register.

Registration of each TB patient facilitates:

- **Compilation of quarterly reports**
- **Cohort analysis**
- **Systematic monitoring**

Verify that all patients are registered in the Tuberculosis Register

Sometimes you might find that there are patients who **have not been registered** in the Tuberculosis Register. These are patients who:

1. have been entered in the Tuberculosis Laboratory Register as smear- positive but are not receiving treatment, or

2. are receiving treatment and have a Tuberculosis Treatment Card.

The first type of patients are critical to trace because in spite of their being sputum smear-positive they are not receiving treatment for tuberculosis. At least half of the smear-positive patients, if left untreated, die from tuberculosis. These patients also spread the infection to their own family members and other members of the community. These patients must be placed on the appropriate treatment regimen as soon as possible after being retrieved.

The designated microscopy centre (DMC) maintains a Tuberculosis Laboratory Register. During visits to the microscopy centre, identify any smear-positive patients who are entered in the Tuberculosis Laboratory Register but who are not registered in the Tuberculosis Register. In the **Remarks** column of the Laboratory Register, it should be noted if a smear-positive patient has not started treatment, and reason for this should be indicated. During supervisory visits, the Senior Treatment supervisor (STS) and Senior Tuberculosis Laboratory Supervisor (STLS) should identify all such patients and make all efforts to have them placed on treatment. The Quarterly Report on Programme Management collects information on the number of such patients.

Although the second type of patients are receiving treatment (these patients have a Tuberculosis Treatment Card), they still need to be registered in the Tuberculosis

Register so that you can quickly observe whether their treatment is effective and evaluate their treatment outcome.

During supervisory visits to the hospitals and heath units, identify any patients with Tuberculosis Treatment Cards who are not registered in the Tuberculosis Register, and if the patient is a residents of your respective TU, register them in the TB register.

Ensure that all pulmonary smear-positive patients are registered

The Tuberculosis Laboratory Register is used to record the results of sputum smear examinations. The laboratory technician assigns a Laboratory Serial Number for each patient whose sputum smear is examined. If the patient is a chest symptomatic being evaluated, the laboratory technician ticks the **Diagnosis** column under **Reason for Examination** section of the Tuberculosis Laboratory Register. If the patient is being subjected to repeat sputum examination for diagnosis the LT will write **RE** under **Diagnosis** column under **Reason for Examination** section of the Tuberculosis Laboratory Register. If the patient is already on chemotherapy, the laboratory technician writes the patient's Tuberculosis Number (from the Laboratory Form for Sputum Examination) in the **Follow-up** column under **Reason for Examination** section.

When you visit designated microscopy centres, make sure that all smear-positive patients are started on treatment. All smear-positive cases residing within the TU should be registered in the TB register and those residing outside the TU should be referred out for treatment. TB number of registered patients or the information about referral for treatment should be recorded in the remarks column of the Lab register. If any smear-positive patient has not been placed on treatment, make sure he is found, placed on treatment immediately, and registered in the Tuberculosis Register. If the patient lives outside the sub-district (TU), the **Referral for Treatment form** must be filled in triplicate for all diagnosed TB patients being referred out of the TU/ district for treatment. Send one form to the respective DTO receiving the patient [Form A], send one copy to the health facility where the patient is referred to [Form B], and give one copy to the patient [Form C]. Information regarding referral of patient should be noted in the Referral for treatment Register (Annex VI). **A Referral for Treatment register** should be maintained in big hospitals and Medical colleges where large numbers of cases are expected to be diagnosed and referred. (See annex VI for form and register) The referring unit should receive feedbacks on patients referred to other TUs in the same district within 14 days and for patients referred outside the district/state within one month.

Ensure that all patients with Tuberculosis Treatment Cards are registered

During supervisory visits to hospitals and health centres, verify that each patient with a Tuberculosis Treatment Card is also registered in the Tuberculosis Register. Since you are not always available to register patients every day, it is quite possible that some of the patients in the health unit have begun treatment but are not registered. This is

important in order to verify that patients with smear-negative and extra-pulmonary TB have been registered, since these patients cannot be identified by reviewing patients with positive smears in the Tuberculosis Laboratory Register.

Look through all the Tuberculosis Treatment Cards at the PHI. If you see a card ***without a Tuberculosis Number***, ensure that this patient is registered in the Tuberculosis Register. Use the information provided in the patient's Tuberculosis Treatment Card to complete all columns of the Tuberculosis Register up to the **Pretreatment/Smear** column. Record the patient's Tuberculosis Number in the appropriate space on his/her Tuberculosis Treatment Card.

The patient will be evaluated in the quarter in which s/he has been registered, not in the quarter that s/he began treatment. It is *essential that patients are registered promptly after the treatment begins, and in no case should this be more than one month after the treatment is started.*

Identify pulmonary cases whose sputum smear examination results should be recorded

You should verify the results of sputum smear examinations during your supervisory visits to treatment units. Before going on a supervisory visit to a treatment unit, review the Tuberculosis Register to identify cases who should have had their sputum examined.

Turn to the sample of a Tuberculosis Register.

Refer to it throughout the rest of this module.

To review a page of the Tuberculosis Register, perform the following steps:

1. Look at the columns in the **Sputum examination** section for blanks or partially completed information. Then look back across the row to the columns **Name, Name of Treatment Centre, Date of starting treatment**, and **Regimen/Category**. For cases at the treatment unit you plan to visit, find the date of initiation of their treatment and the treatment regimen.

2. Calculate the approximate date on which their follow-up sputum should have been examined:

   To the date when the treatment started (indicated in the **Date of starting treatment** column of the Tuberculosis Register), add the appropriate number of months. For example, to find the approximate date at the end of month 2, when sputum smear examination should have been performed, add 2 months to the date

the treatment was started. (Use the table given below to help you remember when pulmonary cases in each treatment category should have a sputum smear examination.)

Schedule of follow-up sputum examinations

Category of treatment	**Pre-treatment sputum**	**Test at month**	**If: result is**	**→ THEN:**
Category I	+	2	-	Start continuation phase, test sputum again at 4 and 6 months‡
			+	Continue intensive phase for one more month, test sputum again at 3, 5 and 7 months ‡
	-	2	-	Start continuation phase, test sputum again at 6 months ‡
			+	Continue intensive phase for one more month, test sputum again at 3, 5 and 7 months ‡
Category II	+	3	-	Start continuation phase, test sputum again at 5 and 8 months
			+	Continue intensive phase for one more month, test sputum again at 4, 6 and 9 months
Category III	-	2	-	Start continuation phase, test sputum again at 6 months‡
			+	Re-register the patient and begin Category II treatment‡

‡ Any TB patient who is smear-positive at 5 months or more after starting treatment should be considered as a failure and started on Category II treatment afresh. Failure also includes a patient who was treated with Category III regimen but who becomes smear-positive during treatment.

3. Compare the approximate date calculated with the current date. If the date you estimated has already passed, then the sputum smear should have been examined. The results of the sputum smear examination should be available on the Tuberculosis Treatment Card at the treatment unit.

4. Look back across the row to the columns **TB No**. and **Name** on the Tuberculosis Register. Make a note of the patient's name and Tuberculosis Number.

Also, when you are identifying cases whose sputum smear examination results should be recorded, review the Tuberculosis Register to determine whether the proportion of the **New** and **Relapse pulmonary smear- positive** cases at the treatment unit who

have **converted to pulmonary smear-negative** by the end of their intensive phase is adequate (85% or more). Review the Tuberculosis Register in the following manner.

Example:

In Keonjhar District, 220 New smear-positive patients were registered in the 1st quarter of 2005 (i.e., Jan-March 2005). 190 of these New smear-positive patients converted to smear-negative at the end of 2 months and another 10 converted to smear-negative at the end of 3 months. Therefore, 200 (190 + 10) New smear-positive cases converted to smear-negative at the end of 3 months. Divide 200 by the number of cases registered (220) and multiply by 100 to give the conversion rate: 200/220 x 100 = 91%. The conversion rate of New smear-positive patients in this case is 91%.

Record the results of sputum smear examinations

Check records of patients kept at the treatment centre

During your supervisory visit to a treatment centre, check the results of follow-up sputum smear examinations in the Tuberculosis Register. The Tuberculosis Treatment Card and the Laboratory Form for Sputum Examination are the forms you will usually use to obtain information about results of sputum smear examinations. Both these records should be kept at the PHI.

The Tuberculosis Register should be carried during supervisory visits.

Occasionally, both the Tuberculosis Treatment Card and the Laboratory Form for Sputum Examination can be missing or incomplete. Information on results of sputum smear examinations is also in the Tuberculosis Laboratory Register. If the results of sputum smear examinations for a specific patient are not available at the treatment centre, work with laboratory personnel to obtain them from the Tuberculosis Laboratory Register.

When a patient has a sputum smear examination, a copy of the Laboratory Form for Sputum Examination with the **Results** section completed should be sent to the treatment centre by the designated microscopy centre. On the Laboratory Form for Sputum Examination, the **Results** of sputum smear examination(s) is written on the lower half. Health workers at the treatment centre record the results in the patient's Tuberculosis Treatment Card in the 'smear results' column of the table provided on the right side.

Find the Tuberculosis Treatment Card (or the Laboratory Form for Sputum Examination) for each patient whose sputum smear examination results should be transferred to the Tuberculosis Register. Match the name and Tuberculosis Number on the Tuberculosis Treatment Card (or Laboratory Form for Sputum Examination) with the name and Tuberculosis Number on the Tuberculosis Register. The name of the patient and

Tuberculosis Number are located at the top both in the Tuberculosis Treatment Card and the Laboratory Form for Sputum Examination.

Record results of sputum smear examinations done at the end of the intensive phase

Record the results of sputum smear examinations. If these results are **negative** at the end of the intensive phase, write **NEG** under the **Smear result** column, the Laboratory Number, Name of DMC and Date under the **respective** columns.

If the sputum results are **positive**, draw a forward slash (/) in the upper space in the **Smear result** column for end of IP (2 months). Then write the number associated with the positive results (3+, 2+, 1+, or scanty) above the forward slash. In the **Lab No., DMC, Date** columns draw a forward slash and make the respective entries for the end of IP above the slash.

The patient should, continue with the intensive phase of treatment for another month. The **Smear result, Lab No., name of DMC and Date** of the sputum smear tested at the end of extended IP (3 months) should be written in the appropriate columns below the slash you have drawn. For patients on Category II treatment, this procedure would be followed for month 3 (end of IP), and, if the smear is positive at month 3, the results should be written under the slash at month 4 (extended IP).

Month	Date	DMC	Lab. No.	Smear result	Weight
End IP/Extended IP	17/3 16/4	Pushkar Ajmer	164 234	1+ NEG	45 Kg 46 kg

Record results of sputum smear examinations done two months into the continuation phase and at completion of treatment

If after the intensive phase or at completion of treatment, patients produce only saliva, the sample should still be sent to the laboratory to be examined. On the Laboratory Form for Sputum Examination, the code ‘S’ will be entered in the column ‘appearance of sputum’ in result section, Record the results of sputum smear examinations in the Tuberculosis Register in the appropriate columns. In most instances it will be negative.

Record treatment outcomes

It is your responsibility to ensure that the information on treatment outcome from a patient’s Tuberculosis Treatment Card is recorded in the Tuberculosis Register.

Tuberculosis **Treatment Cards should reach the TB Unit** from the treatment centres as soon as the treatment outcome is recorded and within a maximum of one month time. Regularly review the Tuberculosis Treatment Cards to identify treatment outcomes of patients and verify them from the Tuberculosis Register. Sometimes, Tuberculosis

Treatment Cards will not be sent. In case information is missing, it should be obtained during supervisory visits.

The Treatment Outcome should be recorded in the TB Register by the STS within one month of the completion of the treatment in case of cured and treatment completed cases. Similarly the outcomes of patients declared defaulted or died should be recorded within one month of the event.

There are six possible treatment outcomes listed at the right side bottom of the TB Register. However, transferred out is not considered as a 'final' treatment outcome. All possible efforts should be made to obtain the true outcome of patients transferred to another TB unit / district.

Every patient must have one and only one treatment outcome.

Definition of Treatment outcomes

Cured
An initially smear-positive patient who has completed treatment and had negative sputum smears on at least two occasions, one of which was at completion of treatment.

Treatment completed
Sputum smear-positive case who has completed treatment with negative smears at the end of the intensive phase but none at the end of treatment;

Or: Sputum smear-negative patient who has received a full course of treatment and has not become smear-positive during or at the end of treatment;

Or: Extra-pulmonary patient who has received a full course of treatment and has not become smear-positive during or at the end of treatment.

Died
Patient who died during treatment, regardless of cause.

Failure
Any TB patient who is smear- positive at 5 months or more after starting treatment. Also, a patient who was treated with CAT III but who became smear-positive during treatment.

Defaulted
A patient who has not taken anti-TB drugs consecutively for 2 months or more after starting treatment.

Transferred out
A patient who has been transferred to another Tuberculosis Unit/District and his/her treatment results are not known.

The information you need to determine a patient's treatment outcome is present on a completed Tuberculosis Treatment Card. When you receive a completed Tuberculosis Treatment Card, first match the information about the patient on the card with the information on the Tuberculosis Register. Then, carefully review all the information on the Tuberculosis Treatment Card and decide the outcome category to which the patient belongs.

Review the front portion of the Tuberculosis Treatment Card. Determine if the patient was a pulmonary smear-positive, pulmonary smear-negative or extra-pulmonary case. Determine whether the patient was on CAT I, CAT II, or CAT III treatment regimen. Also, determine if he had his sputum examined when it should have been examined, and what the results of those examinations were.

Review the back portion of the Tuberculosis Treatment Card. See if the patient collected all his/her drugs at the correct times. Look at the Remarks section for any comments MO or health workers might have written. Use the information on the Tuberculosis Treatment Card and the information on page 7 to identify a patient's treatment outcome. **The MO-TC must verify the treatment outcome of each and every patient, particularly those classified as Cured or Treatment completed.**

Recording the treatment outcome on the Tuberculosis Register and writing any comments you have in the Remarks section, will complete your monitoring of treatment for an individual patient. After you identify a patient's treatment outcome by reviewing his Tuberculosis Treatment Card, write the outcome and the date the patient stopped treatment in the respective columns of 'Treatment Outcome' section. (While recording treatment outcome, write the exact date of last dose of drug consumption and not the last date when drugs were collected). The last date a patient collects drugs is marked with an ,'X' on the drug collection chart on the back portion of the Tuberculosis Treatment Card. A horizontal line extends to the last date s/he should have taken his drugs.

When you find an incomplete Tuberculosis Treatment Card, you will need to find out what happened to the patient. For example, if you assess a Tuberculosis Treatment Card to be incomplete for the continuation phase and there are no comments in the **Remarks** section, you will need to find out if s/he died, was transferred out of the district, or just stopped coming and why.

Data on cases that were transferred from one district to another should be evaluated and reported on in the district in which a patient was first notified and registered. At the end of the treatment of a patient who was transferred into the district, send the data on the patient (his Tuberculosis Treatment Card and any information from the Tuberculosis

Register) back to the district in which the patient was first notified and registered. When patients are transferred within a district from one TU to another, information should be obtained and the patient's outcome reported from the TU in which the patient began treatment and was registered.

At the end of treatment of a patient who was transferred out of the district, you should receive the data on the patient from the DTO of the district where s/he completed the treatment. If you do not receive data on a patient who was transferred from your district to another within the state, request this information from the DTO of the district to which the patient was transferred.

QUARTERLY REPORT ON NEW AND RETREATMENT CASES OF TUBERCULOSIS

In the Quarterly Report on New and Retreatment Cases of Tuberculosis, you record how many tuberculosis cases were diagnosed and registered during a quarter (a 3-month period). This information is compiled at the sub-district level and is derived from the Tuberculosis Register. Reports from all sub-districts are compiled at the district level. These compiled reports are then sent by the District Tuberculosis Officer (DTO) simultaneously to the State Tuberculosis Officer (STO) and the Central TB Division (Directorate General of Health Services, Nirman Bhavan, New Delhi 110 011).

Within the first week after a quarter has ended, you should complete the Quarterly Report on New and Retreatment Cases of Tuberculosis and submit it. You should see and carefully review the schedule of reports in Annexure V for strict compliance.

Refer to the Quarterly Report on New and Retreatment Cases of Tuberculosis now on Page 67.

The top portion of the form is for recording general information about the quarter covered and your area. It allows the district, state and central levels to quickly determine which sub-district, district, and quarter are reported.

Block 1

Block 1 is subdivided into five columns:

1. Smear-positive New cases of pulmonary tuberculosis
2. Smear-positive Relapses of pulmonary tuberculosis
3. New Smear-negative cases of pulmonary tuberculosis
4. New Extra-pulmonary cases of tuberculosis
5. Total

Each of the first four columns in Block 1 is subdivided into two columns to record the sex-wise distribution of each type of cases. Column (1) also has additional column for the total number of New pulmonary smear-positive cases. Column (5) is subdivided into three columns to record the total number of male cases, total number of female cases and overall total number of smear-positive New cases, smear-positive Relapses, New smear- negative cases and New extra-pulmonary cases of tuberculosis for the quarter. This format is shown below.

Pulmonary tuberculosis							**New Extra-pulmonary Tuberculosis (4)**		**Total (5)**		
Smear-positive			**New Smear-negative (3)**								
New cases (1)		**Relapses (2)**									
M	**F**	**Total**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**Total**

You will notice that at the bottom of the left sided page of the TB register there is a tally box which will help you complete this block.

1. **Count the number of male pulmonary smear-positive New cases registered during the quarter**

   a. Look at the columns Sex (M/F), Disease Class (P/EP), Type of Patient (New, Relapse, Transfer in, Failure, Treatment After Default, Other), and Pretreatment sputum examination on the Tuberculosis Register. Use a sheet of paper to cover the rows. Move the paper down slowly, one row at a time. Count the number of male smear-positive New cases, putting a mark next to each patient counted. That is, look for:

   M in the column **Sex**

   I in the column **Treatment Category**

   P in the column **Disease class**

   N in the column **Type of Patient (New)**

   1+, 2+, 3+, or Scanty in the column **'smear'** under '**Pretreatment Sputum examination'**.

   b. Enter the total number (in pencil) at the bottom of the Tuberculosis Register under "DOTS" "New smear-positive" "M"

   c. Re-count to make sure that the number obtained is correct.

d. Add together the numbers of DOTS **male smear-positive New cases** from the bottom of each page of the Tuberculosis Register you review

e. Enter the number of **male smear-positive New cases** under **M** in the column **New cases (1)** of Block 1

2. Count the number of female pulmonary smear-positive New cases registered during the quarter

To count the number of **female pulmonary smear-positive New cases**, repeat the same procedure as described above for male pulmonary smear-positive New cases with the exception that in the column Sex look for F. Enter the number you obtain for the total number of female smear-positive New cases under **F** in the column **New cases (1)** of Block 1.

3. Determine the total number of smear-positive New cases of pulmonary tuberculosis registered in the quarter

Add the number of male and female pulmonary smear-positive New cases and enter the number obtained under the heading Total in the column New cases (1) of Block 1.

Similarly the total number of cases under Relapse, New smear-negative cases and New Extra-Pulmonary cases should also be entered in the relevant columns of Block 1.

Block 2

In Block 2, the data on New pulmonary smear-positive cases are recorded on the basis of sex and age groupings. The age groupings used in Block 2 are internationally recognized. When the report is completed, verify that the **Total** in Block 2 corresponds to the total number in Block 1 under the column **New cases (1)/Total**. Remember, only New smear-positive patients should be included in Block 2. The total numbers of smear-positive males and smear-positive females must match those in the column M and F of **New Cases (1)** of **Block 1**.

Block 3

This block is necessary to determine the total case detection and to monitor drug utilization. This block is also used to determine patients belonging to the pediatric age group (0 - 14 years age group). Every patient started on DOTS treatment and registered (except those typed as “transfer in” and those started on RNTCP Non DOTS treatment) must be included in the Total column for Block 3 of the Quarterly Report form. Note that certain boxes in this Block are shaded out. This is because if patients are correctly categorized, there will be none indicated in these boxes. For example, there should

never be a patient who fits into the definition of Relapses, Failures or Treatment After Default receiving Category I (CAT I) or Category III (CAT III) treatment. Only smear-positive patients fit into the definitions of Relapses, Failures and Treatment After Default. In very rare circumstances, such patients with extra-pulmonary or smear-negative tuberculosis and receiving Cat II regimen might otherwise fit into one of these three definitions. However, all such cases should be classified as 'Others' and entered in Block 3. If there is a patient in the Tuberculosis Register who falls in one of these shaded boxes, review and correct the patient's information.

- **All patients (except "transfer in" and RNTCP Non DOTS patients) started on treatment must be included in Block 3.**
- **Failure, Treatment after Default and 'Others' cases are not entered in Block 1. They are only entered in Block 3.**

EXERCISE 1

Using the five pages of the Tuberculosis Register in the Exercise Workbook, complete all the three blocks of the Quarterly Report on New and Retreatment Cases of Tuberculosis on page 67. Use the box at the bottom of the Tuberculosis Register for Block 1, and the worksheets provided for Block 2 (see below) and Block 3 (see page 66).

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

WORKSHEET

Quarterly Report on New and Retreatment Cases of Tuberculosis

Block 2: New smear-positive cases only

Review every page of the Tuberculosis Register for the quarter being reported on. Put a tally mark* (/) on the appropriate column below,and give the totals in the space provided. Include **only** patients who are New sputum smear-positive pulmonary cases (Category I, sputum-positive).

Age (Years)	Male (Tally Here)	Male Total	Female (Tally Here)	Female Total
0-14				
15-24				
25-34				
35-44				
45-54				
55-64				
65 and above				
Total				

* One tally mark (/) is put for every case. If four cases are recorded, four tally marks are placed (////). However, when a fifth case is recorded the four tally marks already put in are crossed (~~////~~). In this way each group represents five cases. This method of tally-marking facilitates counting.

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

WORKSHEET

Quarterly Report on New and Retreatment Cases of Tuberculosis

Block 3: All patients started on treatment.

Review every page of the TB Register for quarter being reported on. Put a tally mark *(/) on the appropriate column below. And give the totals in the space provided. **Every patient started on treatment must be entered in this report**.

Type of patient	Category I				Category II				Category III				Total
	Smear-positive		Smear-negative/ extra-pulmonary		Smear-positive		Smear-negative/ extra-pulmonary		Smear-negative		Extra-pulmonary		
	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	
New													
Relapses													
Failures													
Treatment after default													
Others													
Total													

* One tally mark (/) is put each case. Four tally marks are placed successively (////). However when a fifth case is recorded the four tally marks already put in are crossed (~~////~~). In this way each such group represents five cases. This method of tally mark* One tally mark

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME
Quarterly Report on New and Retreatment Cases of Tuberculosis

Patients registered during ____ quarter of 200__.		Name of area _____. No.#

Name of Reporter:_____.

Signature : _____

Date of completion of this form

Block 1 : All new and relapse patients registered in the quarter

Pulmonary tuberculosis							New extra-pulmonary tuberculosis (4)		Total (5)		
Smear-positive					New smear-negative (3)						
New cases (1)			Relapses (2)								
M	F	Total	M	F	M	F	M	F	M	F	Total

Block 2 : Smear – positive new cases only : from Column (1) above

Age – group (years)														Total		
0 –14		15 –24		25 – 34		35 – 44		45 – 54		55 – 64		65 and above				
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total

Block 3 : Treatment regimen given

Type of patient	Category I				Category II				Category III				Total
	Smear-positive		Smear-negative/ extra-pulmonary		Smear-positive		Smear-negative/ extra-pulmonary		Smear-negative		Extra-pulmonary		
	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	0-14	Above 14	
New													
Relapses													
Failures													
Treatment after default													
Others													
Total													

Notes: Quarterly: 1st quarter January, February, March
2nd quarter April, May, June
3rd quarter July, August, September
4th quarter October, November, December

Number identification number of the area.

QUARTERLY REPORT ON SPUTUM CONVERSION

The Quarterly Report on Sputum Conversion of New and Retreatment cases Registered 4-6 Months earlier is a critical early indicator of the effectiveness of programme implementation. Obtaining sputum and ensuring its examination at the end of the intensive phase is of critical importance for several reasons:

- Patients whose sputum are found to be smear-positive will receive another month of intensive phase of treatment, improving their chances for cure;
- Documentation that patients are converting from smear-positive to smear-negative gives patients and health workers confidence in the RNTCP;
- Gives confidence to the patient and the health worker that the patient is no longer infective and hence does not pose any danger to his family and the community.
- Sputum conversion is an early and sensitive indicator of the quality of programme implementation. A low conversion rate indicates a need for intensive supervision, and a high conversion rate indicates that the area could be used as a field demonstration area.

To calculate sputum conversion rates, all smear-positive New, Relapse, Failure and Treatment after Default patients begun on treatment during the identified period are included in the denominator, even if they have died, defaulted, been transferred to another state, or not had sputum collected. The number of patients with documented negative smears at the end of 2(3) months is divided by the number of smear-positive patients started on treatment, and the result is multiplied by 100.

$$\textbf{Sputum conversion rate} = \frac{\textbf{No. of sputum smear-positive converted to sputum smear-negative at the end of intensive phase}}{\textbf{Total No. Sputum smear-positive patients initiated on treatment}} \times 100$$

Although sputum conversion rates are determined for three different types of patients, by far the most important to evaluate are those of New sputum smear-positive patients. At least 90% of New smear-positive patients put on CAT I treatment should have sputum conversion to smear-negative by the end of 3 months of treatment.

EXERCISE 2

In one sub-district, the number of New smear-positive patients starting CAT I treatment was 88. After two months, 61 patients had negative sputum smears, 4 were smear-positive, and 23 did not have their sputum smear examination done. After three months, 4 patients had sputum examined and all were smear-negative.

1. What is the sputum conversion rate at the end of the end of IP (2 months)?

2. What is the sputum conversion rate at the end of extended IP (3 months)?

3. What was the number of patients who did not have sputum smear examinations done at the end of IP and extended IP, and what are the possible reasons for this?

Use the format below:

Total number of New sputum-positive patients	**Sputum at the end of IP**			**Sputum at the end of extended IP**		
	Negative	**Positive**	**N.A.**	**Negative**	**Positive**	**N.A.**

N.A.: Not available. Sputum examination was not done

EXERCISE 3

Complete the Quarterly Report on Sputum Conversion of New Cases, Relapses and Failures on page 72, using the five pages of the Tuberculosis Register in the Exercise Workbook. Use the worksheet provided below.

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

WORKSHEET

Quarterly Report on Sputum Conversion of New Cases, Relapses and Failures

Review every page of the Tuberculosis Register for the quarter being reported on. Make sure all available sputum results have been entered into the register. Put a tally mark* (/) on the appropriate column below, and give the totals in the space provided. **Every sputum-positive new, relapse and failure patient begun on treatment must be entered into this repor**t. Only patients with pulmonary sputum positive tuberculosis are included in this report.

Total number of new sputum positive patients	Sputum at the end of IP			Sputum at the end of extended IP		
	Negative	Positive	N.A. *	Negative	Positive	N.A.*

Total number of smear-positive Relapse cases	Sputum at the end of IP		
	Negative	Positive	N.A. *

Total number of smear-positive Failure cases	Sputum at the end of IP		
	Negative	Positive	N.A. *

Total number of smear-positive Treatment After Default cases	Sputum at the end of IP		
	Negative	Positive	N.A. *

* N.A. Not available (Sputum examination was not done).

** One tally mark (/) is put for every case. Four tally marks are placed successively (////). When the fifth case is recorded, the four tally marks already put in are crossed (~~////~~). In this way each such group represents five cases. This method of tally marking facilitates counting.

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Quarterly Report of Sputum Conversion of New and Retreatment cases Registered 4-6 Months Earlier

Patients Registered during _____ quarter of 200 ___.

Name of area: _____.
No. _____

Name of reporter: _____
Signature:_____

Date of completion of this form:

Complete this proforma for sputum smear-positive patients. The total no should be the same as in the Quarterly Report on New and Retreatment Cases of Tuberculosis.

Total no. of New Sputum – Positive Patients	Sputum at the end of IP (2 months)			Sputum at the end of extended IP (3 months)		
	Negative	Positive	N.A.	Negative	Positive	N.A.

Total no. of Sputum – Positive Relapse Patients	Sputum at the end of IP (3 months)		
	Negative	Positive	N.A.

Total no. of Sputum – Positive Failure Patients	Sputum at the end of IP (3 months)		
	Negative	Positive	N.A.

Total no. of Sputum – Positive Treatment After Default Patients	Sputum at the end of IP (3 months)		
	Negative	Positive	N.A.

N.A. Not available; sputum examination was not done.

QUARTERLY REPORT ON THE RESULTS OF TREATMENT OF TUBERCULOSIS PATIENTS REGISTERED 13 TO 15 MONTHS EARLIER

The primary goal of the RNTCP is to diagnose and cure patients with tuberculosis, especially patients with smear-positive tuberculosis. Think of the patients you register in a quarter as a group of individuals who start out together in a 10 kilometre foot race. At the end of the race, the judges count how many people in the group completed the race within a certain time period, how many people completed the race at all, and how many people did not complete the race. Similarly, at the end of treatment, you should count how many New smear-positive cases you registered in a specific quarter were cured, completed treatment, died, were treatment failures, defaulted or were transferred out.

Similarly, smear-positive retreatment cases are evaluated. (Smear-negative pulmonary cases are evaluated separately. Successfully treated smear-negative cases are classified as (’Treatment completed’)

You should use the findings of reports on treatment results to help you supervise health workers and monitor the programme. Sharing the results of reports with health workers can help them understand how their efforts have improved the cure rate. If the cure rate of 85% has been achieved, it will make them proud of the work they have done and hence motivate them to maintain it. If the desired cure rate has not been achieved in certain areas, sharing of information of successful areas with them will help them to learn the ways and means for improving their performance.

At the beginning of each quarter, complete the Quarterly Report on the Results of Treatment of Tuberculosis Patients Registered 13 to 15 Months Earlier. It summarizes the treatment outcomes of patients on short-course chemotherapy who were registered in the Tuberculosis Register 13 to 15 months earlier. It is the most important report in the routine reporting system of tuberculosis cases and their outcomes. Please review the following example of evaluation of treatment outcomes and rates.

Example:

During the first quarter of 2000 in one sub-district, 134 New smear- positive patients were started on treatment. At the beginning of the second quarter of 2001 (1 April 2001), the Senior Treatment Supervisor (STS) ensured that all information in the Tuberculosis Register was complete and accurate for every patient registered in the first quarter of 2000. He confirmed that the Quarterly Report on New and Retreatment Cases of Tuberculosis sent one year before, on patients diagnosed in this quarter, reported 134 New smear-positive patients. Using the worksheets, he then tallied the result and found that:

Patients registered during quarter	Type of patient	Cured (1)	Treat-ment comp-leted (2)	Died (3)	Failed (4)	Defaulted (5)	Trans-ferred to another district (6)	Total number of patients evaluated (sum of columns 1-6)
134	New smear-positive	110	4	4	2	9	5	134

The various rates of outcome were calculated as under:

Cure rate	:	(110 ÷ 134)	x	100	=	82%
Completion rate	:	(4 ÷ 134)	x	100	=	3%
Death rate	:	(4 ÷ 134)	x	100	=	3%
Failure rate	:	(2 ÷ 134)	x	100	=	1%
Default rate	:	(9 ÷ 134)	x	100	=	7%
Transfer rate	:	(5 ÷ 134)	x	100	=	4%
*Success Rate (Cure + Completion rate)**	:	(110+4 ÷ 134)	x	100	=	85%

In this example, results could be improved to meet the goal of 85% cure by:

- ensuring that every patient who completes treatment has at least two sputum smear examinations done during the course of treatment, including one at the end of treatment,
- reducing the default rate,
- reducing the transfer rate,
- obtaining information on patients who were transferred and who were cured (if any),
- a combination of these four interventions.

Note that the outcome must be reported on each and every patient who is registered.

EXERCISE 4

Complete the Quarterly Report on the Results of Treatment of Tuberculosis Patients Registered 13 to 15 Months Earlier (see below) for the five pages of the Tuberculosis Register in the Exercise Workbook.

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Quarterly Report on the Results of Treatment of Tuberculosis Patients Registered 13-15 Months Earlier

Name of area: _____. No : _____. Date of completion of this form _____	Patients registered during _____ quarter of_____ .	Name of Reporter* : _____. Signature :

Patient reported during quarter **		Type of Patient	Cured (1)		Treatment completed (2)		Died (3)		Failure (4)		Defaulted (5)		Transferred to another district (6)		Total number evaluated (sum of columns 1 to 6)	
Male	*Female*	*NEW CASES*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Total			*Total*		*Total*		*Total*		*Total*		*Total*		*Total*		*Total*	
		Smear-positive														
		Smear-negative														
		Extra-pulmonary														
		Total New cases														
Male	*Female*	*RETREATMENT CASES*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Total			*Total*		*Total*		*Total*		*Total*		*Total*		*Total*		*Total*	
		Smear-positive relapses														
		Smear-positive failures														
		Smear-positive treatment after default														
		Others treated with Category II														
		Total Category II														

* The Reporter is the Medical Officer responsible not the person completing this form. This form includes patients on category I, category II and category III treatment both smear-positive and smear-negative. These totals should match those of the Quarterly Report on New & Retreatment cases for the quarter.

** Of these, _____ (number) were excluded from evaluation of chemotherapy for the following reasons.

EXERCISE 5

Refer to the Exercise Workbook. Study the section ,'Tuberculosis Register with Errors'. Identify at least one error on each line of the Tuberculosis Register.

TB No	Errors identified
401	
402	
403	
404	
405	
406	
407	
408	
409	
410	

QUARTERLY REPORT ON PROGRAMME MANAGEMENT AND LOGISTICS

The Quarterly Reports on Programme Management and Logistics allow monitoring of the essential programme activities necessary for the success of the RNTCP. Every month, each Peripheral Health Institution (PHI) completes a report and sends it to the Tuberculosis Unit (TU). Each TU compiles the report on Programme Management and Logistics every quarter. Each District Tuberculosis Centre (DTC) compiles a consolidated quarterly Programme Management and Logistics report on the basis of reports received from all TUs in the district. The State Tuberculosis Headquarters completes this report every quarter on the basis of reports received from all the districts where RNTCP is in operation in the state. Reports from the district and state levels are sent to the Central TB Division. PHI and TU level reports are retained at the DTC.

The DTC serves as a TU for the area in its immediate surroundings. The DTC will complete a Sub-district Level report for that TU, and then combine the results of that report with the results of reports from all other TUs to create the District Level report.

In order to ensure that there is no shortage of drugs, a 3-month reserve stock of drugs is kept at the DTC and two months reserve stock at each TU, and a 1-month reserve stock is kept at each PHI.

PHI Level- Monthly Report on Programme Management, Logistics and Microscopy

PHIs which are not performing microscopy activity complete only the first page of this report. Microscopy centres complete both the first and the second pages of this report. All PHIs, including medical colleges need to send this report monthly.

The first section of this report, on Medications, tallies stock at the beginning of the month, stock received during the month, stock consumed during the month, and stock on the last day of the month. From these figures and the expected caseload (based on the previous period), the requirements for each item are estimated.

Example

In one PHI, in the previous month, 3 patients were started on CAT I treatment, 1 patient was started on CAT II treatment, and 3 patients were started on CAT III treatment. An example of this part of the report is reproduced below.

Medications

Item	Stock on first day of month (a)	Stock received during month (b)	Patients started on treatment during month (c)	Stock on last day of month (d) =a+b-c	Quantity requested (e) = (cx2)-d
Category I PWB	4	2	3	3	3
Category II PWB	1	1	1	1	1
Category III PWB	3	2	3	2	4

In the same manner, pouches that would be required in case of prolongation of the intensive phase and individual drugs are requested.

Staff Position and Training

This report collects information on sanctioned staff, staff in place, and staff who have been trained in the RNTCP. Since staff turnover is common, this information is important for the tuberculosis control staff to plan re-training, and, in case of vacancies, shifting of services if necessary.

Example:

Staff Position and Training

Category of staff	*Sanctioned*	In position	Trained in RNTCP
Medical Officer	3	2	2
Laboratory Technician	1	1	1
Pharmacist	1	1	1
MPH Supervisor	8	6	0
Multi-purpose Health Worker			
TBHV			
STLS*			

* STLS to be reported by Medical Colleges only

From this information, it can be seen that in addition to filling up the vacant posts there is a need to train the multi-purpose health workers in the RNTCP at this PHI.

Referral activities

The number of new adult out-patients visiting the PHI during the month is to be reported here. Information on the number of chest symptomatics referred for sputum examination is also reported in this section. A patient making repeated visits for the same ailment should be counted only once. All patients less than or equal to 14 years of age are not treated as adults for the purpose of reporting. This section of the report enables you to determine whether a minimum of 2% of new adult outpatients are being referred for sputum examination.

Example

An example of PHI 237, is given below:

Referral Activities (To be filled in by all PHIs with DMCs as well as PHIs without DMCs, from OPD Register)

a.	Number of new adult outpatient visits	2800
b.	Out of (a), number of chest symptomatic patients referred for sputum examination	60

Number of chest symptomatics / TB suspects referred for sputum examination should be more than 2% of the number of new adult out-patients. If the “referral for diagnosis” is less than 2%, medical and paramedical workers of the PHI should be encouraged to refer all patients who have cough for more than 3 weeks to the nearest Designated Microscopy Centre for sputum microcopy for diagnosis.

Microscopy Activities

This section is essential to evaluate the microscopy activities i.e., the number of patients whose sputum was examined and the number of smear-positive patients diagnosed.

Example

An example, using PHI 237, is given below:

Microscopy Activities (To be filled in by only PHIs which are a DMC, from Lab Register)

c.	Number of TB suspects whose sputum was examined for diagnosis	60
d.	Out of (c), number of sputum smear-positive patients diagnosed	07
e.	Number of TB suspects subjected to repeat sputum examination For diagnosis	05
f.	Out of (e), number of sputum smear-positive patients diagnosed	01
g.	Total number of sputum smear-positive patients diagnosed (d+f)	08

Number of sputum smear-positive patients would be around 10% of the number of chest symptomatic patients whose sputum was examined for diagnosis.

Treatment Initiation (To be filled in by only PHIs which are a DMC, from Lab Register and Referral for Treatment Register)

Information on patients started on treatment is an important section of the monthly report. This is the section in which information is collected on sputum positive patients being put on RNTCP DOTS and RNTCP Non-DOTS treatment. This information should be available in the remarks column of the Laboratory register (refer Annex VII).

The PHI report also provides information regarding sputum positive patients who were referred for treatment outside the TU. **A Referral for Treatment register** should be maintained in big hospitals and Medical colleges where large numbers of cases are expected to be diagnosed and referred. The other DMCs which refer sputum positive patients for treatment to other PHIs need make an entry of the same under remarks column of the laboratory register.

The DTO will ensure through his/her TU level staff that all patients referred between TUs within the district is put on treatment.

Example

An example, again using PHI 237, is given below:

Treatment Initiation (To be filled in by only PHIs which are a DMC from Lab Register and Referral for Treatment Register)

h.	Of the smear-positive patients diagnosed (g), number put on DOTS	05
i.	Of the smear-positive patients diagnosed (g), number put on RNTCP Non-DOTS (ND1)	01
j.	Of the smear-positive patients diagnosed (g), number referred for treatment to other TUs within the district	01
k.	Of the smear-positive patients diagnosed (g), number referred for treatment outside the district	00

Of all the smear-positive patients diagnosed in the DMCs, some may start their treatment from some other PHIs in the same TU. The information on whether such patients have been started on treatment should be collected either during regular meetings in the area or by the STS/STLS of the TU when they supervise the PHIs.

Consumables

Laboratory consumables will be requested in the same manner as medications. Stains should be prepared at the DTC / TU on a monthly basis and provided to DMCs, which should ensure adequate supply at each microscopy centre every month. If particles have formed in the carbol fuchsin, the carbol fuchsin solution should be re-filtered.

Sputum containers as well as Laboratory Forms for Sputum Examination should be supplied to each and every PHI in the sub-district, so that they can collect sputum from symptomatic patients as well as follow-up samples from patients undergoing treatment for tuberculosis. These PHIs will also have to report information regarding sputum containers in monthly PHI reports. Supply will be made available to the microscopy centres from the TU. Other PHIs shall collect containers and forms from the microscopy centres when they bring sputum samples to be tested, or during regular meetings.

Equipment

Every month, each microscopy centre reports on the condition of its microscope. If a microscope is not working, it should be repaired promptly. If it is under warranty, the supplier must do this free of charge. If the warranty has expired, immediate efforts should be made to get the repairs done through the agency with which the Annual Maintenance Contract (AMC) has been signed. In the absence of AMC a licensed and reputed repair agent should be hired. If there is no functional microscope at any DMC temporarily, interim arrangements should be made for sputum collection and transport to the nearest functional DMC.

Name and Signature

The name and signature of the reporting officer is given. This should generally be the MO who has been designated as being in-charge of tuberculosis work at the PHI.

Name of officer reporting (in Capital Letters): _____

Signature: _____ Date: _____

TUBERCULOSIS UNIT (TU) LEVEL – QUARTERLY REPORT ON PROGRAMME MANAGEMENT AND LOGISTICS

The information reported in the monthly PHI Level reports is consolidated into the quarterly TU report (Annex IX). In addition, the TU report includes information on supervisory activities, quality of DOTS implementation, data on Laboratory quality control, and staff position and training in the TUs. The TU situated at the DTC will also submit a TU report like all other TUs.

The number of DMCs in the TU under public sector, private sector and NGOs are to be reported. The number of monthly PHI reports expected in the quarter and the number received are also to be reported in the beginning of the report.

Supervisory Activities

This information is self-explanatory. The stipulated supervisory schedule is given in the module on *Conducting Supervisory Visits* (refer Annex IV-A). Although health units may be visited more than once during the quarter, it is to be reported as a single visit in the report quarterly.

Referral and Microscopy Activities

The information contained in these sections are the same as that given in the PHI Level report. The figures given here must cover the information from all PHIs and microscopy centres under the TU, including the microscopy centre of the TU.

Treatment Initiation

This part of the report is compiled from the monthly PHI Level reports. Care should be taken to avoid duplication of cases while doing the consolidation. Short-course rifampicin containing regimens should **never** be dispensed to out patients residing outside the district. One of the key responsibilities of the STS is to ensure that every smear-positive patient who is diagnosed is either started on treatment, or is properly referred to another area where the patient usually resides and will receive treatment.

Example

In all the PHIs including the microscopy centres in one TU during one quarter, the referral, microscopy and treatment details were as follows:

Referral Activities

a.	Number of new adult outpatient visits	96000
b.	Out of (a), number of chest symptomatic patients referred for sputum examination	2250

Microscopy Activities

c.	Number of TB suspects patients whose sputum was examined for diagnosis	2250
d.	Out of (c), number of smear-positive patients diagnosed	215
e.	Number of TB suspects subjected to repeat sputum examination For diagnosis	150
f.	Out of (e), number of sputum smear-positive patients diagnosed	15
g.	Total number of sputum smear-positive patients diagnosed (d + f)	230

Treatment Initiation

h.	Out of the smear-positive patients diagnosed (g), number put on DOTS within the TU	200
i.	Out of the number of smear-positive patients diagnosed (g), number put on RNTCP Non-DOTS (ND1) within the TU	12
j.	Out of the smear-positive patients diagnosed (g), the number referred for treatment to other TUs within the district	05
k.	Out of the smear-positive patients diagnosed (g), the number referred for treatment outside the district	05

In the example, there were 10 smear-positive patients who are residents of areas outside the TU. It may also be seen that eight smear-positive patients [(g) –(h+i+j+k)] who have neither been referred for treatment outside the TU area nor put on treatment under RNTCP. It is the responsibility of the MOTC, STS and STLS to put them under treatment through the concerned PHIs as soon as possible.

The DTO will ensure through his/her TU level staffs that all patients referred between TUs within the district are put on treatment. All such patients who are not initiated on treatment are considered as *initial defaulters* at the district level after consolidation of QPMR from the TUs. The DTO has to find out the reasons for the same and make attempts to reduce the numbers of initial defaults.

Quality of DOTS implementation

The number of PHIs referring more than 2% of new adult out patients for sputum examination is reported in this section. This section of the report also helps in assessing whether the new smear-positive cases are started on DOTS within seven days of diagnosis and are registered within one month in the TB register as per RNTCP policy. During the supervision visits, an assessment of whether the NSP cases are receiving DOTS in the intensive phase are made. Similarly, the end of treatment follow-up sputum examination is supposed to be done **within one week of the last dosage** in case of

smear-positive patients. Data on these aspects are also to be reflected in this section of the report. .

Laboratory Quality Control Network (Unblinded On-site supervision)

As discussed in the LT and STLS modules, a quality control network is essential for the success of RNTCP. Every month, each STLS must visit all microscopy centres and review 5 smear-positive slides and 5 smear-negative slides. Instructions for completing this section of the Quarterly Report on Programme Management and Logistics are given in the STLS module.

Staff Position and Training

The format of this section is the same as that of the PHI Level report. At the TU level, information from all PHIs in the sub-district is given. Information on the TU level staff specifically is given in the first part of this section, and is reproduced below.

Staff Position and Training

(Tick [✓] if in place or not during quarter)

Designated Medical Officer-TB control (MO-TC)	❑ Yes ❑ No	**Trained in RNTCP** ❑ Yes ❑ No
Full time Senior Treatment Supervisor (STS)	❑ Yes ❑ No	**Trained in RNTCP** ❑ Yes ❑ No
F/T Senior Tuberculosis Laboratory Supervisor (STLS)	❑ Yes ❑ No	**Trained in RNTCP** ❑ Yes ❑ No

Details on the training status of other Categories of Staff should be filled in the table given below.

Category of staff	Sanctioned	In Place	In place and trained in RNTCP	Trained in RNTCP in the quarter	Total trained in RNTCP since implement-tation	Re-trained in RNTCP in the quarter
Medical Officer (at BPHC / PHC / CHC / other)						
All Laboratory Technicians/Microscopists in the TB Unit (including designated MCs)						

Laboratory Technician/Microscopist of designated microscopy centers						
Pharmacist						
MPH Supervisor						
Multipurpose Health Worker or equivalent						

Medications, Consumables and, Equipments

The sections on **Medications**, **Consumables**, **Equipment** are in the same format as that of the PHI Level report. The sections on Medications is filled up using information from the previous quarters report, the Stock register at TU drug store and the PHI reports. These sections must include stocks in all PHIs in the area (including Medical Colleges, NGOs, Private practitioners having DOT/ Microscopy centre who stock drugs and consumables) of the TU, as well as the TU itself. However, the columns on 'stock on first day of quarter' and 'stock on last day of quarter' should include the stocks at TU drug stores in addition to those reported by the PHIs. If the TU drug store is receiving drugs from DTC for onward distribution to PHIs, the column on 'stock received during quarter' should include the receipts from DTC into the TU drug store. In rare circumstances, a TU may be asked to transfer drugs or other lab consumables to other TU. This transfer should always be routed through the district.

The 'stock on first day of quarter' in the current quarter's report should always match with the 'stock on last day of quarter' in the previous quarter's report.

Staff of the TU should complete a PHI Level report for the specific institution where the TU is located, and then combine this information with information from all PHIs in the TU area.

Similarly entries are made for prolongation pouches, injection streptomycin and other loose medicines.

STS during his field visits should determine if there are any drugs at risk of expiry or any expired drugs at the PHIs. PWBs will be considered to be at 'Risk of expiry' if the date of expiry on the PWB is less than 12 months for Cat I, 14 months for Cat II and 11 months for Cat III. If there are any such boxes in the TU, 'Yes' should be ticked and the details attached. To ensure that PWB do not get expired 'FEFO' (First expired first out) must be followed.

The sections on Consumables are similarly filled up. The section on Equipment is the same as that of the PHI Level report. These sections must include all PHIs in the area of the TU, as well as the TU itself.

After completing the report, MO-TC after verifying the report should make his signature at the appropriate place.

Staff of the TU must also complete a PHI Level report for the specific institution where the TU is located, and then combine this information with information from all PHIs in the TU area.

The signature at the end of the reports is of the MO-TC and NOT of the person who fills the reports.

DISTRIBUTE THE DRUG SUPPLY TO THE PHI

After you receive the supply of drugs for the quarter, distribute the drugs to the PHI in the sub-district (district hospital, health centres, dispensaries and PHC). Drugs should be distributed according to the number of patients treated at the PHI during the last month. To determine how many patient-wise boxes, pouches in case of prolongation of the intensive phase, and loose drugs are required to be distributed to each health unit in your sub-district apply the same procedure that was used to determine the amount of drugs needed in the sub-district. Follow the steps given.

1. **Determine the number of tuberculosis patients treated at the health unit last month**

   Refer to the PHI report of the previous month of the PHI to determine the number of tuberculosis patients treated at the PHI during the last month for each category of treatment regimen.

   Requirement of prolongation pouches for indoor patients in Medical colleges is also determined on the basis of consumption at these PHIs during the last month. Prolongation pouches may also be required for reconstitution of drug boxes. Reconstitution of drug boxes should be done only at DTC under supervision of DTO/ MO-DTC and should never be done at TU level.

2. **Allow for 1 month of reserve stock at the PHI.**

3. **Account for drugs currently in stock at the PHI.**

Example

In Meerganj PHC, in the previous month, 3 patients were started on CAT I treatment, 1 patient was started on CAT II treatment, and 3 patients were started on CAT III treatment. The PHI report is of this PHI is reproduced below.

Medications

Item	Stock on first day of month (a)	Stock received during month (b)	Patients started on treatment during month (c)	Stock on last day of month (d) =a+b-c	Quantity requested (e) = (cx2)-d
Category I PWB	4	2	3	3	3
Category II PWB	1	1	1	1	1
Category III PWB	3	2	3	2	4

As per the calculation Meerganj PHI should be supplied with 3 Cat I PWB, 1 Cat II PWB and 4 Cat III PWB.

Determine the loose drugs and the approximate number of pouches that would be required in case of prolongation of the intensive phase.

The number of pouches required in case of prolongation of the intensive phase and loose drugs can be estimated as given above.

Make sure there is an adequate stock of drugs at all PHI

When you go on supervisory visits to a health unit, make sure there is an adequate supply of drugs to meet the requirements of the facility. Check the drugs in stock to see if there are sufficient drugs (One months stock for utilization and one months reserve stock).

If a health unit is treating substantially higher number of cases than usual, consider bringing them more stock of drugs. In such a situation, be sure to check the records for possible reasons for the increased use of drugs. If you cannot find a reason for the increase, rule out any possibility of misuse of drugs. If you determine that a health unit will definitely need more drugs for treatment (not for stock) before the end of the month, give them the necessary amount of drugs if you have a sufficient amount. If you do not have an adequate supply of drugs with you, check your reserve stock when you return

to see if it will meet the increased need and distribute the drugs as quickly as possible. (Note: The district drug store must have an adequate reserve stock to use for these emergencies.) If the reserve stock is not sufficient, order the drugs needed and distribute them as quickly as possible.

If a PHI has too large a stock of drugs, take the excess stock back to the drug store and add the number of drugs to your records.

Partially used PWBs of patients who have Died, Defaulted, Failed treatment or have been transferred out, should be taken back from the PHI by the STS after giving proper receipt for the strips being taken back. These should be returned to the DTC with details of the patient, date of discontinuing, reason for discontinuing and date of expiry. Such partially used PWB should be taken back within one month of outcome being declared and returned at the next monthly meeting at the DTC. The STS should get receipt for the drugs returned from the Pharmacist. This will be entered in the reconstitution register at the DTC and reconstituted at District level. Reconstitution at TU Level can be done only under the Supervision of DTO and DTC pharmacist, after proper entry in the Reconstitution register.

Never stock drugs beyond date of expiry

To ensure that there is no stocking of drugs beyond their date of expiry, tell the health workers to use the old stock of drugs before the new stock. The principle of First-Expired, First-Out (FEFO) must be regularly followed. Show the health workers how to find the date of expiry printed on the packing of drugs. Remind them that when they store new supplies of drugs, they should place the new patient-wise boxes and drugs behind the old patient-wise boxes and drugs on the shelf. When you visit PHI, check the date of expiry to verify that the older drugs are being used first and that none of the drugs are past their date of expiry. Drugs that are past their date of expiry should never be stored with the drugs which are being used.

CONDUCT SUPERVISORY VISITS

Many activities are required to diagnose and cure tuberculosis patients in your area. You cannot perform all these activities by yourself. You need the cooperation of workers in PHI and microscopy centres in the sub- district.

During your regular supervisory visits place the emphasis on *helping* staff in identifying and solving their problems. This will create a good working relationship between you and the staff of the sub-district. Staff will be less worried about you finding things, ‘wrong’, and may be more willing to discuss problems with you to identify solutions. You should try to become their educator, coordinator, facilitator, motivator and guide.

Supervisory visits give staff the opportunity to talk with you. It gives you the opportunity to see and better understand the problems staff face, especially workers at peripheral

health facilities. The interest you show during these visits can motivate people to perform their best. When you find that certain problems cannot be resolved by you, talk with your supervisors.

Good supervision is the process of helping staff improves their performance. During these visits you can observe and reinforce correct and good performance. You can also identify and correct the deficiencies in the performance before they become a major problem. Your sub-district is more likely to successfully manage tuberculosis patients when you are supervising effectively and workers are performing activities correctly. In this section, you will learn how to prepare for and conduct supervisory visits to PHI in your sub-district.

Prepare for supervisory visits to PHI

To use your time productively and efficiently during a supervisory visit to a health unit, you will need to prepare well in advance for the visit. You will need to decide on the **frequency** of visits to the PHI in your sub- district, **what** to look for to determine if staff are doing a good job in providing health services for case-detection and treatment of tuberculosis, and **when** and **how** to collect the information you need

Decide the frequency of visits to PHI

PHI may include hospitals, Medical colleges, health centres, private clinics, dispensaries, etc. On a regular basis, schedule supervisory visits to all PHI in your sub-district. Any health unit which is not placing 95% or more of smear-positive patients on RNTCP treatment, is achieving a conversion rate of New smear-positive cases of less than 85%, is curing less than 80% of cases, or has a default rate of more than 10% should be closely supervised.

Plan frequent visits to the PHI. You should interview MPHS and MPW at PHCs and sub-centres, inspect records and Tuberculosis Treatment Cards, and interview randomly selected patients. You must visit each PHC and CHC at least once every month, and sub-centres every quarter. You should visit all New sputum positive patients within one month of treatment initiation. Write the days you plan to visit each health unit on your calendar. Notify the supervisor of the PHI about your proposed visit well in advance. Plan and spend enough time at each health unit so that you can do an effective supervision. Try not to rush through your visit. After the visit, send your report to the concerned unit.

Decide how to check each item at PHI

There are several ways to collect information during a supervisory visit. Before undertaking the supervisory visit, examine the Tuberculosis Register for getting the latest information in respect of the facility. This will help you prioritize the areas you should check. Taking into consideration the time available with you and the areas you

want to check during the visit decide the best methods to collect the information you want. Some of these methods are:

1. Talk with health workers

Talk with health workers to learn what they know and what they think about their work. For example, ask them under what circumstances they would label a person as chest symptomatic and advice him sputum examination. It can also be enquired from them as to what do they do when a patient's Laboratory Form for Sputum Examination comes to them from the laboratory. If certain weak areas in their performance are noticed, it is better to talk with them in private on these issues and try to solve the problem together. Also, compliment them on the work they have done well.

2. Review Tuberculosis Treatment Cards

Tuberculosis Treatment Cards which have been accurately and completely maintained can tell you about the performance of several related activities.

They can tell you:

- if patient information at the top of the Tuberculosis Treatment Card is complete and signed by MO
- if patients are placed on the correct treatment regimen
- if patients who are smear-positive at the end of IP are given 1 extra month of the intensive phase of treatment
- if patients are administered drugs on the specified day as per schedule
- if sputum specimens are collected at correct intervals and sputum smear examination results are recorded
- if health workers trace patients who do not collect their drugs and bring them back under treatment
- if New smear-positive cases are placed on the retreatment regimen afresh if they are smear-positive at the end of 5 months
- about efforts that have been made for the retrieval if the patient has defaulted
- about status of screening of family contacts of sputum-positive cases.

- The original treatment cards of the TB patients taking treatment at the peripheral DOT centres are updated or not

Review Tuberculosis Treatment Cards of all the patients in the intensive phase during each visit. When you review the cards, check to make sure that every patient who has a Tuberculosis Treatment Card is entered in the Tuberculosis Register. When you review the Tuberculosis Treatment Cards, determine whether pulmonary smear-positive patients are converting from smear-positive to smear-negative at the end of IP/extended IP.

Tuberculosis Treatment Cards also contain information about the treatment of patients. Make sure that patients are coming to swallow every dose of drugs under direct observation of the DOT Provider during the intensive phase. Also, make sure that patients in the continuation phase collect their drugs every week and are observed ingesting the first dose from the weekly blister pack, and that they bring back the previous week's empty blister pack. Compare the amount of drugs consumed from the patient-wise box with the visits shown in the Tuberculosis Treatment Card and investigate discrepancies, if any.

Remember to transfer the latest information from the Tuberculosis Treatment Cards into the Tuberculosis Register (for example, results of sputum smear examinations).

3. Observe health workers

Observe staff doing their work. This will give you the most accurate information about how well they are performing tuberculosis-related activities. For example, in PHI which are giving directly observed treatment, watch them administer treatment. Check to see if they administer the correct number and type of drugs. Make sure they watch the patients swallow the pills and that they give streptomycin injections after the patient swallows the pills. Check to see if they use sterilized syringes and needles for each patient. Whenever possible, praise correct performance. **Unless a health worker is doing something that endangers a patient's life, save critical comments only for an occasion when you can talk alone with the health worker**.

4. Talk with Community DOT providers

Interview community DOT providers to learn what they know and what they think about their work. Compliment and encourage them for the work they have done well. Discuss and solve any problems found during your discussions with the community DOT provider. Review the treatment cards; verify provision of DOT and retrieval actions undertaken in those patients who interrupts treatment, if any.

5. Talk with tuberculosis patients

Listen to the patients as they talk with MOs and health workers to see if they understand the health education information being provided. Also, talk with the patients on an individual basis at the centre and more importantly at their residence/home. Do this when the local staff is not present. Learning about patient perceptions is crucial for you to understand how the programme is functioning and what areas need improvement. When you talk with patients, explain that you want to make sure that they receive the treatment they need. Ask patients questions such as the following:

- How many drugs are you receiving?
- What do the drugs look like?
- When are you given the drugs?
- How are you given the drugs?
- Do you have to pay for the drugs?
- Do you have any problem in taking treatment?

6. Examine Supplies

Look at the supplies. Check to see if there is an adequate supply of drugs, needles, syringes, ampoules of water for injections, sputum containers, laboratory consumables, Tuberculosis Treatment Cards, Identity Cards, Laboratory Forms for Sputum Examination, referral for treatment form and referral for treatment register and Transfer Forms. Look at the dates on the drug bottles, tins, or patient-wise boxes to make sure that staff are using the old stock of drugs before the new stock and that no drugs have expired. Also check if essential equipment such as sterilizer, microscope, etc. is in working order.

During the supervisory visits, take back the unused portions of patient- wise boxes of patients who have defaulted, died, or been transferred. You need to ensure that these drugs are not used for other patients, otherwise incomplete treatment may be given which may create drug resistance. All partially used PWB should be brought to TU and further transported to DTC for reconstitution under the supervision of DTO as per guidelines.

Use a checklist during the supervisory visit

Inform the MO in advance that you are planning to visit the health unit on a particular day.

Staff are likely to be nervous about being checked. If you take out a big checklist and ask your questions in a critical, authoritative manner, the answers you obtain may be brief and incomplete. Use the brief checklist you have developed to guide your visit. Ask your questions in a friendly manner and you are likely to obtain more complete and useful information.

To ensure that the activities to provide tuberculosis services are correctly performed, work with the health staff. Investigate any items that were being done incorrectly. Work together to find possible causes to the problems in performance of activities and solve them. Discuss your findings with the health unit supervisor and appropriate staff. **Summarize your observations and interviews with staff, and discuss and solve any problems you found**. Annexure IV-C gives an example of a format for summarizing your findings and recommendations. Implement solutions immediately, whenever possible. For example, immediately provide supervised practice of a task incorrectly performed. A method that can help solve problems in performance is described in Annexure III. **Refer to these Annexures now**.

Before you leave the health unit, put a note of the observations and recommendations in the supervisory register kept at the PHI. The summary of the observation is prepared in duplicate and one copy of it is taken away and filed and copy will remain with PHI. Explain to the MO any problems you found and the solutions you recommended. If you need help in solving a problem, discuss it with the MO-TC and District TB Officer (DTO).

ANNEXURE

ANNEX I: FORMS AND REGISTERS NEEDED

Names of Registers and Forms	Number needed
Tuberculosis Treatment Card	2 per patient
Tuberculosis Identity Card	1 per patient
Tuberculosis Register	1 per year per TU
Tuberculosis Laboratory Register	1 per year per designated microscopy centre
Laboratory Form For Sputum Examination	15 per New pulmonary smear-positive case
Mycobacteriology Culture/Sensitivity Test Form	Number determined by State Tuberculosis Officer
Quarterly Report on New and Retreatment Cases of Tuberculosis	16 per year (4 copies x 4 quarters) For each TU and for DTC
Quarterly Report on Sputum Conversion of New and Retreatment Cases of Tuberculosis	16 per year (4 copies x 4 quarters) For each TU and for DTC
Quarterly Report on the Results of Treatment of Tuberculosis Patients Registered 13-15 Months Earlier	16 per year (4 copies x 4 quarters) For each TU and for DTC
Quarterly Report on Programme Management	**PHI**: (3 x 12) x No. PHIs in district **Sub-districts**: (2 x 4) x No. TUs in district **District**: (4 x 4) copies
Transfer Form	Based on the proportion of patients who were transferred out of the district during the preceding year.
Referral for treatment form	Based on the proportion of patients who were referred for treatment in the TU during the preceding year.
Refrerral for treatment register	One for every DMC with large numbers of referrals
Supervisory register	One for every PHI

ANNEX II: CALCULATION OF KEY INDICATORS (AT TU LEVEL ONLY)

Indicator	Formula
Annualized Total Case Detection Rate	(Total cases registered during the quarter x 4) / Population in Lakhs
Annualized New Smear-positive Case Detection Rate (ANSP CDR)	(New smear-positive cases registered during the quarter x 4) ÷ Population in Lakhs
% NSP CDR	Annualized NSP case detection rate / Expected NSP Case detection rate for that area x 100
Percentage of smear-positive of total new pulmonary cases	NSP / (NSP +NSN) x 100 (From Block I of Case finding report)
Percentage of new EP cases out of all new cases	EP / (NSP + NSN +NEP) x 100 (From Block I of Case finding report)
Percentage of retreatment out of all Smear-positive cases	Retreatment Smear-positive / (NSP + Retreatment Smear-positive) x 100 (From Block I and Block III of Case finding report)
Sputum conversion rate of NSP Patients	NSP patients converted at 2 months and 3 month x 100 / NSP cases registered during the quarter (From quarterly report on sputum conversion of New and Retreatment cases registered 4-6 months earlier)
Cure rate of new smear-positive cases	New smear-positive patients cured x 100 / New smear-positive patients registered (from quarterly report on the results of treatment of tuberculosis patients registered 13-15 months earlier)
Success rate of new smear-positive patients	(NSP patients cured + NSP patients treatment completed x 100) ÷ NSP patients registered (from quarterly report on the results of treatment of tuberculosis patients registered 13-15 months earlier)
TB suspects examined per lakh population	TB suspects examined in the quarter / Population in Lakh (From quarterly programme management report).
% of smear-positive among suspects	Positive patients diagnosed x 100 / TB suspects examined (From quarterly programme management report).
Percentage smear-positive patients living within the district started on DOTS	Number of patients started on DOTS x 100 / (Total number of smear-positive patients diagnosed –No. referred for treatment outside the district) (From quarterly programme management report)

ANNEXURE III: SUMMARY OF KEY INDICATORS AND POSSIBLE ACTIONS

Table 1: Case Finding Indicators and possible responses to problems

Quarterly Report	Indicator	Possible Actions
Expected: New smear-positive cases case detection of ≥ 70%	Annualized registered number of new smear-positive cases is <50%	Ensure that every TB suspect in all peripheral health facilities undergo sputum smear examination (in at least 2% of new adult outpatients). Ensure that 3 sputum smear examinations are done for TB suspects. Ensure that sputum smear microscopy is done correctly (5%–15% positivity is expected among patients examined for diagnosis). Intensify review of slides read as smear-negative, particularly those of patients placed on treatment. Ensure that all smear-positives in the Laboratory Register are started on treatment and registered in the TB Register. Ensure that sputum smear microscopy is accessible to patients, and the laboratory technician is trained.
	Annualized registered number of new smear-positive cases is >100%	Ensure that no active case-finding is being done in any area. Ensure that sputum smear microscopy is accurate. Ensure review of slides of smear-positive patients. Ensure that only patients who reside in the area are started on treatment, and non-resident patients are referred for treatment to health facilities in the areas that they reside in.
Expected: Re-treatment smear-positive cases are about 30% of all smear-positive cases in initial years of RNTCP implementation	Re-treatment cases are <20% of all smear - positive cases	Ensure that accurate history taking is done at all levels. Patients must be asked carefully about any prior treatment taken for TB from any source. It should be explained to patients that only if they provide accurate information can the most effective treatment be given. Make sure that definitions are applied correctly. Any smear-positive patient treated in the past for more than one month and has defaulted for more than two months, should receive the re-treatment (Category II) regimen.
	Re-treatment cases are >40% of all smear-positive cases	Ensure that active case-finding is not being resorted to. With active case-finding, many 'old' TB cases are reported. Ensure that history-taking is accurate and definitions are being correctly applied. Ensure that new symptomatic patients undergo three sputum smear examinations for acid-fast bacilli (AFB).

Expected: 50% of all new pulmonary cases will be smear-positive	Among new pulmonary cases, proportion of smear-positive is <45%	Ensure that over-diagnosis of sputum smear-negative patients is not happening due to over reliance on radiography. No patient should begin treatment without the mandatory three sputum smear examinations. Ensure that 3 sputum smears are examined for all TB suspects. Ensure that repeat sputum smear examinations are done for patients who continue to have symptoms after a course of antibiotics. Ensure that sputum smear microscopy is done correctly. Review slides of smear-negative patients placed on treatment.
Expected: Not more than 20% of smear-negative and extra-pulmonary patients are considered seriously ill and placed under Category I	Proportion of smear-negative or extra-pulmonary seriously ill patients given Category I regimen is >25%	Ensure that only seriously ill patients are given Category I treatment. Non-seriously ill New smear-negative patients should receive Category III treatment. Ensure that sputum microscopy is done correctly. Arrange review of slides of smear-negative patients placed on treatment.

Table 2 : Sputum Conversion Indicators and possible responses to problems

Quarterly Report	Indicator	Possible Actions
Expected: Conversion rate is >90% of new smear-positive patients at 3 months	Less than 85% of New smear-positive patients are documented to become sputum smear-negative at 3 months	Ensure that Medical Officers, treatment supervisors, and all other staff involved in the programme at peripheral centres understand the importance of follow-up sputum examinations. Follow-up sputum examinations are the best measure of patient response to treatment. Conversion of sputum at the end of IP increases patient confidence and is critical to programme evaluation. Visit all centres with low sputum conversion rate and resolve any problem with the help of the staff. Make sure default rates in the first two months are <5%, and the number of patients who die or transferred out are minimized. Ensure that accurate history-taking takes place at all levels. Patients must be asked carefully about any prior treatment for TB from any source. It should be explained to patients that only if they provide accurate information can effective treatment be given. If previously treated patients are not placed on the re-treatment regimen, they may not respond well to treatment.

		Make sure that definitions are applied correctly. Any smear-positive patient treated for more than one month in the past and with a default of more than two months, should receive the re-treatment (Category II) regimen. Ensure that sputum microscopy is accurate. Ensure review of slides of patients who remained smear-positive at the end of the intensive phase. Ensure that every dose of medication is observed during the intensive phase of treatment. Observation sites should be convenient to the patient. The quality of DOTS should be checked at the time of supervision, including checking of entries in the Treatment Cards with the drugs available in patient-wise boxes.

Table 3: Result of Treatment Indicators and possible solution to problems

Quarterly Report	Indicator	Possible Actions
Expected: Cure rate for new smear-positive cases is ≥85%	Cure rate of new smear-positive patients is <80%	Visit centres with low cure rates to discuss with patients and staff the reasons for low cure rate and possible solutions. Ensure that accurate history-taking takes place at all levels. Patients must be asked carefully about any prior treatment for tuberculosis taken from any source. It should be explained to patients that only if they provide accurate information can the most effective treatment be given. If previously treated patients are not given the re-treatment regimen, they may not respond well to treatment. Make sure that definitions are applied correctly. Any smear-positive patient treated for more than one month in the past, with default of more than two months, should receive the re-treatment (Category II) regimen. Ensure that every dose of medication is observed during the intensive phase of treatment, and at least one dose per week in the continuation phase. Ensure return of empty blister packs during weekly collection of drugs. Observation sites should be convenient for the patient. Ensure that health workers are dispensing medication properly as per technical guidelines. Ensure that follow-up sputum smear examinations are done according to guidelines.

	Cure rate of new smear-positive CAT I patients is >95%	Check for the accuracy of the report. Make sure that Result of Treatments are correctly recorded and reported. All diagnosed smear-positive patients started on treatment should be registered.
Expected: Not more than 3% of new smear-positive patients are given the treatment outcome 'completed'	Proportion of new smear-positive patients who are classified as having 'completed' treatment is >5%	Ensure that follow-up sputum examinations are done as per policy. Carefully track this at all treatment units. Sensitize the Medical Officers and other health staff about the importance of follow-up sputum examinations. Locate patients who have recently completed treatment and obtain sputum samples for examination. Carefully review the patient data for accuracy and to ensure that treatment is being given under direct observation as per policy.
Expected: Not more than 4% of new smear-positive patients die during treatment	Proportion of new smear-positive patients who die during treatment is >5%	Ensure that every dose of medication is observed during the intensive phase of treatment, and at least one dose per week in the continuation phase. Observation sites should be convenient to the patient. Review information on patients who died to determine reasons. If patients are presenting for treatment when already moribund, consider ways and means to encourage more prompt referral and diagnosis so that patients can be treated earlier in the course of their TB illness. In-spite of all the above, if the death rate is still more than 5%, consider evaluation of the prevalence of HIV infection among TB patients, to be done strictly as per policy with safeguards of confidentiality.
Expected: Failure: Not more than 4% of new smear-positive patients continue to be smear-positive at 5 months or later from the start of treatment	Proportion of new smear-positive patients who fail treatment is >5%	Ensure that accurate history-taking is done at all levels. Patients must be asked carefully about prior treatment for tuberculosis from any source. It should be explained to patients that only if they provide accurate information can the most effective treatment be given. If previously treated patients are not given the re-treatment regimen, they may not respond well to treatment. Make sure that definitions are applied correctly. Any smear-positive patient treated for more than one month in the past, with default of more than two months, should receive the re-treatment (Category II) regimen. Ensure that every dose of medication is observed during the intensive phase of treatment and at least one dose per week in the continuation phase. Ensure return of empty blister packs during weekly collection of drugs in the continuation phase. Observation sites should be convenient to the patient.

		Ensure that health workers are dispensing medication properly as per technical guidelines. Ensure that drugs are of acceptable quality, stored in appropriate conditions and are used before the expiry period. In-spite of all the above, if the failure rate remains higher than 5%, consider evaluation of the level of primary drug resistance in the community.
Expected Default rate is <5%	Default rate of smear-positive Category I patients is >8%	Visit centres which have reported the highest default rates and interview staff and patients to determine the efforts made to retrieve patients, the reasons for default and possible solutions. Make sure that centres are aware of their default rate so that they can take steps to reduce it. Ensure that patient history is carefully ascertained, including the address. A visit to patients' home should be made to verify address and landmarks near the house should be recorded in the Treatment Card. Services should be convenient to the patient in terms of distance, time and staff attitudes. During the visit to the house for verification of address, note the name and address of a person who can be contacted in the event the patient defaults. Ensure that directly observed treatment is given to patients in the intensive phase and at least one dose per week is directly observed during the continuation phase.
Expected: Transferred out is <3%	Proportion of patients who are 'Transferred out' is >5%	Transfer out can be a way of disguising default. Patients should be categorized as 'Transferred out' only if they have been given a Transfer Form to be taken to the facility where they are transferred to. Ensure the receipt of results of follow up sputum examinations and treatment

ANNEXURE IV

Annex IV-A

METHODOLOGY OF SUPERVISION AND FREQUENCY OF VISITS BY THE TU LEVEL TEAM

Category of supervisor	Methodology of supervision	Number of supervisory visits
MO-TC	**Interview** the MO I/C BPHC/CHC/ PHC. **Randomly interview** patients and community leaders. **Interact** with community and local opinion leaders **Randomly check** the microscopy centre and treatment observation centre; stock of anti-tuberculosis drugs and laboratory consumables.	Visit all DMCs every month. Visit all CHCs/BPHCs/ PHCs and a proportion of treatment observation centres at least once every quarter. Conduct supervisory visits 7days a month. Visit at least three patients at their homes per visit.
STS	**Interview** MPHS and MPWs at the PHC sub-centre. **Inspect** records, Tuberculosis Treatment Cards and Tuberculosis Laboratory Register. **Randomly interview** patients.	Visit all PHIs at least once every month and all treatment observation centres once every quarter. Visit all new sputum positive patients at their home within one month of treatment initiation. Conduct supervisory visits at least 5 days a week.
STLS	**Inspect** all microscopy centres and laboratory records.	Visit all microscopy centres in the jurisdiction of the TU at least once a month. Visit all sputum collection centres at least once a month.

Annex IV-B

SUPERVISORY CHECKLIST FOR THE SENIOR TREATMENT SUPERVISOR

Treatment Centre:_____ **Date:**_____

Name of STS:_____ **Signature:** _____

Type of Centre: (tick one) ❑ **Treatment Centre** ❑ **X-ray Centre** ❑ **Microscopy Centre**

1. Facility Assessment				
Item	**Description**	**Yes**	**No**	**Comment**
Anti-TB Drugs	Availability of cupboard/almirah for storage			
	Not exposed to direct sunlight or dampness			
	Stored in patient-wise boxes			
	Patient-wise boxes labeled for each patient			
	Within expiry dates			
	FEFO (First-Expired, First-Out) being followed			
	No stock-out during past one month for CAT I			
	No stock-out during past one month for CAT II			
	No stock-out during past one month for CAT III			
	Sufficient stock of needles and syringes for CAT II patients receiving streptomycin injections			
	No stock-out of broad-spectrum antibiotics for chest symptomatic patients during past one month			

1. Facility Assessment(Continued)				
Item	**Description**	**Yes**	**No**	**Comment**
Infra- structure	Private place for physician to speak with patients			
	Sufficient seating for TB clients waiting for treatment			
	Container with drinking water available for patients on DOTS			
	Functional X-ray unit (only in case of X-ray centres)			
	Functional weighing scale available			
Supplies	Sufficient quantity of sputum containers available			
	Sufficient quantity of Laboratory Forms available			
	Spirit lamp available			
	Schedule of sputum smear examinations to be done in month posted/available			
	Sufficient quantity of Tuberculosis Treatment Cards available			
	RNTCP Technical and Operational Guidelines available			
	RNTCP diagnostic algorithm displayed in the centre			
Others	DOTS centre is clean and dry			

Supervisory checklist for the Senior Treatment Supervisor (continued)

Treatment Centre:_____ **Date:**_____

2. Case Detection and Diagnosis			
Description	**Yes**	**No**	**Comment**
At least 2% of adult outpatients are undergoing sputum smear examination			
Laboratory Forms for Sputum Examination filled correctly			
Chest symptomatics correctly instructed on how to produce a sputum sample			
Three sputum samples (spot—early morning—spot) are being collected from symptomatics			
Results of sputum smear examinations available within one day			
At least 95% of smear-positive patients were started on DOTS			
At least 90% of smear-positive patients started on DOTS began their treatment within one week of the diagnosis			
Smear-negative patients given at least 14 days of broad-spectrum antibiotics before being subjected to repeat sputum examination and only then started on treatment			
The percentage of smear-positive among total new pulmonary cases is more than 45%			
TB patients are being routinely probed if any of their contacts have symptoms of TB			

Supervisory checklist for the Senior Treatment Supervisor (continued)

Treatment Centre:_____ **Date:**_____

3. Treatment			
Description	**Yes**	**No**	**Comment**
At least 20% of smear-positive cases detected are in CAT II			
Correct number and type of drugs given to all patients			
Patients weighing more than 60 kg are being given additional 150 mg of rifampicin			
Alternative resources for observation (community volunteers, hospital staff, etc.) being used to ensure convenience to patients			
Every dose of medicine in the intensive phase is directly observed			
The first week's dose of medicine in the continuation phase is directly observed			
All patients undergo sputum smear examinations at the end of the intensive phase, prior to starting continuation phase treatment			
All patients who had positive smears at the end of the initial intensive phase given an additional month of intensive phase treatment			
The quantities of drugs remaining in the patient-wise boxes tally with the Treatment Cards			
All patients on DOTS can reach the centre within 30 minutes			
Patients bring back the empty blister packs during the continuation phase			
Absentee retrieval is being done within one day during the intensive phase			
Health worker administered streptomycin injection after the pills are swallowed			
Streptomycin injections are properly given			

Supervisory checklist for the Senior Treatment Supervisor (continued)

Treatment Centre:_____ **Date:**_____

4. Recording and Reporting			
Item: Tuberculosis Treatment Cards	**Yes**	**No**	**Comment**
Complete general patient information (name, address, age, contact person) listed			
Tuberculosis Number and name of Health Unit legible and correct			
Sputum smear examination results legible and correct (crosscheck laboratory numbers and results of sputum smear examination for at least 5 patients)			
Weight record legible and done as per schedule			
Disease classification legible and correct			
Drug administration and/or drug collection recorded correctly			
Information on missed and late doses recorded			
Action taken for any missed dose documented in **Remarks** section			
All New tuberculosis patients have Tuberculosis Treatment Cards			
Tuberculosis Treatment Cards updated at the same time when the treatment is given			

Supervisory checklist for the Senior Treatment Supervisor (continued)

Treatment Centre:_____ **Date:**_____

5. Patient Interview				
Description	**1**	**2**	**3**	**Comment**
Do you know the symptoms of TB?				
Do you know that TB is infectious if not treated?				
Do you know the number and colour of prescribed drugs?				
Do you know how long you have to take treatment?				
Are all the patients receiving directly observed treatment as per policy, thrice a week in IP and once a week in CP?				
Do you know that irregular/incomplete treatment can make TB incurable?				
Did any one tell you the importance of taking all prescribed drugs for full treatment period?				
Are you aware of the common side-effects of the drugs and what to do if you experience them?				
Do you know that TB can be cured?				
Do you know at what frequency the follow-up sputum smear examinations are to be done?				
Do you know the importance of follow-up sputum smear examinations?				
Do you know of the need and importance of getting symptomatic close contacts examined? (only when the patient is smear-positive)				

Supervisory checklist for the Senior Treatment Supervisor (continued)

Treatment Centre:_____ **Date:**_____

Description	1	2	3	Comment
Did the PHW know the location of each residence?				
Did the PHW make a home visit at least once?				
Did the PHW visit you within one day of you missing a dose during the intensive phase?				
Did the PHW visit you within one week of you missing a dose during the continuation phase?				
Were the dangers and consequences of stopping treatment explained adequately to you?				
Was any time support of influential family members or others enlisted, if necessary, to bring you back under treatment?				
Was the MO informed and involved in trying to bring patient back under treatment?				

Annex IV-C

SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS OF VISIT

Name of health facility visited:	Date of visit:
Name and designation of the person completing this form:	
Number of visits made to this health facility in the current year (including the current visit):	

Key Observations and Recommendations	Responsible	What actions were taken [1]
Politico-administrative commitment and resource management: (including staffing, training, review meetings, etc)		
Diagnosis: (including binocular microscope, civil works, TB suspects undergoing sputum microscopy, sputum positivity rate, initiation of treatment, missing "diagnosed" patients, case detection, quality assurance, whether DMC functional, visits by STLS, referral system for diagnosed cases, etc)		
Drugs and lab consumables: (including drug stock levels in "months" as on last date of previous month, whether there was any stock-out of drugs or lab consumables for more than 7 days since last visit, etc)		
DOT and follow-up: (including adequacy of number of DOT-centers, health system delays in initiation of treatment, timeliness of sputum follow-ups, DOT-as-per-guidelines, outcome, patient transfer-out system, etc)		S
Records and Reports: (including timeliness, completeness and correctness of records and reports: DMC-register, treatment cards, identity cards, TB register, transfer/referral forms, monthly PHI reports, quarterly TU reports, etc)		
IEC Activities: (whether adequate currently, future plans, etc)		
Special Groups: (pediatrics, slums, scheduled caste/tribe, etc)		
Findings of home visit of patients (categorization, DOT happening as per guidelines in IP & CP , follow up sputum microscopy correctly done & recorded)		

[1] *To be reviewed and mentioned during the subsequent supervisory visit*

ANNEX V: DUE DATES FOR REPORTS FROM TUBERCULOSIS UNITS TO DTC

Due On	Quarterly Report	Period Covered
7 January 2006	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 Oct–31 Dec 2005 1 Oct–31 Dec 2005 1 July–30 Sept 2005 1 Oct–31 Dec 2004
7 April 2006	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 January–31 March 2006 1 January–31 March 2006 1 Oct–31 Dec 2005 1 January–31 March 2005
7 July 2006	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 April–30 June 2006 1 April–30 June 2006 1 January–31 March 2006 1 April–30 June 2005
7 October 2006	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 July–30 September 2006 1 July–30 September 2006 1 April–30 June 2006 1 July–30 September 2005
7 January 2007	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 Oct–31 Dec 2006 1 Oct 31 Dec 2006 1 July–30 Sept 2006 1 Oct–31 Dec 2005
7 April 2007	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 January–31 March 2007 1 January–31 March 2007 1 Oct–31 Dec 2006 1 January–31 March 2006
7 July 2007	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 April–30 June 2007 1 April–30 June 2007 1 January–31 March 2007 1 April–30 June 2006
7 October 2007	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 July–30 September 2007 1 July–30 September 2007 1 April–30 June 2007 1 July–30 September 2006
7 January 2008	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 Oct–31 Dec 2007 1 Oct - 31 Dec 2007 1 July–30 Sept 2007 1 Oct–31 Dec 2006
7 April 2008	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 January–31 March 2008 1 January–31 March 2008 1 Oct–31 Dec 2007 1 January–31 March 2007
7 July 2008	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 April–30 June 2008 1 April–30 June 2008 1 January–31 March 2008 1 April–30 June 2007
7 October 2008	New and Retreatment Cases Programme Management Sputum Conversion Cohort Treatment Outcome Cohort	1 July–30 September 2008 1 July–30 September 2008 1 April–30 June 2008 1 July–30 September 2007

The District TB Officer is to retain one copy for records and send the quarterly reports to the State TB Officer and the Central TB Division (Nirman Bhavan, Directorate General of Health Services, Ministry of Health and Family Welfare, New Delhi 110011)

ANNEX VI: REFERRAL FOR TREATMENT FORM AND REGISTER

Form A **Serial Number**

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME
Referral for treatment form

(Fill in triplicate. send one to the respective DTO receiving the patient [Form A], send one copy to the health facility where the patient is referred to [Form B], and give one copy to the patient [Form C])

Name and address of referring health facility_____

_____

Name of health facility to which patient is referred _____

_____

Name of patient_____ **Age**_____ **Sex M F**

Complete Address

Type of patient
New ☐ Relapse ☐
Failure ☐ Treatment after default ☐
Other (specify)_____

Category of Treatment
Category I ☐
Category II ☐
Category III ☐

Disease Classification
Pulmonary ☐
Extra-Pulmonary ☐
Site_____

Sputum Status

Date	**Month**	**Year**
Result		
Laboratory number		
Name of Laboratory		
Relevant examination for smear-negative/Extra pulmonary cases		

Signature

Date referred **Designation**

----------✂----------✂----------

Form A Serial Number_____

For use by the health facility where the patient has been referred

Name of patient _____ TB No (if available)_____

Age _____ Sex M ☐ F ☐ Date of referral _____

Name of receiving health facility Name of TB Unit and District

The above-named reported at this facility on _____and has been put on treatment on

Signature Designation

Date

(Send this part back to the referring unit as soon as the patient has reported has been initiated on RNTCP treatment.)

Monthly Summary: Referral for Treatment Register

Year ____	No. of NSP* cases			No. of NSN*cases			No. of EP* cases			No. of Re-treatment cases		
	Diagnosed	Referred	Feedback Received **	Diagnosed	Referred	Feedback Received **	Diagnosed	Referred	Feedback Received **	Diagnosed	Referred	Feedback received
Jan												
Feb												
March												
April												
May												
June												
July												
Aug												
Sept												
Oct												
Nov												
Dec												
Total												

* NSP: New Smear Positive; NSN: New Smear Negative; EP: Extra-pulmonary

** Time frame for receiving feedbacks: Within district: 14 days and Outside district/State: 1 month

ANNEX VII: RNTCP LABORATORY REGISTER AND MONTHLY ABSTRACT

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Laboratory Register

Lab Serial No.	Date	Name (in full)	Sex M/F	Age	Complete address (for new patients)	Name of Referring Health Facility	Reason for Examination*		Results			Signature	Remarks
							Diagnosis	Follow-up	a	b	c		

If sputum is examined for diagnosis, put a tick (✓) mark in the space under "Diagnosis"
If sputum is examined for repeat diagnosis, put RE in the space under "Diagnosis"
If sputum is for follow-up of patients on treatment, write the patient's TB No. in the space under "Follow-up"

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Tuberculosis Laboratory Monthly Abstract
(Record Numbers)

Month Year 200.	TB Suspects Examined For Diagnosis	TB Suspects Found Positive	TB suspects Undergoing Repeat Sputum Examination	TB suspects Found Positive on Repeat Examination	Follow-up Patients examined	Patients Positive on Follow up	Total Slides Examined	Total Positive slides	Total Negative slides	Signature of LT and STLS
Jan										
Feb										
Mar										
Apr										
May										
Jun										
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										
Total										

Signature of the M.O.

ANNEX VIII: MONTHLY REPORT ON PROGRAMME MANAGEMENT, LOGISTIC AND MICROSCOPY

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Monthly Report on Programme Management, Logistics and Microscopy

Peripheral Health Institution Level

Note: All PHCs/ CHCs/ referral hospitals/ major hospitals/ specialty clinics/ TB hospitals/ Medical colleges to submit their monthly reports in this format.

Name of Peripheral Health Institution: _____

TU: _____ **District:** _____

Month: _____ **Year:** _____

Medications

Item	Unit of Measurement	Stock on first day of month (a)	Stock received during month (b)	Patients initiated on treatment (c)	Stock on last day of month (d) =a+b-c	Quantity Requested (e)= (c X 2) – d
Category I	Boxes					
Category II	Boxes					
Category III	Boxes					

Item	Unit of Measurement	Stock on first day of month	Stock received during month	Consumption during month	Stock on last day of month	Quantity Requested
Pouches of blister strips for prolongation of intensive phase	Pouches each with 12 blister strips					
INH 300 mg	Tablets					
INH 100 mg	Tablets					
Streptomycin 0.75 g	Vials					
Rifampicin 150 mg	Capsules					
Pyrazinamide 500 mg	Tablets					
Ethambutol 800 mg	Tablets					

Staff Position and Training

Category of staff	Sanctioned	In place	Trained in RNTCP
Medical Officer			
Laboratory Technician			
Pharmacist			
MPH Supervisors			
Multipurpose Health workers			
TBHV			
STLS*			

** STLS to be reported by medical colleges only*

Referral Activities (To be filled in by all PHIs from OPD Register)

a	Number of new adult outpatient visits	
b	Out of (a), number of chest symptomatic patients referred for sputum examination	

Microscopy Activities (To be filled in by only PHIs which are a DMC from Laboratory Register)

c.	Number of TB suspects whose sputum was examined for diagnosis	
d.	Out of (c), number of sputum smear-positive patients diagnosed	
e.	Number of TB suspects subjected to repeat sputum examination for diagnosis	
f.	Out of (e), number of sputum smear-positive patients diagnosed	
g.	Total number of sputum smear-positive patients diagnosed (d + f)	

Treatment Initiation (To be filled in by only PHIs which are a DMC from Laboratory Register and Referral for Treatment Register)

h.	Of the smear-positive patients diagnosed (g), number put on DOTS	
i.	Of the number of smear-positive patients diagnosed (g), number put on RNTCP Non-DOTS	
J	Of the smear-positive patients diagnosed (g), the number referred for treatment to other TUs within the district	
k.	Of the smear-positive patients diagnosed (g), the number referred for treatment outside the district	

Consumables (To be filled in by only PHIs which are a DMC)

Item	Unit of Measurement	Stock on first day of Month	Stock received during Month	Consumption during Month	Stock on last day of Month	Quantity requested
Sputum containers*	Nos.					
Slides	Nos.					
Carbol Fuchsin	Litres					
Methylene Blue	Litres					
Sulphuric Acid	Litres					
Phenol/hypochlorite	Litres					
Immersion Oil	mL					
Methylated Spirit	Litres					

*** PHIs that are not a DMC, but have been supplied with sputum containers should complete this row.**

Equipment in place (To be filled in by only PHIs which are a DMC)

Item	Number in place	In working condition	Not in working condition
Binocular microscopes			
Monocular microscopes			

Name of officer reporting (in Capital Letters) : .

Signature :_____ .

Date : _____

ANNEX IX: QUARTERLY REPORT ON PROGRAMME MANAGEMENT AND LOGISTICS

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Quarterly Report on Programme Management and Logistics

Tuberculosis Unit Level (including Tuberculosis Unit at DTC)

Name of the TB Unit_____ **State**_____

Name of the District:_____ **Quarter:** _____

Total population of the TB Unit (in numbers year: _____

Stake-holders	Public Sector (including Medical Colleges, Govt. health department, other Govt. department and PSUs)	Private Sector (Private Medical college, Private practitioners, Private Clinics/Nursing Homes, and Corporate sector)	NGOs	Total (in the TU)
Number of DMC				

A. Number of PHIs expected to submit monthly PMRs	
B. Number of PHIs that submitted monthly PMRs for all 3 months in the quarter	

The following reports are enclosed (Tick [✓] to indicate that the report is enclosed)

- ❑ Quarterly Report on Case - Finding
- ❑ Quarterly Report on Sputum – Conversion
- ❑ Quarterly Report on Results of Treatment

If any report is not enclosed, give reason _____

Supervisory activities

Type of Unit	Number of (1) in the TB Unit	Number of (2) participating in the RNTCP	Number of these (3) visited * during quarter by		
(1)	(2)	(3)	(4)		
			MO-TC	STS	STLS
D Microscopy Centres					
PHIs other than DMC					
Medical College					
TB Hospital					
Other Govt. hospitals					
Treatment Observation Centres/DOT providers					
Non-governmental organization health facilities					
Private sector hospital/ Nursing home					
Patients					
VCTC					

Referral Activities

a.	Number of new adult outpatient visits	
b.	Out of (a), number of chest symptomatic patients referred for sputum examination	

Microscopy Activities

c.	Number of TB suspects whose sputum was examined for diagnosis	
d.	Out of (c), number of sputum smear-positive patients diagnosed	
e.	Number of TB suspects subjected to repeat sputum examination for diagnosis	
f.	Out of (e), number of sputum smear-positive patients diagnosed	
g.	Total number of sputum smear-positive patients diagnosed (d + f)	

Treatment Initiation

h.	Of the smear-positive patients diagnosed (g), number put on DOTS within the TU	
i.	Of the number of smear-positive patients diagnosed (g), number put on RNTCP Non-DOTS	
j	Of the smear-positive patients diagnosed (g), the number referred for treatment to other TUs within the district	
k.	Of the smear-positive patients diagnosed (g), the number referred for treatment outside the district	

Quality of DOTS implementation

1.	Number (%) of PHIs referring 2-3% of New Adult out patients for sputum examination	
2.	Number (%) of NSP cases started on RNTCP DOTS treatment within 7 days of diagnosis (Information from TB Register)	
3.	Number (%) of NSP cases registered within one month of starting RNTCP DOTS treatment (Information from TB Register)	
4.	Number (%) of NSP cases on RNTCP DOTS treatment who received DOT during IP as per guidelines [Information from patient interviews conducted by MO-TC during the quarter]	
5.	Number (%) of cured NSP cases* having end of treatment follow-up sputum examination done within one week of last dose (Information from TB Register)	

* These cases should be from the same quarterly cohort which have been included in the report on Results of Treatment

Laboratory Quality Control Network (Unblinded On-site supervision)

Initial Reading	Total number of slides	Number of slides cross-checked by STLS	Supervisor reading		Total number of discordant slides
			Number of positives	Number of negatives	
Positive slides					
Negative slides					

Staff Position and Training

(Tick [√] if in place or not during quarter and trained or not)

Medical Officer_-TB Control (MO-TC) ❑Yes ❑No Trained in RNTCP ❑Yes ❑No

Full-time Senior Treatment Supervisor (STS) ❑Yes ❑No Trained in RNTCP ❑Yes ❑No

F/T Senior Tuberculosis Laboratory Supervisor (STLS) ❑Yes ❑No Trained in RNTCP ❑Yes ❑No

Category of staff	Sanctioned	In Place	In place and trained in RNTCP	Trained in RNTCP in the quarter	Total trained in RNTCP since implementation	Re-trained in RNTCP in the quarter
Medical Officer (at BPHC / PHC / CHC / other)						
All Laboratory Technicians/Microscopists in the TB Unit (including designated MCs)						
Laboratory Technician/Microscopist of designated microscopy centers						
Pharmacist						
MPH Supervisor						
Multipurpose Health Worker or equivalent						

Medications

Item	Unit of Measurement	Stock on first day of Quarter	Stock received during the quarter	Patients initiated on treatment	Stock on last day of Quarter (a+b) – (c)	Quantity Requested [(c/3) x 4] – (d)
		(a)	(b)	(c)	(d)	(e)
Category I	Boxes					
Category II	Boxes					
Category III	Boxes					

Item	Unit of Measurement	Stock on first day of Quarter	Stock received during the quarter	Consumption during Quarter	Stock on last day of Quarter (a+b) – (c)	Quantity Requested
		(a)	(b)	(c)	(d)	(e)
Prolongation pouches	Pouch					
INH 300 mg	Tablets					
INH 100 mg	Tablets					
Streptomycin 0.75	Vials					
Rifampicin 150 mg	Capsules					
Pyrazinamide 500	Tablets					
Ethambutol	Tablets					

Is there any drug at the risk of expiry*? Yes No
If yes attach details
* Cat I 12 months Cat II 14 months Cat III 11 months
Is there any expired drugs ? Yes No
If yes attach details

Consumables

Item	Unit of Measurement	Stock on first day of Quarter	Stock received during Quarter	Consumption during Quarter	Stock on last day of Quarter	Quantity requested
Sputum containers	Nos.					
Slides	Nos.					
Carbol Fuchsin	Grams					
Methylene Blue	Grams					
Sulphuric Acid 25%	Litres					
Phenol	Grams					
Immersion Oil	mL					
Methylated Spirit	Litres					

Equipment in place

Item	Number in place	In working condition	Not in working condition and since when
Monocular microscopes			
Binocular microscopes			
Two-wheeler			

Vehicle for MO-TC:❑ Jeep in working condition ❑ Hired vehicle ❑ Personal vehicle ❑ None

Name of Medical Officer Tuberculosis Control reporting (in Capital Letters) : ——————

Signature: _____.

Date: _____.

ANNEX X: INTERPERSONAL COMMUNICATION SKILLS IN RNTCP

ROLE PLAYS FOR SENIOR TREATMENT SUPERVISORS (STSs)

Example Role Play
You are an STS talking with an MPW who is reluctant to perform DOT

Sample Key Messages

Role Play Scenarios

1. STS is meeting with an MPW whose priorities are leprosy and malaria. The MPW feels that since you, the STS, are a dedicated worker for TB control, you should perform DOT yourself.
2. STS is seeing a patient who is feeling better and wants to discontinue treatment
3. STS is meeting with a treatment observer whose patient has interrupted treatment and who has not visited the patient for default retrieval
4. STS is meeting with a treatment observer whose timings are inconvenient for patients
5. STS is meeting with an MPW who in the intensive phase has given combipacks to a patient to be consumed at his house
6. STS is meeting with a Village Sarpanch who needs convincing to be a treatment observer in the community because he is afraid of taking responsibility for someone's life
7. STS is meeting with a health worker who is afraid of contracting TB
8. STS is meeting with an MPW who has given the treatment box to the patient to take home

SAMPLE KEY MESSAGES

Listening and understanding

- "Good morning/afternoon."
- "Please sit down."
- "What are your responsibilities?"
- "How can I help you to practice DOTS?"
- "Please tell me of any other difficulties you are having so that I can help you."
- "I know that you know best any problems in your area."
- "By learning about your problems, it will help me to help you."
- "Please tell me what has worked for you and what has not worked for you."

Demonstrating caring

- "I know you have so many other responsibilities."
- "I understand it takes time to visit the patient's home when he fails to turn up."
- "I am sure the TB programme will work wonders in the village once you take the responsibility in your hands."
- "How can I help you?"
- "It is my responsibility to help you."
- "Please understand my supervision is not to point out faults."
- "In fact, I want to work with you."

Motivating and Problem solving

- "You are helping patients to be cured."
- "You are the most important part of the health programme."
- "Without your help, many patients may die."
- "If the patient does not get treatment observation, they may develop drug-resistant tuberculosis which they will spread to their family and community."
- "By ensuring that treatment observation is given, you are not only helping the patient, but also protecting yourself as the patient will become and remain non-infectious and hence not spread the disease."
- "Providing treatment observation is not only your responsibility, but is also one of the most important and effective activity of all your programmes."
- "If you give treatment observation as per policy, you can reduce patients' risk of dying by as much as 7-fold."
- "Immediate defaulter retrieval sends a message to the patient that we are concerned about their welfare."
- "Serial follow-up sputum examinations are the best way to evaluate the effect of the treatment."
- "Together, we can solve the problems."

- "More and more people getting cured and thus preventing deaths will increase your image and respect in the community."
- "If there is a problem, it is my responsibility to help you solve it."
- "The same problems happen in other areas."
- "I can tell you some of the ways the other areas have been able to solve these problems."

ROLE PLAY SCENARIOS

(These are only some examples. Use your own experiences to come up with other scenarios and roles

Scenario 1: STS is meeting with an MPW whose priorities are leprosy and malaria. The MPW feels that since you, the STS, are a dedicated worker for TB control, you should perform DOT yourself

Write the following instructions on two separate pieces of paper and hand them out to two participants.

STS: You are an STS who is meeting with an MPW who has asked to talk with you.

MPW: You are an MPW and your priorities are malaria and leprosy. You feel that the STS should perform treatment observation because he is a dedicated worker for TB control.

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Scenario 2: STS is seeing a patient who is feeling better and wants to discontinue treatment

STS: You are an STS who is seeing a patient who is feeling well after about 2 months of treatment and is no longer interested in continuing treatment.

Patient: You are a patient who has been on treatment for about 2 months. You are feeling well and you want to discontinue treatment.

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Scenario 3: STS is meeting with a treatment observer whose patient has interrupted treatment and who has not visited the patient for default retrieval

STS: You are an STS who has set up a meeting with a treatment observer who has not visited a patient for default retrieval.

Treatment observer: You are a treatment observer who has a patient who has interrupted treatment. You have not had time to visit him for retrieval.

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Scenario 4: STS is meeting with a treatment observer whose timings are inconvenient for patients

STS: You are an STS who is meeting with a treatment observer because you have heard that the patients are complaining about the timings being inconvenient.

Treatment observer: You are a treatment observer who has many responsibilities and you can only be available to provide DOT during the middle of the day.

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Scenario 5: STS is meeting with an MPW who in the intensive phase has given combipacks to a patient to be consumed at his house

STS: You are an STS who has discovered that an MPW has given combipacks in the intensive phase to a patient to take home.

MPW: You are an MPW who has given one-week of tablets to a patient because the patient has to go out of the area for only a week. You have worked with this patient for a long time and you trust him to take the medications during the week.

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Scenario 6: STS is meeting with a Village Sarpanch who needs convincing to be a treatment observer in the community because he is afraid of taking responsibility for someone's life

STS: You are an STS who is meeting with a Village Sarpanch to convince him to be a treatment observer in his community.

Village Sarpanch: You are a Village Sarpanch who does not want to be a treatment observer because you are afraid to take responsibility for someone's life. If they die, you feel you will not be trusted by the community.

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Scenario 7: STS is meeting with a health worker who is afraid of contracting TB

STS: You are an STS who is meeting with a health worker who has been refusing to see TB patients.

Health Worker: You are a health worker who is afraid of contracting TB from patients.

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Scenario 8: STS is meeting with an MPW who has given the treatment box to the patient to take home.

STS: You are an STS who has discovered that an MPW has given the treatment box to a patient to take home.

MPW: You have given the treatment box to the patient. You do not believe that observation of treatment is necessary.

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