REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

DOTS- sure cure for TB.

Module for MPWs and other DOT providers

सत्यमेव जयते

Central TB Division
Directorate General of Health Services
Ministry of Health and Family Welfare, Nirman Bhavan,
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AIM OF MODULAR TRAINING

This module contains basic information about various aspects of tuberculosis and its control. It also includes exercises on various activities and skills which the DOT Provider (DP) has to perform while implementing the Revised National Tuberculosis Control Programme (RNTCP).

DOT Provider is a health worker or community volunteer, other than a family member, who administers DOT (Directly Observed Treatment), and is accessible and acceptable to the patient and accountable to the health system. Multi Purpose Workers (MPWs) not only work as DOT Provider but help in referral, IEC, supervision of Community Volunteers in the area, updating the patient's treatment card, etc. On successful completion of training, YOU will be well acquainted and skilled to perform all job requirements related to RNTCP.

WHAT IS TUBERCULOSIS?

Tuberculosis (TB) is a highly infectious bacterial disease caused by *Mycobacterium tuberculosis*. TB can affect any part of the body. When it affects the lungs it is called pulmonary TB. The commonest form of TB is pulmonary TB.

TB in any other part of the body (i.e. other than lungs) is called extra pulmonary TB.

HOW TUBERCULOSIS SPREADS?

TB germs usually spread through air. When a patient with pulmonary tuberculosis coughs or sneezes, TB germs are spread in the air in the form of tiny droplets. When these droplets are inhaled by a healthy person s/he gets infected with tuberculosis. This infected person will have a 10% lifetime risk of developing tuberculosis.

MAGNITUDE OF TUBERCULOSIS IN INDIA

In India everyday

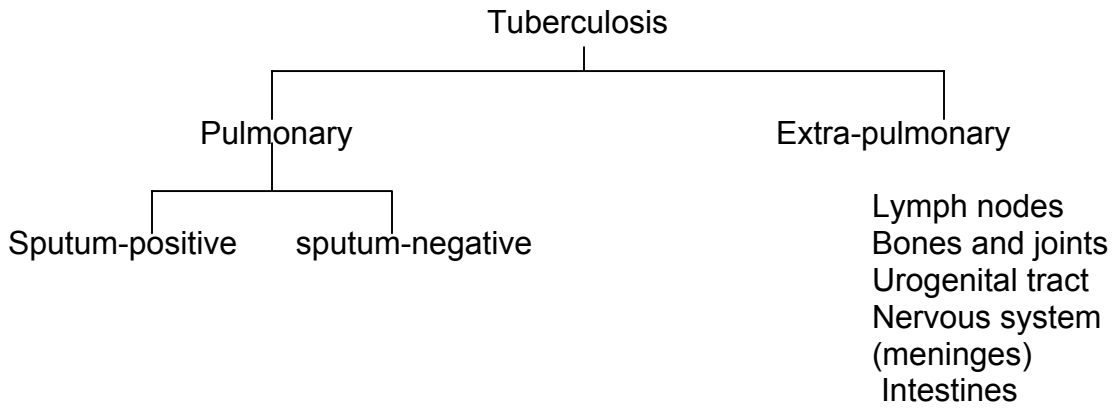
- more than 40,000 persons get infected with the TB bacillus
- more than 5000 people develop TB disease
- more than 1000 people die due to TB (i.e. 2 persons die every 3 minutes)
- annually, about 18 lakh new cases of TB occur of which about 8 lakh are sputum positive infectious cases

Also, every year

- about 3 lakh children drop out from the school because of their parents had tuberculosis
- more than 1 lakh women are rejected by their families because of stigma due to TB

It is estimated that in a year, about 200 TB cases may occur in a population of 1 lakh

CLASSIFICATION OF TUBERCULOSIS



One sputum positive case, if not treated, can infect 10 -15 individuals in one year

Pulmonary Tuberculosis

Sputum-positive

A patient with at least two samples of sputum found positive for Acid-Fast Bacilli (AFB) by microscopy is known as a sputum-positive case.

OR

A patient with one sample of sputum found positive for AFB by microscopy and having X-ray abnormalities consistent with active pulmonary tuberculosis is also labeled as a sputum-positive case. However, this is to be done only by a Medical Officer.

Smear-Positive Pulmonary TB is the most infectious form of Pulmonary TB in Adults

Sputum-negative

A patient with all three samples of sputum found negative for AFB by microscopy, should after a course of broad spectrum antibiotics repeat the sputum examination. If found negative and X-ray abnormalities are consistent with active pulmonary tuberculosis, it is known as a sputum-negative case. The decision of diagnosing and treating such a case will be taken by the Medical Officer only.

Extra-Pulmonary Tuberculosis

A patient with active tuberculosis of any part of the body other than the lungs is a case of extra-pulmonary tuberculosis. The decision of diagnosing and treating such a case will be taken by the Medical Officer only.

WHEN SHOULD TUBERCULOSIS BE SUSPECTED?

The symptoms of Pulmonary Tuberculosis are

- cough with expectoration for 3 weeks or more
- chest pain
- sometimes, blood stained sputum (haemoptysis) with systemic symptoms like
  - evening rise of temperature
  - night sweats
  - loss of weight
  - loss of appetite

A person with cough for 3 weeks or more is a suspect for TB and is called a chest symptomatic

Extra-pulmonary Tuberculosis

In case of extra-pulmonary TB, symptoms in addition to the above mentioned, depends on the organ involved, for eg.

- Lymph Node Tuberculosis – Swelling in the neck with or without discharging sinus.

- Tuberculous Meningitis - Headache, fever, drowsiness, mental confusion, neck rigidity.
- Spinal Tuberculosis – Back pain, fever and at times swelling of the backbone.

HOW TO DIAGNOSE TUBERCULOSIS?

Sputum examination is the main tool for diagnosing pulmonary TB.

Cases of pulmonary tuberculosis are further subdivided into sputum-positive and sputum-negative cases. When pulmonary tuberculosis is suspected, it is mandatory to conduct sputum examinations to confirm the diagnosis. **At least 3 sputum samples (spot – morning - spot)** should be collected, preferably within two days, and examined by microscopy **only at an RNTCP designated microscopy centre (DMC).** A DMC is an identified sputum microscopy laboratory in a PHC, CHC or hospital for 1 lakh population (in tribal areas – 50,000 population). It is equipped with a binocular microscope, trained lab technician and is supervised by the Senior Tuberculosis Laboratory Supervisor (STLS) at regular intervals.

A person with at least two positive sputum samples out of three is a confirmed case of sputum positive pulmonary tuberculosis. This is the most infectious form of tuberculosis.

Patients who are smear-negative or have only one smear-positive sample must be referred to the Medical Officer (MO) for further evaluation as per diagnostic algorithm of RNTCP.

Diagnosis of TB must be done by a Medical Officer (MO)

NATIONAL TUBERCULOSIS PROGRAMME

The National Tuberculosis Programme (NTP) in India was being implemented since 1962 by establishing District Tuberculosis Centres (DTCs), TB Clinics and TB Hospitals. From its inception, the programme was integrated with the general health services and the service delivery was through the primary health care infrastructure. The results of NTP were not encouraging. The strategy of the NTP was reviewed in 1992. This led to the launching of the Revised National Tuberculosis Control Programme (RNTCP) in 1997, planning to cover the entire country by 2005.

Revised National Tuberculosis Control Programme

Objectives of RNTCP

1. To achieve and maintain a cure rate of at least 85% among newly detected infectious (new sputum smear-positive) cases, and

2. To achieve and maintain detection of atleast 70% of such cases in the population.

RNTCP is based on the internationally recommended strategy to control TB known as 'DOTS' (Directly Observed Treatment Short course)

WHAT IS DOTS?

DOTS is a systematic strategy which has five components

- **Political and administrative commitment.** TB is the leading infectious cause of death among adults. It kills more women than all causes associated with childbirth combined and leaves more orphans than any other infectious disease. Since TB can be cured and the problem can be controlled, it warrants the topmost priority, which it has been accorded by the Government of India. This priority must be continued and expanded at the state, district and local levels.

- **Good quality diagnosis.** Top quality microscopy allows health workers to see the tubercle bacilli and is essential to identify the patients who need treatment the most.

- **Good quality drugs.** An uninterrupted supply of good quality anti-TB drugs must be available. In RNTCP, a box of drugs for the entire treatment is earmarked for every patient registered, ensuring the availability of the full course of treatment to the patient the moment s/he is registered for treatment. Hence in DOTS, the treatment will never fail for lack of medicine.

- **The right treatment, given in the right way.** The RNTCP uses the best anti-TB medications available. But unless treatment is made convenient for patients, it will fail. This is why the heart of the DOTS programme is "Directly Observed Treatment" in which a health worker, or another trained person who is not a family member, watches as the patient swallows the anti-TB medicines in their presence.

- **Systematic monitoring and accountability.** The programme is accountable for the outcome of every patient treated. The cure rate and other key indicators are monitored at every level of the health system, and if any area is not meeting expectations, supervision is intensified. The RNTCP shifts the responsibility for cure from the patient to the health system.

DOTS

- Makes the patient the VIP of the programme
- Places responsibility for patient's cure on the health system, not on the patient
- Reduces risk to the community by preventing spread of TB
- The best method to ensure cure

WHAT IS 'CURE'?

A patient who is initially sputum smear-positive and who has completed treatment and had negative sputum smears on two occasions, one of which was at the end of treatment, is declared a 'cured' patient.

IMPORTANT POINTS TO REMEMBER ABOUT TUBERCULOSIS SUSPECTS

- The most common symptom of pulmonary tuberculosis is persistent cough for 3 weeks or more
- Health workers should identify tuberculosis suspects as early as possible to stop spread of infection.
- Refer all TB suspects to DMCs/ sputum collection centres for 3 sputum examinations
- DOT is the best method to ensure cure for TB

DOTS – sure cure for TB

Exercise 1

Tick the appropriate answer.

1. Tuberculosis is transmitted by
   (a) Blood transfusion _____
   (b) Faecal infection _____
   (c) Droplet infection _____
   (d) Oral infection _____

2. The most infectious form of tuberculosis is
   (a) Extra-pulmonary TB _____
   (b) Smear-positive pulmonary TB _____
   (c) Smear-negative TB _____
   (d) Miliary TB _____

3. The commonest form of tuberculosis is
   (a) Extra-pulmonary TB _____
   (b) Bone and joint TB _____
   (c) Renal TB _____
   (d) Pulmonary TB _____

4. When do you suspect pulmonary tuberculosis? Mention four common symptoms.
   (i) _____
   (ii) _____
   (iii) _____
   (iv) _____

5. How do you classify tuberculosis?
   (i) _____
   (ii) _____
   (iii) _____

6. Which is the best way to diagnose pulmonary tuberculosis?
   _____

7. When do you label a patient as smear-positive pulmonary tuberculosis?
   _____

8. Case Studies (Tick the appropriate answer).

(i) During your routine work, you come across Ram who complains of fever. On enquiry you find that he has been coughing for more than 3 weeks. What would you do?

a) Give him advice and medicines for fever

b) Advise him to go to the nearest RNTCP DMC and get his sputum test done

c) Advise him rest and good food

(ii) Gopal has been having fever for more than a month and a cough for three weeks. Two of his sputum examinations have been reported as positive for AFB.

He is suffering from

(a) Sputum-negative tuberculosis _____

(b) Extra-pulmonary tuberculosis _____

(c) Sputum-positive tuberculosis _____

TREATMENT OF TUBERCULOSIS

The duration of treatment is usually 6 to 8 months. There are two phases in the treatment of tuberculosis: the intensive phase (IP) of 2-4 months and the continuation phase (CP) of 4-5 months, depending upon the category of treatment. During IP, all doses are given under direct observation, three times a week on alternate days for 2-4 months. Thereafter, sputum is examined and if found negative, the CP is started. During CP, the first dose of every week must be administered under direct observation. The patient collects the rest of the drugs for that week from the DOT Provider and consumes them at home.The following week, the patient comes with the empty blister pack, hands it over to the DOT Provider, takes the first dose under direct observation and collects drugs for the rest of the week to be consumed at home.

What are Categories I, II and III?

There are three categories of treatment regimens for patients suffering from tuberculosis (pulmonary or extra-pulmonary).

Drugs are supplied in a Patient Wise Boxes (PWB) containing the full course of treatment for one patient and are packaged in blister packs. The PWBs have a colour code indicating the category of treatment (red for Cat I, blue for Cat II and green for Cat III). In each PWB, there are 2 pouches, one for IP (marked A) and one for CP (marked B)

For IP, each blister pack contains drugs for one day. For the CP each blister pack contains one week's supply of medication. The drugs for one month's extension of the IP (prolongation pouch) are supplied separately.

- **There are 52 weeks in a year**
- **For purpose of the programme and drug administration**
- **2 months have been taken as 8 weeks**
- **3 months have been taken as 12 weeks**
- **4 months have been taken as 18 weeks**
- **5 months have been taken as 22 weeks**
- **The weeks and months specified above should be strictly adhered to**

Category I (CAT-I) Treatment Regimen

The anti-TB drugs in CAT-I are supplied in **patient wise boxes** with red colour labels containing 24 doses for the two months of the intensive phase and 18 weekly blister packs for the four months of the continuation phase. Each weekly blister pack of the CP

contains anti-TB drugs for 3 days and vitamin tablets for the remaining 4 days, taken on alternate days

This is prescribed for the following types of patients:

- New sputum-positive pulmonary TB cases
- New sputum-negative, pulmonary TB cases, who are seriously ill
- New cases of extra-pulmonary tuberculosis, who are seriously ill
- All new TB cases with known HIV +ve status

Drug Regimen in CAT-I

Intensive Phase for two months
During the intensive phase (IP) of treatment, each and every dose of medicine is to be taken under direct observation of the DOT Provider. DOT is administered at a DOT centre, which is a place convenient to both the patient and the DOT Provider

Anti-TB drugs are taken three times a week on alternate days, either on Mondays, Wednesdays and Fridays OR Tuesdays, Thursdays and Saturdays for two months. All empty blister packs should be preserved in the patient wise box (PWB).

The anti-TB drugs to be swallowed for each scheduled dose of the intensive phase are:

Isoniazid (H)	Rifampicin (R)	Pyrazinamide (Z)	Ethambutol (E)
300 mg 2 tablets	450 mg 1 capsule	750 mg 2 tablets	600 mg 2 tablets

If a patient in IP does not take medication as scheduled s/he should be traced and given medication within 24 hours. The medication for the following day is given as scheduled. For example, if a patient is receiving DOT on Mondays, Wednesdays and Fridays, but does not take medication on Wednesday, the patient should be found on Thursday and given medication and should take the next dose of medication on Friday, returning to the previous schedule.

Continuation Phase for four months
If the sputum at the end of the I.P. (i.e. at the end of two months) is found to be negative, the patient is started on continuation phase for a period of four months.

During the CP, the first dose of the week must be administered under direct observation. The patient collects rest of the drugs for the week from the DOT Provider

and consumes them at home. The following week, the patient comes with the empty blister pack, hands it over to the DOT Provider, takes the first dose under direct observation and collects drugs for the rest of the week to be consumed at home. The DOT Provider must collect the empty blister pack and keep it in the PWB.

The anti-TB drugs to be swallowed on each day of the continuation phase are:

Isoniazid (H)	Rifampicin (R)
300 mg 2 tablets	450 mg 1 capsule

For patients weighing over 60 kgs, the Medical Officer initiating treatment may prescribe an additional tablet of Rifampicin 150 mg which also needs to be administered. Similarly for pediatric cases, the Medical Officer may adjust the dose according to weight.

If the sputum test, at the end of two months of intensive phase treatment remains positive, the four anti-TB drugs of the intensive phase will be continued for one more month. If even at the end of the extended period of intensive phase the sputum test remains positive, the patient will be started on drugs of the continuation phase.

Irrespective of the duration of the intensive phase, the duration of the continuation phase remains the same (4 months). If the sputum still remains positive at the end of five months after the start of treatment the patient is taken off CAT-I treatment and the DOT Provider must ensure that the patient is referred to the MO of the PHI for further management.

During training, open a Cat I box and see the pouches and strips

Category II (CAT-II) Treatment Regimen

This is prescribed for the following types of patients:

- Sputum-positive relapse cases
- Sputum-positive failure cases
- Sputum-positive treatment after default cases
- Others; Extrapulmonary relapse or failure

The anti-TB drugs in CAT-II are supplied in **patient wise boxes** with blue coloured labels which contains 36 doses for the three months of the intensive phase and 22-weekly blister packs for the five months of the continuation phase. For the continuation

phase each weekly pack contains anti-TB drugs for 3 days and vitamin tablets for the remaining 4 days to be taken on alternate days.

Drug regimen in CAT-II

Intensive Phase (I.P.) for three months

During the IP of treatment, each and every dose of medicine is to be taken under the direct observation of the DOT Provider. DOT is administered at a DOT centre, which is a place convenient to both the patient and the DOT Provider

Anti-TB drugs are taken three times a week on alternate days, either on Mondays, Wednesdays, Fridays OR Tuesdays, Thursdays and Saturdays for three months. All empty blister packs should be preserved in the patient wise box (PWB).

In addition to the following four anti-TB drugs, an injection of streptomycin (0.75 g) is also given intramuscularly for first two months on the same days on which the patient comes to swallow his scheduled dose of anti-TB drugs. The injection is to be given after the patient has swallowed the other drugs. The anti-TB drugs to be swallowed for each scheduled dose of the intensive phase are:

Isoniazid (H)	Rifampicin (R)	Pyrazinamide (Z)	Ethambutol (E)
300 mg 2 tablets	450 mg 1 capsule	750 mg 2 tablets	600 mg 2 tablets

Please check that the blister pack supplied to you for CAT-II Intensive phase contains the anti-TB drugs as stated. In case of doubt discuss it with your supervisor.

Continuation Phase (C.P.) for five months

If the sputum test at the end of I.P. (i.e. at the end of three months) is found to be negative, the patient is put on continuation phase for a period of five months. Each weekly blister pack contains anti-TB drugs for three days of the week and vitamins for the remaining days of the week. During the CP, the first dose of the week must be administered under direct observation. The patient collects the rest of the drugs for the week from the DOT Provider and consumes it at home. When the patient returns the next week for the blister pack, s/he must present the empty blister pack of the drugs consumed at home. The DOT Provider must collect the empty blister packs and keep it in the patients PWB The anti-TB drugs to be swallowed for each scheduled dose of the continuation phase are:

Isoniazid (H)	Rifampicin (R)	Ethambutol (E)
300 mg 2 tablets	450 mg 1 capsule	600 mg 2 tablets

If the sputum test at end of three months of intensive phase remains positive, the four drugs of the intensive phase will continue for one more month. If even at the end of the extended period of intensive phase, the sputum remains positive, the patient will start on drugs of the continuation phase. Irrespective of the duration of the intensive phase, the duration of the continuation phase remains the same (5 months). If sputum still remains positive at the end of five months of continuation phase, the DOT Provider must ensure that the patient is referred to the MO of the PHI for further management.

During training, open a Cat II box and see the pouches and strips

Category III (CAT-III) Treatment Regimen

This is prescribed for the following types of patients:

- New sputum-negative pulmonary TB cases, who are not seriously ill
- New extra-pulmonary tuberculosis cases, who are not seriously ill.

The anti-TB drugs in CAT-III are supplied in patient wise boxes with green coloured labels which contains 24 doses for two months of the intensive phase and 18 weekly blister packs for the four months of the continuation phase. For the continuation phase each weekly pack contains anti-TB drugs for 3 days and vitamin tablets for the remaining 4 days to be taken on alternate days.

Drug Regimen in CAT-III

Intensive Phase (I.P.) for two months
During the IP of treatment, each and every dose of medicine is to be taken under direct observation of the DOT Provider. DOT is administered at a DOT centre, which is a place convenient to both the patient and the DOT Provider.

Anti-TB drugs are taken three times a week on alternate days, either on Mondays, Wednesdays, Fridays OR Tuesdays, Thursdays and Saturdays for two months. All empty blister packs should be preserved in the patient wise box (PWB).

The anti-TB drugs to be swallowed for each scheduled dose of the intensive phase are:

Isoniazid (H)	Rifampicin (R)	Ethambutol (E)
300 mg 2 tablets	450 mg 1 capsule	750 mg 2 tablets

Continuation phase (C.P.) for four months

If the sputum test at the end of the I.P. (i.e. at the end of two months) is found to be negative, the patient is put on the continuation phase for a period of four months.

During the CP, the first dose of the week must be administered under direct observation. The patient collects rest of the drugs for the week from the DOT Provider and consumes them at home. When the patient returns the next week for his/her blister pack, he/she must present the empty blister pack of the drugs that were consumed at home. The DOT Provider must collect the empty blister pack and keep it in his/her PWB.

The anti-TB drugs to be swallowed on each day of the continuation phase are:

Isoniazid (H)	Rifampicin (R)
300 mg 2 tablets	450 mg 1 capsule

If sputum is found positive at the end of two months of the intensive phase, the patient is withdrawn from Category III and referred to the MO of the PHI for further management. If sputum is found negative at the end of two months of the intensive phase, patient starts anti-TB drugs of the continuation phase.

Please check that the weekly blister pack supplied to you contains the anti-TB drugs as stated. In case of doubt, discuss it with your supervisor.

During training, open a Cat III box and see the pouches and strips

Category of treatment/ type of patient/ quantity of drugs

Category	Colour of label on box	IP – Blisters and doses	Prolongation of IP* (Blisters and doses)	CP	
				Blisters	Doses
Cat I	Red	24	12	18	54
Cat II	Blue	36	12	22	66
Cat III	Green	24		18	54

* To be used if sputum remains positive after completion of IP and for indoor patients

Management of Contacts of Sputum-Positive Cases

Any person who has a productive cough of any duration and is in contact with a smear-positive case, three sputum samples should be examined as soon as possible for diagnosis, and if negative, s/he should be evaluated by the Medical Officer and also followed up three months later.

Children who cannot produce sputum should be examined with other recommended investigations like chest X-ray and tuberculin testing. For all such cases contact the Medical Officer.

INTERACTING WITH PATIENTS

RNTCP recognizes the patient as the VIP (Very Important Person) of the programme. RNTCP also entrusts the responsibility of curing of patients on the programme and not on patients. Therefore it is important for DOT Providers to treat the patients in friendly manner. At the DOT centre, patients should be welcomed, made to take a seat and provided with drinking water. It is also important to ensure that the DOT centre selected for individual patients are near to their residence and are open during the time that is convenient to the patient.

The DOT Provider should ensure that the patients who do not come for their scheduled doses are met with, motivated and brought back to treatment. During IP, the patients interrupting treatment should be brought back to treatment within 24 hours and during CP within a week. It is important to identify the cause of interrupting treatment and address the problem in consultation with the patient and if required with the health worker, supervisor or the medical officer of the area.

If the DOT Provider is not able to retrieve the patients back on treatment, then the health worker/ supervisor/ MO should be informed immediately.

HOW TO RECORD AND MARK A TREATMENT CARD?

A sample Treatment Card is shown in Annexure I. There are two sides of this card. Look at the front side of the card (see page 30). Once the patient is diagnosed as a case of tuberculosis, his Tuberculosis Treatment Card will be made by the Medical Officer of the health facility (CHC/PHI). The Medical Officer of the health facility where the patient is prescribed treatment will send you a duplicate copy of the Treatment Card along with the patient's medicine box. This is done after the Medical Officer confirms that the patient resides in the address recorded on the treatment card and the selected DOT centre is the most convenient place for DOT. This Tuberculosis Treatment Card has got various columns which will be explained to you by your supervisor. Please look at the following columns carefully.

There are three columns indicating CAT-I, CAT-II and CAT-III. There will be a tick (✓) on any one of the columns indicating the category of treatment which the patient has been prescribed. Under the same category you will also find the number of tablets of each drug that are to be administered during the intensive phase. A similar indication will be given when the patient enters the continuation phase.

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) three times a week to the patient under direct observation. If a patient does not come for the scheduled dose, the corresponding box in the treatment card should be marked as 'O'.

For example, if the patient has started swallowing anti-TB drugs in your presence (DOT) from0 4 April 2005, you will put a tick mark in column no. 4 indicating that the first the dose was administered on 04 April. The remaining doses for the week will be due on 06 April (Wednesday) and 08 April (Friday). When the patient comes to swallow anti-TB drugs on 08 April, you will put a tick mark in column no.8. For accurate and convenient recording, mark Sundays as `S` and shade the last date/dates not applicable for the particular month.

When the patient has completed **22 doses** for Cat I and III and **34 doses** for Cat II of the intensive phase s/he should be instructed to give two samples of sputum so that by the time s/he completes 24/36 doses of intensive phase, the result of the two sputum examinations are available. If the report of the two sputum samples is negative, the patient will be given the anti-TB drugs of the continuation phase.

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. Anti-TB drugs are taken three times a week on alternate days, either on Mondays, Wednesdays, Fridays OR Tuesdays, Thursdays and Saturdays for two months. All empty blister packs should be preserved in the patient wise box (PWB).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**--------).

Monitor drug collection and recording

Patients must take all doses of treatment, in both the intensive and continuation phases. For example, if 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	√ **22nd dose**		**O**	√ **23rd dose**	√ **24th dose**		**S**							**S**

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

April	√ **22nd dose**		**O**		√ **23rd dose**		**S**	√ **24th dose**						**S**

The reason/s for which any dose has been missed, and the actions taken to retrieve the patient for treatment, should be recorded in the “Retrieval action for the missed doses” table of the Tuberculosis Treatment Card. In the same manner, if the patient misses a weekly drug collection in the continuation phase completely (i.e. for an entire week), the treatment is given and recorded as follows:

April	**X** **17**						**S**	**O**						**S**	**X** **18**				

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. However If the patient is late by two days or more from the date on which s/he was scheduled to collect the drugs, the drugs are given when s/he returns for treatment and the drug administration (of the first dose) and collection (of the other two doses) are recorded as follows.

April	**X** **16**						**S**	**O**				**X** **17**		**S**					**X** **18**

Monitoring of drug administration can be done by comparing 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.

Example

The following treatment card is of a patient who was diagnosed and prescribed CAT-I regimen. Anti-TB drugs of the continuation phase will commence from 3 June. Sputum collection and examination are required to be completed before 3 June, so that there is no delay in commencing drugs of the continuation phase from the due date, i.e. immediately after completion of the intensive phase which falls on 3 June.

Revised National Tuberculosis Control Programme

Treatment Card

State ____Bihar_____ City / District with code___Vaishali__,__1003_____
Name _Ram Prashad Singh____
Sex M ☑ F ❑ Age _34_ Occupation _____
Complete Address_3/2__Gali Kuor Wali,Vaishali,Bihar_____
_____

Name and Address of Contact Person __4/2 Gali kuor Wali,Vaishali,Bihar_____
_____

Initial home visit by _____ Date_____

Name of TB Unit with Code_____
Patient TB No / Year:___88_____
PHI: __237_____
Name and designation of DOT provider_____

DOT center_____
Signature of MO with date_____

Disease Classification
☑ Pulmonary
❑ Extra Pulmonary
site_____

Type of patient
☑ New ❑ Relapse
❑ Transfer in ❑ Failure
❑ Treatment after default ❑ Other (Specify)_____

Month	Date	DMC	Lab No.	Smear Result	Weight
Pretreatment	7/4		138	2+	41
End IP/Extended IP	29/5		193	Neg	43
2 Months CP					
End treatment					

H/o previous Anti-TB treatment with duration _____

I. INTENSIVE PHASE - Prescribed regimen and dosages:

Tick (✓) the appropriate Category below

Category I ☑
New Case
(Pulmonary Smear-Positive, Seriously ill Smear Negative, or Seriously ill extra pulmonary)

3 times / week

H	R	Z	E
2	1	3	3

Category II ❑
Retreatment, (relapses, failure, treatment after default, others)

3 times / week

H	R	Z	E	S

Category III ❑
New Case
(Pulmonary Smear Negative, not seriously ill: or extra pulmonary, not seriously ill)

3 times / week

H	R	Z

Tick (✓) appropriate date when the drugs have been swallowed under direct observation

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
April								✓		✓		✓		S	✓		✓		✓		S	✓		✓		✓		S	✓		
May	✓		✓		S	✓		✓		✓		S	✓		✓		✓		S	✓		✓		✓		S	✓		✓		✓

II Continuation Phase

Prescribed regimen and Dosages

Category I ☐ 3 times / week

H R

Category II ☐ 3 times / week

H R E

Category III ☐ 3 times / week

H R

Enter X on date when the first dose of drugs has been swallowed under direct observation and draw a horizontal line (x_____) to indicate the period during which medicines will be self administrated.

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Treatment out come with date _____

Signature of MO with date _____

Details of X ray / EP tests

Retrieval actions for missed doses

Date and time	By whom	Whom contacted	Reason for missed doses	Outcome of retrieval

Contacts (Children < 6 yrs)

No	Chemoprophylaxis

Remarks _____

Follow-Up

Two smears are examined each time for follow-up. The first sputum smear examination is done at end of 2/3 months, i.e. after the intensive phase of treatment. On the 22nd/34th supervised dose of the intensive phase the patient is given a sputum container and instructed to bring the early morning sample. The patient takes this sample to the nearest DMC/ sputum collection centre when he comes for the next dose and a spot sample is collected at the centre. The results of both the smear examinations will be available by the time the patient comes for the next visit. If both smears are negative the patient will be put on the continuation phase. If either of the samples is positive, the intensive phase of treatment will be continued for an additional month (for Cat I and Cat II patients), and a new smear examination will be done at the end of the 3rd/4th month of treatment. The patient is put on the continuation phase irrespective of his/her sputum status at the end of the extended intensive phase. Subsequent follow-up smear examination is done after two months of the continuation phase and if positive, the patient is declared as a treatment failure, re-registered and put on a treatment regimen afresh. If the follow-up sputum is negative, the continuation phase is completed and smear examination repeated at the end of treatment. For follow up sputum examination at the end of treatment, the patient is given a sputum container at the time of collecting the 16th blister in Cat I and Cat III and the 20th blister in Cat II and asked to take the morning sputum to the nearest DMC/ sputum collection centre, where a spot sample is also given. Results of end of treatment follow up should be available by the time the patient completes treatment.

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 “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)

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

Rarely patients are put on non DOTS treatment by the Medical Officer.

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.

CHILDREN UNDER SIX YEARS OF AGE

Contacts of a sputum positive patient below six years of age should be referred to the Medical Officer (M.O) for advice. S/he will screen the child for tuberculosis.

DIFFERENT DRUGS USED IN RNTCP AND THEIR POSSIBLE SIDE-EFFECTS

Drug	Short form	Side-effects	Action to be taken
Isoniazid	H	Itching, Jaundice	Refer to MO
Rifampicin	R	Jaundice	Refer to MO
Pyrazinamide	Z	Joint pain, Jaundice	Refer to MO
Ethambutol	E	Impaired vision	Refer to MO
Streptomycin	S	Ringing in the ears, Giddiness	STOP injection and refer the patient to MO

It is important to ensure that the patient is comfortably seated and takes the drugs slowly in order to prevent nausea and vomiting.

Taking drugs after food also reduces side effects like vomiting and nausea. Giddiness slowly subsides after a few weeks.

Rifampicin may cause red discolouration of the urine, which is harmless and normal and is not permanent.

In case of jaundice, anti-TB drugs should be stopped immediately and the patient referred to the Medical Officer

IDENTITY CARD

All the columns in the Identity Card (Annexure II) shall be filled up at the health facility preparing the Treatment Card. The properly filled Identity Card is also handed over to the patient by the health facility preparing the Treatment Card. The patient's TB number is indicated both in the Treatment Card as well as Identity Card. By seeing the Identity Card it is easy to take out the Treatment Card of the patient.

While updating the treatment card it is also mandatory to enter the appointment dates of IP and CP doses and follow up sputum examinations in the identity card at the same time. The dates should also be explained to the patient.

STERILIZATION OF SYRINGES AND NEEDLES FOR STREPTOMYCIN INJECTIONS

- While giving streptomycin injections it is mandatory to avoid transmission of diseases (especially HIV infection and hepatitis). Recommended procedures for sterilization of needles and syringes must be strictly enforced. Disposable syringes and needles should be used, if available.

- To ensure that transmission of blood-borne diseases is minimal, streptomycin injections should be given only by qualified personnel.

Guidelines for sterilization

1. Health workers must use a separate sterile syringe and a separate sterile needle for every patient for each injection.

2. Needles and syringes should be thoroughly cleaned before sterilization. Sterilization by autoclave/hot air oven is preferred wherever feasible. The syringe should be properly washed and wrapped in paper and kept in a hot air oven at 160^0 C for one hour. Sterilization in an autoclave is achieved at 115^0 C / 15 lbs/15 minutes.

3. When using a **steam sterilizer**, remember:

    - Place instruments in the steam arising from boiling water for 15 minutes.
    - The level of water within the stream sterilizer should be below for the level of instruments.
    - Do not use it on an open wood fire, as this may not produce enough heat.
    - In high altitudes, sterilize the instruments for a longer period of time.

4. Sterilization by **boiling:**

This method should be used only where there is no alternative. Use a special boiling pan, if this is not available, use a saucepan. Fill it with water and heat over the stove. Glass syringes should be put in while the water is still cold. Needles and forceps should be put in when the water is boiling. Leave these articles to boil for 20 minutes after the water has started boiling.

5. Sterile syringes and sterile needles should be kept in a sterile, covered container.

6. Use sterile forceps to take sterile instruments out of the sterile, covered container.

7. When holding a sterile syringe, touch only the safe parts of the syringe, i.e. outside of the barrel or the top of the plunger.

8. Wash your hands when you come in contact with body fluids or infected material.

HEALTH EDUCATION AND COMMUNICATION WITH PATIENTS

The Multi-purpose Worker (DOT Provider) should give appropriate information to the community in general and to the patient in particular regarding the symptoms, cause and spread of tuberculosis. S/he should also inform them about the facilities available for treatment of cases as well as the places where such facilities are available. S/he should **impress upon the importance of the regularity and completion of Directly Observed Treatment.** The patient should be fully informed about the dangers of irregular and incomplete treatment.

It must be made very clear to the patient that after taking medicines for some days his symptoms will disappear, but that does not mean that his disease has been cured.

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

- 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.

Good communication is important between a tuberculosis patient and the treating health worker. For a patient to be cured, s/he needs to:

- be prescribed the correct treatment regimen; and
- take all his prescribed drugs regularly for the entire treatment period.

It is very important for you to know if the patient has been previously treated for tuberculosis. **If the initial interview with the patient is not thorough, s/he could be prescribed a wrong regimen.** For example, a pulmonary sputum-positive patient who was previously treated for tuberculosis might omit information about his past treatment if he does not understand why it is important to tell this to the interviewer. In such a situation, instead of being prescribed CAT-II regimen, he could be incorrectly placed on CAT-I regimen. In such a case he will receive four drugs for two months and two drugs for four months. In fact this patient should been put in CAT-II where he would have got five drugs for two months, four drugs for one month, and three drugs for five months. Thus you have seen that the patient is getting less drugs and for a shorter period. This can do more harm than good, both to the patient and programme. All such cases where a discrepancy has been noted should be brought immediately to the notice of the Medical Officer.

It is also very important for the patient to know the duration of their treatment and the importance of regularly taking all his prescribed drugs under direct observation. Inform the patient that tuberculosis is a life threatening disease and that s/he may have already transmitted the infection to the family members. The patient should be further informed that he will continue to transmit tuberculosis to other including his family members, if he does not take all his drugs regularly. Explain to him that tuberculosis treatment is effective only if he takes all his drugs regularly for entire prescribed period. Failure to do so may make his disease incurable. However, the patient should be clearly informed that in case he takes regular and complete treatment, he will be fully cured.

Reassure the patient that anti-TB drugs are generally safe. Explain to the patient that urine and tears may turn orange–red as a result of one of the pills, but that this is harmless and normal and is not permanent.

The patient must also be informed about the importance of sputum examination at the prescribed intervals so that s/he is aware of the dates fixed for sputum examination during the entire follow-up period. It is therefore, very important for the health worker to get fully involved in the treatment of the patient, Health education for the patient starts immediately after the patient is diagnosed as a case of tuberculosis. The education programme is required not only till the patient is declared cured but is continued thereafter.

The smear-positive patients should also be explained the importance of evaluation of contacts and children below 6 yrs by a medical officer. All contacts of smear-positive TB patients with cough should have 3 sputum smears examined regardless of the duration of the cough and contacts below 6 yrs of age should be referred to the medical officer for evaluation and chemoprophylaxis.

IMPORTANT POINTS TO REMEMBER WHILE COMMUNICATING WITH PATIENTS

- During your first meeting with a patient, ascertain emphatically whether the patient has previously been treated for tuberculosis. Then explain to him the following about tuberculosis:
  - What is tuberculosis, and how it spreads.
  - Symptoms of tuberculosis
  - Treatment of tuberculosis
  - Necessity of Directly Observed Treatment (DOT)
  - Importance of contact examination and chemoprophylaxis of children below 6 yrs of age
- If the patient is not thoroughly interviewed before deciding the category of treatment, there are chances of putting the patient on the wrong category of treatment.
- A patient should be made aware that tuberculosis is a life-threatening disease and tuberculosis treatment is only effective if all prescribed drugs are taken regularly for the entire prescribed duration. Taking some of the drugs, or irregular taking of drugs is dangerous and makes the disease incurable.
- The following information should be communicated to the patients:
  - Type and colour of required boxes/prescribed drugs/injection
  - Amount, frequency and duration of drugs/injection
  - Possible side-effects of drugs/injection
  - Frequency and importance of sputum examinations
  - Sputum results explained in simple language

EXERCISE 2

CASE STUDY

Patient receiving Category I treatment

Complete the treatment Card for this Patient.

Mallaiah was a 45-year old man who had cough for 25 days with fever and chest pain. He explained his problem to the village health worker. The health worker advised him to go the Primary Health Centre and get his sputum examined. When his sputum was examined at the Primary Health Centre, 2 of the 3 examinations were (3+) positive. The doctor asked him a series of questions and determined that Mallaiah had never been treated for TB before. He was given an identity card and a treatment card and asked to see the health worker in his village. The health worker saw his card, explained his disease and the drugs to be used in Category I and also about the two phases of treatment.

Mallaiah‘s treatment in the intensive phase of Category I started on 7 November in front of the health worker. After 22 doses, i.e. on 26 December, the health worker told him to go the Primary Health Centre again for sputum test. The health worker noted on the card that sputum was negative and opened the medicine pack for the continuation phase. Mallaiah swallowed that day’s (2 January) medicine in front of the health worker. The health worker explained about continuation phase, that his sputum was negative and he would get better if he continued drugs regularly. The medicines for Friday and Monday were given to Mallaiah for taking home. Every week, the patient brought the empty blisterpack of the previous week, collected the next week’s blisterpack, and swallowed the first dose in front of the health worker. He took the next two doses at home. After taking drugs regularly for another two months. Mallaiah went again to the PHC on 13 February for sputum examination. This time also the sputum was negative and it was explained that it was essential to take drugs for two more months. The sputum examination done again after the seventeenth week of the continuation phase was negative. He was completely cured.

Treatment Card to be filled up as part of Exercise 2

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Treatment Card

State _____ City / District with code _____ Name of TB Unit with Code _____

Name _____ Patient TB No / Year: _____

Sex M ☐ F ☐ Age _____ Occupation _____ PHI: _____

Complete Address _____ Name and designation of DOT provider _____

Name and Address of Contact Person _____ DOT center _____

Initial home visit by _____ Date _____ Signature of MO with date _____

Disease Classification
☐ Pulmonary
☐ Extra Pulmonary
site _____

Type of patient	
☐ New	☐ Relapse
☐ Transfer in	☐ Failure
☐ Treatment after default	☐ Other(Specify) _____

Month	Date	DMC	Lab No.	Smear Result	Weight
Pretreatment					
End IP/Extended IP					
2 Months CP					
End treatment					

H/o previous Anti-TB treatment with duration _____

I. INTENSIVE PHASE - Prescribed regimen and dosages:

Tick (✓) the appropriate Category below

Category I ☐
New Case
(Pulmonary Smear-Positive, Seriously ill Smear Negative, or Seriously ill extra pulmonary)

3 times / week

H	R	Z	E

Category II ☐
Retreatment, (relapses, failure, treatment after default, others)

3 times / week

H	R	Z	E	S

Category III ☐
New Case
(Pulmonary Smear Negative, not seriously ill: or extra pulmonary, not seriously ill)

3 times / week

H	R	Z

Tick (✓) appropriate date when the drugs have been swallowed under direct observation

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

II Continuation Phase

Prescribed regimen and Dosages

Category I ☐ 3 times / week

H	R

Category II ☐ 3 times / week

H	R	E

Category III ☐ 3 times / week

H	R

Enter X on date when the first dose of drugs has been swallowed under direct observation and draw a horizontal line (x_____) to indicate the period during which medicines will be self administrated.

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Treatment out come with date _____

Signature of MO with date _____

Details of X ray / EP tests

Retrieval actions for missed doses

Date and time	By whom	Whom contacted	Reason for missed doses	Outcome of retrieval

Contacts (Children < 6 yrs)

No	Chemoprophylaxis

Remarks _____

ANNEXURE 1: RNTCP TUBERCULOSIS TREATMENT CARD

REVISED NATIONAL TUBERCULOSIS CONTROL PROGRAMME

Treatment Card

State _____ City / District with code _____

Name _____

Sex M ☐ F ☐ Age _____ Occupation _____

Complete Address _____

Name and Address of Contact Person _____

Name of TB Unit with Code _____

Patient TB No / Year: _____

PHI: _____

Name and designation of DOT provider _____

DOT center _____

Signature of MO with date _____

Initial home visit by _____ Date _____

Disease Classification
☐ Pulmonary
☐ Extra Pulmonary
site _____

Type of patient	
☐ New	☐ Relapse
☐ Transfer in	☐ Failure
☐ Treatment after default	☐ Other(Specify) _____

H/o previous Anti-TB treatment with duration _____

Month	Date	DMC	Lab No.	Smear Result	Weight
Pretreatment					
End IP/Extended IP					
2 Months CP					
End treatment					

I. INTENSIVE PHASE - Prescribed regimen and dosages:

Tick (✓) the appropriate Category below

Category I ☐
New Case
(Pulmonary Smear-Positive, Seriously ill Smear Negative, or Seriously ill extra pulmonary)

3 times / week

H	R	Z	E

Category II ☐
Retreatment, (relapses, failure, treatment after default, others)

3 times / week

H	R	Z	E	S

Category III ☐
New Case
(Pulmonary Smear Negative, not seriously ill: or extra pulmonary, not seriously ill)

3 times / week

H	R	Z

Tick (✓) appropriate date when the drugs have been swallowed under direct observation

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

II Continuation Phase

Prescribed regimen and Dosages

Category I ☐ 3 times / week

H R

Category II ☐ 3 times / week

H R E

Category III ☐ 3 times / week

H R

Enter X on date when the first dose of drugs has been swallowed under direct observation and draw a horizontal line (x_____) to indicate the period during which medicines will be self administrated.

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Treatment out come with date _____

Signature of MO with date _____

Details of X ray / EP tests

Retrieval actions for missed doses

Date and time	By whom	Whom contacted	Reason for missed doses	Outcome of retrieval

Contacts (Children < 6 yrs)

No	Chemoprophylaxis

Remarks _____

ANNEXURE II: TUBERCULOSIS IDENTITY CARD

Tuberculosis Identity Card

Front

Revised National Tuberculosis Control Programme IDENTITY CARD

Name of Patient: _____

Complete address:_____

_____

TU / district name _____

_____Ph_____

___

Sex: M ☐ F ☐ Age:_____ **TB No.**_____

PHI:_____

Disease Classification
☐ Pulmonary
☐ Extra-pulmonary
Site:_____

Treatment Started on

Date Month Year

Type of Patient
- New
- Relapse
- Treatment after default
- Failure
- Transfer In
- Other-Specify _____

Category of Treatment

☐ Category I
☐ Category II
☐ Category III

Back

Follow up sputum examination

Time point	Date	Lab No.	Result
Pretreatment			
End of IP/extended IP			
2 months in CP			
End of treatment			

Appointment dates

IP	CP
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Treatment outcome with date:

Signature and stamp of MO with date:

_____

REMEMBER

1. Keep your card safely
2. You can be cured if you take treatment as advised.
3. You may infect your near and dear if you do not take your medicines as advised

ANNEXURE III: JOB RESPONSIBILITY OF MPWS/ DOT PROVIDERS

Job Responsibilities of the Multi-purpose Worker/TB Health Visitor/DOT Providers in respect of the Revised National Tuberculosis Control Programme

1. Initial verification of address of the tuberculosis patients. During this period, the contact person whose name is also mentioned in the Treatment Card should also be contacted so as to ensure from him, his concern about the patient.

2. Motivation of the patient with respect to treatment requirements and expected duration of the treatment.

3. Ensure that every patient diagnosed as a case of tuberculosis is started on treatment within 7 days of diagnosis and treated for the full duration.

4. Examination of contacts of sputum-positive cases and recording of the result in the Treatment Card.

5. Fix the time and place for DOT, keeping in view the patient's convenience and operational feasibility, so that the DOT is ensured.

6. Ensure that all doses in the intensive phase and the first dose of each weekly blister during the continuation phase are taken under direct observation. Also ensure collection of empty blister packs which should be preserved till the end of treatment.

7. Ensure timely examination of sputum at defined intervals, until the patient completes the course of treatment.

8. Maintain the Treatment Card and update the original card at the PHI on a fortnightly basis.

9. Ensure that every Treatment Card you have received is given a TB Number. Put up this card to the Senior Treatment Supervisor (STS) during his visit for transfer of the required information to the TB Register.

10. Immediate retrieval of patients who are late for their treatment. During the intensive phase it should be done with in 24 hrs and during the continuation phase within 7 days of the patient missing the dose. If the MPW is unable to retrieve the patient this should be intimated to the MO of the PHI and STS.

11. Refer all TB suspects for sputum examination to the nearest microscopy centre/sputum collection center.

12. To provide health education to the patient and their families.

13. If a community volunteer is a DOT Provider, the MPW needs to ensure that the community volunteer is trained on how to give DOT, how to mark the treatment card and ensure that the original treatment card at the PHI is updated at fortnightly basis. The MPW also needs to supervise the community DOT Provider to ensure that the patient gets DOT as per guidelines.

14. Ensure that partially used PWBs (of patients who have died/ defaulted / failed treatment/ transferred out) are returned to the PHI within a month of such event.

15. TBHVs working in the medical colleges should ensure coordination between various departments and RNTCP facilities for indoor DOTS.

Additional Job Responsibilities of Multipurpose Health Supervisors (MPHS) in RNTCP

MPHS is responsible for the **immediate supervision** of the MPWs /DOT Providers. Their job description therefore includes supervisory activities in **addition to their role in service delivery.**

1. Ensure that all patients especially those who are smear-positive are put on DOTS

2. Discuss with new patients to find the most convenient location for DOT, and continuously educate them on the importance of taking complete treatment.

3. Ensure initial visit to the home of the patient by MPW prior to starting treatment and follow-up visits for retrieval of defaulters.

4. Ensure DOT as per programme guidelines. Ensure collection of empty blister packs by the DOT Provider. The MPHS during supervisory visit should check PWB of patients on treatment to verify if the number of full and empty blister strips in the PWB matches with the markings in the tuberculosis treatment card.

5. Ensure proper maintenance of treatment cards by the MPW/community DOT Provider and updating of original treatment cards at the PHI on fortnightly basis.

6. Ensure that follow up sputum examinations are carried out as per guidelines

7. Retrieval of initial defaulters.

8. Ensure that symptomatic contacts of sputum positive patients are suitably examined. Also ensure that chemoprophylaxis is given to the child contacts (below 6 years) of sputum positive patients.

9. Co-ordinate with the STS and Senior TB Lab Supervisor (STLS) to update the follow-up data of all the patients and maintenance of an adequate stock of lab material and drugs.

10. Provide patient data to the STS. Ensure that monthly PHI reports are sent in a timely manner by the PHI and that they are accurate.

11. Ensure appropriate display of health education material.

12. Arrange and conduct group awareness activities.

13. Identify and guide alternative Community DOT Providers as per need.

14. Ensure that tuberculosis treatment cards are handed over to the STS as soon as the treatment outcome is recorded and within a maximum of one months time.

ANNEXURE IV: SUPERVISION

Objectives of supervision

- To have a first hand look into the difficulties faced by workers and effectively address them.
- To boost the morale and motivate the workers.
- To promote effectiveness of workers.
- To promote team work.
- To bridge the gap between workers' personal goals and project goals.

MPHS are responsible for ensuring the quality of health care provided to tuberculosis patients in their area. Most health worker want to do a good job managing patients with tuberculosis. Supervisory visits give you the opportunity to share your skills and knowledge with the health workers so that they can correctly perform activities related to detecting, referring and treating tuberculosis patients.

Supervision is a systematic process for increasing the efficiency of health workers by developing their knowledge, perfecting their skills, improving their attitudes towards their work and increasing their motivation. It is thus an extension of training.

Regular supervision is important to ensure that the policies of RNTCP (DOTS) are being followed and to assist with problem solving at local level. Good supervision is the process of helping health workers to improve their performance. It should be always supportive at all levels and should not be simply a fault finding exercise. During supervisory visits, one should observe and reinforce stipulated practices of the various components of RNTCP, as well as identify and correct inadequate performance and record discrepancies if any, before this becomes a major problem. The emphasis of supervisory visits should be on education, coordination, motivation, facilitation and guidance with the overall objective of implementing corrective action. Some subcentres will need more supervision than other's according to their performance. Frequent visits need to be planned to subcentres which require close supervision

By and large the subcentres should be sent prior information of the supervisory visit. However some surprise visits to the subcentres must also be undertaken, but care should be taken that they are not just fault finding visits. Spend enough time at each subcentre so that you can do a good job of supervision .Try not to rush your visit. Use your time productively and efficiently during supervisory visits to the different DOT centres. Try to solve the problems you identify during your visits. Also, praise the staff for the work they have done well. In addition, make supervisory visits to all DOT Providers in your area and interview a sample of patients.

Before you leave the health unit, explain to the worker any problems you found and solutions you implemented. If you need help in solving a problem, discuss it with the STS, MO and Medical Officer–TB Control (MOTC).

How to supervise

1. Observe DOT centre, whether

   - It is neat and clean?
   - Potable Water facility available?
   - Sitting arrangement made for patients and does it permit direct observation of treatment by the DOT Provider?
   - Cordial atmosphere?
   - Convenient to the patient in terms of time and place?
   - Drugs kept off the floor and away from the wall and direct sunlight?
   - Drug storage area is safe and locked?
   - Are patient wise boxes marked for each patient?
   - RNTCP IEC materials displayed in the patients sitting or waiting area?
   - Are alternate resources for observation (VHG, CHG, AWW, cured patients, community volunteers etc.) being used as DOT Provider as extensively as necessary?

2. Talk to health workers/DOT Provider

   - Is there any difficulty in the provision of DOT?
   - DOT being administered correctly?
   - Are TB treatment cards completed at the same time when treatment is given?
   - Is retrieval of late patients done within the stipulated time?
   - Have the patients addresses been verified before initiation of treatment?

3. Inspect tuberculosis treatment card in each subcentre and other DOT centres in the area. Whether the cards are timely and properly filled. Is remark column complete?

4. Inspect anti TB drugs in subcentres. Look for expiry and maintenance.

5. Tally tuberculosis treatment card with patient wise drug box. It should ideally tally in 100% of cases.

6. Talk to the patients.

   Patient awareness-Patient awareness especially of treatment regimen includes

   - The number, type and the color of drugs issued.
   - The duration of treatment and importance of completion of treatment.
   - The location and working hours of the treatment centre.
   - The importance of taking all the prescribed drugs.
   - Awareness of importance of direct observation of every dose in the intensive phase.
   - Awareness of frequency and importance of sputum examination, and understanding of sputum results.
   - Awareness of the symptoms and infectiousness of tuberculosis.
   - Importance of contact examination.
   - Awareness of whom to see and where to find them in case of any problems regarding treatment or otherwise.
   - Awareness regarding safe sputum disposal and other preventive measures.
   - Whether the time and place for the patients for taking DOTS is suitable.

   Patient activities related to DOTS

   - Swallowing of drugs during the intensive phase of treatment in the presence of DOT Provider.
   - Swallowing of the first dose of the weekly course of the continuation phase under direct observation of the health functionary and bringing the empty blister-pack during the next weekly collection of drugs.

- Bringing two samples of sputum at the end of 2(3) months of starting of treatment and at the completion of treatment or at any other time advised by health worker.

- Bringing all symptomatic contacts to the nearest heath unit for a checkup.

7. Discuss on the notes written in the diaries of workers with the action recorded in the patients tuberculosis treatment cards particularly in respect of retrieval of late patients.

8. Ensure regular sputum follow up examination within stipulated time. If any patient is due for sputum examination in near future, than he should be encouraged to go to microscopic centre for sputum examination within time.

9. Motivation of patients and health worker for regular DOTS by praising their regularity and good work.

10. Communicate all findings to .MO and STS of the area regularly.

When to supervise

MPHS have to supervise all sub-centres in their sector every fortnightly. S/He has to note down his observations and recommendations in the TB supervisory register placed at the PHC/DMC.

ANNEXURE V: INTERPERSONAL COMMUNICATION SKILLS

The skills involved in good interpersonal communication include:

- Listening and Understanding
- Demonstrating caring, concern and commitment
- Problem solving and Motivating

Listening and understanding involve more than simply being present while someone is speaking. Active listening means genuinely hearing the other person's words. Often, we think we are listening, but we actually do not pay close attention or do not really hear what the other person is trying to say.

DOS AND DONTS

Some key points for improving listening and understanding skills include:

DO:

- Offer a seat before interacting with the patient
- Allow sufficient time for the interaction
- If time must is limited, give your full attention during the time you have and the same should be apparent to the patient
- Be prompt so the other person does not have to wait a long time for your attention
- Sit with the other person so you are at their level
- Maintain eye contact
- Move your head to indicate you are paying attention
- Apologize for any unforeseen interruptions
- Ask open-ended questions (questions that cannot be simply answered with a "yes" or "no") such as questions that begin with "What", "Why" or "How". These questions require more than just a few words in the answer
- Periodically summarize what the other person has said to ensure that you have understood; use their own words to repeat the ideas back to them.

DON'T:

- Interrupt while the other person is speaking
- Yell at the other person
- Ask questions that can be answered with just one word (for example, questions that begin with "Do")
- Perform other activities during the meeting
- Ask difficult/embarrassing questions
- You can reflect the other person's emotions back to them with facial expressions that show you are concerned. You can also provide verbal feedback to them to show acknowledgement and recognition of their fears and concerns. Some key points are:

DO:

- Greet the patient
- Say, "Hello, please be seated."
- Address the person by name or appropriate title but always with respect
- Acknowledge and respond to each of their concerns
- Emphasize that your job is to help them
- Ask about family members
- Treat the person with respect
- Smile

DON'T:

- Minimize or dismiss their concerns
- Put down the other person
- Act superior
- Assume the person knows their way to another person/room/office; give them proper guidance to their next destination

- Argue with the patient

After listening, understanding and showing that you care, you can then use your knowledge of the RNTCP to discuss ways you can work together to solve any problem the other person has with participating in the Programme. Some key points for this include:

DO:

- Listen carefully to their point of view
- Paraphrase and summarize frequently to make sure that you understand the problem. Use non-technical words
- Help them to comply
- Demonstrate that you are concerned about the patient
- Convey that you understand their fears and apprehensions
- Make them comfortable
- Identify obstacles to their participation

DON'T:

- Assume you know all the answers
- Use technical words
- Treat them as your student
- Tell them to comply
- Assume you know their condition
- Expect compliance without explanation

Finally, you can use all of the knowledge, understanding and trust you've gained during your interaction to continue to motivate each person to maintain involvement in the Programme. Here are some of the main points to keep in mind for motivating:

DO:

- Repeat important information in different ways each time you meet

- Emphasize that your job is to help them
- Emphasize that they will be cured
- Use examples from your own experience
- Tell them that this is what you would recommend to your family members
- Compliment the other person on what they have done well
- Recognize their progress
- Emphasize that their welfare is your concern/job

DON'T:

- Use technical words
- Ignore the efforts the other person has made so far
- Overlook their fear and anxiety
- Ignore or minimize practical barriers
- Criticize their omissions/commissions

Other key personnel in RNTCP supervision :-

1. DTO – District Tuberculosis Officer
2. MOTC – Medical Officer–TB control
3. MOIC – Medical Officer In-charge
4. MOs – Medical Officers
5. STS – Senior Treatment Supervisor
6. STLS – Senior Tuberculosis Laboratory Supervisor

Please refer to the sample key messages and Role Plays for MPWs & other DOT Providers

SAMPLE KEY MESSAGES

Listening and understanding

- "Please sit down."
- "How are you feeling?"
- "How many children do you have?"
- "What are their ages?"
- "How is your wife/husband?"
- "Are they doing well?"
- "What do you do for a living?"
- "What do you understand tuberculosis to be?"
- "What do you think causes tuberculosis?"
- "Do you have questions about TB?"
- "Have you known anyone else who has had TB?"
- "Did they get cured from TB?"
- "Anyone who breathes can get TB."

- “TB is fully curable.”
- “TB is not inherited.”
- “TB is caused by a germ.”
- “TB treatment is free of cost.”
- “For the correct treatment, you will have to come to my centre three days per week and we will try to ensure that you don’t lose your wages during this period.”
- “The tests to detect TB are simple and will have to be done at regular intervals to monitor improvement in your condition.”
- “We will have to examine your sputum three times during treatment to monitor your well-being.”
- “To make sure I have explained things well, please show me on this calendar [show the patient a calendar] how long you must be treated.”
- “What time of the day is suitable for you to come to the centre?”
- “It is to ensure your cure that the treatment observer is a part of your treatment.”
- “You will have to take your medicines as prescribed so that your illness does not get worse.”
- If you do not take medicines as prescribed, you can develop an even more dangerous form of TB which you can then spread to your family.”
- “You can prevent the spread of TB to others by covering your mouth when you cough.”

Demonstrating caring

- “How are you feeling?”
- “Since you are ill, are you able to work?”
- “Does anyone in your family have cough?”
- “I want to help you to get cured of TB.”
- “This box of TB drugs contains your full requirement of anti-TB drugs and has been specifically allocated for you. I have written your name on it.”

- “I would like to make sure you are making progress each day.”
- “I can understand that it is difficult for you to come thrice a week. We will find a treatment observer near your place of work.” Or “We will arrange for the treatment observer to give you medicines before you go for work.”
- “TB is a common disease and should not be a cause for worry. If you complete the entire duration of treatment and maintain regularity, a complete cure in 6–9 months is almost certain.”
- “By following the treatment schedule you will also make sure that you do not spread the disease to your near and dear ones.”
- “All treatment is free here.”
- “If you have any doubts regarding the duration of treatment, the dosages of the drugs or any side-effects, please feel free to clarify your doubts with me.”
- “To make sure I have explained things well, please show me on this calendar [show the patient a calendar] how long you must be treated.”
- “If you have any doubts about the disease or the medicines, do not hesitate to ask me.”
- “Do you have any doubts about the medicines or the disease?”
- “It is my responsibility to ensure that you are cured.”
- “If you have TB and are not cured then your family may get sick.”

Motivating and Problem solving

- “If you are not properly treated, you might spread the disease to your family and others.”
- “If I had TB this is the treatment I would follow.”
- “If I had TB, I would certainly come thrice a week for the treatment.”
- “My centre is very close by so please walk to my centre.”
- “Don’t worry. The doctor and I will make sure that you are cured if you follow the treatment.”

- "TB can be cured completely only if treatment is uninterrupted. And the best way to ensure regular treatment is to monitor it."
- "Every dose is crucial and the treatment is designed for your complete recovery."
- "Although TB is curable, successful cure can only take place through constant monitoring. This helps us to assess your response to the administered drugs."
- "By following the treatment schedule you will also make sure that you do not spread the disease to your near and dear ones."
- "Anti-TB medicines are strong drugs that must be taken under observation. This will ensure that you not only take the medicines regularly but also in the right dosage. If you have any problem we will come to know of it immediately so we can help you."
- "Anti-TB drugs can have side-effects in some people. If you take them under our observation, we will make sure if you have any side-effects we will be able to tackle them at the earliest and prevent any other problems."
- "At times people develop resistance to certain drugs and show no improvement. If you take the medicines under our supervision, we will be able to ensure and monitor that the drugs are having the required effect and you are constantly getting better."

ROLE PLAY SCENARIOS

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

Scenario 1: First visit of the MPW to a patient who has been newly diagnosed as suffering from TB

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

MPW: You are a female MPW who is visiting a patient's home for the first time. The patient has been newly diagnosed as suffering from TB. You want to make sure that the patient understands his disease and what will be required for treatment.

Patient: You are a male patient who has recently been diagnosed as suffering from TB. You are afraid that you will die from it. The MPW is coming to your home for her first visit.

✶ ✶ ✶

Scenario 2: MPW visiting a patient near the end of the intensive phase

MPW: You are a male MPW and have visited the home of this patient who is near the end of the intensive phase. The patient has gained weight, has developed a good appetite and cough has considerably improved. The objective is to find out the welfare of the patient and to continue monitoring him for completion of treatment.

Patient: You are feeling better and think you are probably cured.

✶ ✶ ✶

Scenario 3: MPW visiting a patient who has interrupted treatment

MPW: You are a female MPW who is visiting the home of a patient who has stopped coming to the health unit for treatment.

Patient: You are a female patient who has been on treatment for about two months and you are feeling well. You have decided that it is too much trouble to continue going to the health unit for DOT so you have stopped going.

✶ ✶ ✶

Scenario 4: MPW talking with a patient's husband who wants his wife to return to her village

MPW: You are a female MPW and you are going to your patient's house to talk with her husband because he wants his wife to go back to her native village with him.

Husband of Patient: You are the husband of a patient who is on RNTCP treatment and you want your wife to go back to her native village with you. So, you are talking with the MPW who provides DOT for your wife.

✶ ✶ ✶

Scenario 5: MPW finds that treatment cards have not been updated by the Anganwadi worker

MPW: You are a female MPW who has discovered that the treatment cards have not been updated by a DOT worker who is an Anganwadi worker.

Anganwadi Worker: You are an Anganwadi worker who is also a DOT worker but you do not have the time to update the treatment cards because you have more important things to do with your time. You are also not very confident about your writing.

✶ ✶ ✶

ANSWERS TO EXERCISE 2

Revised National Tuberculosis Control Programme

Treatment Card

State ___Madhya Pradesh_____ City / District with code___Rewa_____
Name __Mallaiah_____
Sex M ☑ F ☐ Age __45____ Occupation _____
Complete Address__225,Gandhi Nagar, Rewa_____
_____

Name and Address of Contact Person ___Moideer,42 Arjun Vihar_____
_____Rewa_____

Initial home visit by _____ Date_____

Name of TB Unit with Code_____
Patient TB No / Year:___243_____
PHI: __237_____
Name and designation of DOT provider_____

DOT center_____
Signature of MO with date_____

Disease Classification
☑ Pulmonary
☐ Extra Pulmonary site_____

Type of patient
☑ New ☐ Relapse
☐ Transfer in ☐ Failure
☐ Treatment after default ☐ Other(Specify)_____

Month	Date	DMC	Lab No.	Smear Result	Weight
Pretreatment	6 Nov		324	3+	41
End IP/Extended IP	28 Dec		486	Neg	43
2 Months CP	13 Feb		88	Neg	46
End treatment	23 Apr		168	Neg	50

H/o previous Anti-TB treatment with duration _____

I. INTENSIVE PHASE - Prescribed regimen and dosages:
Tick (✓) the appropriate Category below

Category I ☑
New Case
(Pulmonary Smear-Positive, Seriously ill Smear Negative, or Seriously ill extra pulmonary)

3 times / week

H	R	Z	E
2	1	3	3

Category II ☐
Retreatment, (relapses, failure, treatment after default, others)

3 times / week

H	R	Z	E	S

Category III ☐
New Case
(Pulmonary Smear Negative, not seriously ill: or extra pulmonary, not seriously ill)

3 times / week

H	R	Z

Tick (✓) appropriate date when the drugs have been swallowed under direct observation

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Novembe							✓		✓	s		✓		✓		✓	s		✓		✓		✓	s		✓		✓		✓	
Decembe	s		✓		✓		✓	s		✓		✓		✓	s		✓		✓		✓	s		✓		✓		✓	S		✓

II Continuation Phase

Prescribed regimen and Dosages

Category I ☑ 3 times / week		Category II ☐ 3 times / week			Category III ☐ 3 times / week	
2	1					
H	R	H	R	E	H	R

Enter X on date when the first dose of drugs has been swallowed under direct observation and draw a horizontal line (x_____) to indicate the period during which medicines will be self administrated.

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Januar		X			S				X			S				X			S				X			S				X	
Februar		S				X			S				X			S				X			S				X				
March	S				X			S				X			S				X			S				X			S		
April		X			S				X			S				X			S				X			S				X	
May			S																												

Treatment out come with date _____ **Signature of MO with date** _____

Details of X ray / EP tests

Retrieval actions for missed doses

Date and time	By whom	Whom contacted	Reason for missed doses	Outcome of retrieval

Contacts (Children < 6 yrs)

No	Chemoprophylaxis

Remarks Cured 5/5/97