

**National PMDT training in Ethiopia
2012**

Case studies on PMDT National training for GHWs

Participants' Book

Table of Contents

Introduction.....	4
Case 1	5
Case 2	7
Case 3	9
Case 4	11
Case 5	12
Case 6	14
Case 7	15
Case 8	16
Case 9	16
Generating MDR TB treatment outcome reports.....	17
Annex 1. Filled MDR TB treatment register:	17

Introduction

These case studies are developed in order to assist the health professional practice the essential core skills necessary to provide care and treatment service for MDR TB patients and be acquainted with the recording and reporting tools of the program. Hence, facilitators need allocate adequate time and attentions for the participants to answer individual cases as per the national recommendations.

Cases are designed in such a way that they can be used for training of:

1. suspicion and diagnosis of MDR TB cases,
2. choosing treatment regimen for MDR TB patients,
3. diagnosis and management of side effects of SLDs,
4. treatment monitoring and
5. decision on treatment outcomes
6. recording and reporting
 - a. Interpret the Laboratory results
 - b. Fill the MDR TB treatment card
 - c. Fill the MDR TB treatment register
 - d. Determine the smear and culture conversion date
 - e. Determine Interim and Final treatment outcome of patients

In addition, health education messages can be practiced on all aspects mentioned above, individualized to the study cases.

Each case is organized is in five parts to address the stepwise issues in the identification and treatment of MDR TB patients. Hence, in practicing the case studies, Each part of the cases are advised to dealt right after completing the corresponding training module relevant to the part of the cases.

Part	Topic To be covered	Timing for practicing the case studies from the participants' manual
Part 1	suspect and classification	Module 3: After completion of case finding and contact tracing
Part 2	results of rapid DST test	Module 4: treatment of DR TB: after completion of section 6:4
Part 3	results of full DST	
Part 4	side effects and complications	Module 4: treatment of DR TB: After completion of section 6:9
Part 5	Defining Treatment monitoring and outcome status	Module 8: RR in PMDT after introducing tools.
Annex 1	Using filled MDR TB Treatment register	

Case 1

Part 1: suspect and classification

Jembere Mulatu(JM), A 34 year old male patient, who took only 4 months of New patient regimen last year, has returned to the health facility. The patient was sputum smear negative on the 2nd and 4th months of follow-up but thereafter stopped treatment since he was already feeling better. Now the patient complains of a persistent, worsening cough for the last 4 weeks with back pain, hemoptysis and weight loss. His sputum examination result was smear-positive.

Jemere live in two rooms with his wife in AA in kolfe-keranio subcity, 20 kebele in 4320 H. NO.

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

JM., Part 2: LPA results FLD done on 24/10/2000.

Results of LPA to first line drugs (FLD) reveal:

Resistant: H, R

Sensitive:

On 10/11/2000, the panel team of the HF decided the patient to be started with standard regimen as per the current national protocol. The patient weighed 52kg and tested HIV negative on 20/10/2000 and CXR showed Right upper lobe infiltrate. He brought his wife, Tilaye Kebede, as treatment supporter who lives in the same address and gave 09-99-99-99 as contact phone line.

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

JM., Part 3: Full DST results FLD done on 15/11/2000.

Result of Culture and full DST reveals:

Resistant: R, H, E

Sensitive: S,

Questions 3	Answers 3
Direct patient management?	
Regimen and dosage?	

JM., Part 4: side effects and complications

The patient is now three weeks on MDR TB treatment and complains that he has severe nausea and vomiting despite taking metoclopramide. The managing health worker realized that he is taking all drugs once in the morning.

Questions 4	Answers 4
Diagnosis?	
Cause?	
Direct patient management?	
Update on the patient MDR TB treatment card	

JM., Part 5: Treatment monitoring and outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows

Results of sputum examination				Weight
Month	Date	Smear	Culture	(kg)
<i>Prior**</i>	24/10/00	<i>P</i>	<i>P</i>	52
0	15/11/00	<i>P</i>	<i>P</i>	52
1	13/12/00	<i>N</i>	<i>N</i>	51.2
2	11/1/01	<i>N</i>	<i>N</i>	51.5
3	11/2/01	<i>N</i>	<i>N</i>	52.5
4	9/3/01	<i>N</i>	<i>N</i>	54
5	9/4/01	<i>N</i>	<i>N</i>	56
6	15/5/01	<i>N</i>	<i>U</i>	56.5
7		<i>U</i>	<i>U</i>	56.8
8		<i>U</i>	<i>U</i>	57.1
9	8/8/01	<i>N</i>	<i>N</i>	57.5
10		<i>U</i>	<i>U</i>	58
11	10/10/01	<i>N</i>	<i>N</i>	58
12		<i>U</i>	<i>U</i>	57
13		<i>N</i>	<i>U</i>	57.4
14		<i>U</i>	<i>U</i>	57
15		<i>N</i>	<i>U</i>	58
16	3/3/02	<i>N</i>	<i>N</i>	56.5
17		<i>N</i>	<i>U</i>	58
18		<i>N</i>	<i>U</i>	57
19	5/6/02	<i>N</i>	<i>N</i>	58
20				

Questions 5	Answers 5
Fill in MDR-TB Treatment card	

Direct patient management?	
When did the patient convert?	
Interim treatment outcome?	
Final treatment?	

Case 2

Part 1: suspect and classification

Roza Jemal (RJ), A 44 year old female patient, who has completed three-full courses of Anti-TB medications over a period of many years, has come to your facility for consultation. She took Levofloxacin together with the last cycle Anti-TB as her physician thought of possible resistance. The patient said she took all of the medicines and completed treatment each time, but now has chronic cough and fears it may again be TB. She has also weight loss, hemoptysis, occasional fever, chest pain and night sweats. Her sputum smear is positive. Weight: 45 kg.

Roza's residential address from her ID was in Harar, woreda 50 kebele 31 House No. 1002.

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

RJ., Part 2: results FLD done on 10/05/2001

Results of LPA to first line drugs (FLD) reveal:
Resistant: H, R

She was evaluated by the panel team of the center and the team realized that she was not tested for HIV, weighed 44kg, CXR showed bilateral lower two-third opacity.

She is a teacher at a nursery and brought her brother as contact person who lives in the same house hold. His telephone number is 09-99-999999.

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

RJ., Part 3: results full SLD 15/11/2001

At fourth month, the patient deteriorated and Results of C/DST to second line drugs (SLD) reveal:
Resistant: R, H, Km, Ofx
Sensitive: Cm

Questions 3	Answers 3
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Diagnosis?	
Direct patient management?	
Regimen and dosage?	

RJ., Part 4: side effects and complications

Yesterday, she looked in the mirror and noticed that her eyes were yellow. Her liver margin is tender on palpation. LFT(-ALT) elevated 7-fold and bilirubin 4-fold

Questions 4	Answers 4
Diagnosis?	
Cause?	
Direct patient management?	
Update on treatment card	

RJ., Part 5: Treatment outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows

Results of sputum examination				Weight (kg)
Month	Date	Smear	Culture	
Prior**	10/05/01	<i>p</i>	<i>p</i>	47
0	15/11/01	<i>P</i>	<i>P</i>	44
1	13/12/01	<i>N</i>	<i>P</i>	45
2	11/1/02	<i>N</i>	<i>p</i>	46
3	11/2/02	<i>N</i>	<i>N</i>	47
4	9/3/02	<i>N</i>	<i>N</i>	47
5	18/12/09	<i>N</i>	<i>N</i>	47
6	23/01/10	<i>N</i>	<i>N</i>	48
7	21/02/10	<i>N</i>	<i>N</i>	49
8	23/03/10	<i>N</i>	<i>U</i>	47
9	12/8/02	<i>N</i>	<i>N</i>	47
10	10/9/02	<i>N</i>	<i>U</i>	47
11	8/10/02	<i>N</i>	<i>N</i>	47
12	7/11/02	<i>N</i>	<i>U</i>	47
13	5/12/02	<i>N</i>	<i>N</i>	47
14	9/1/03	<i>N</i>	<i>U</i>	47
15	7/2/03	<i>N</i>	<i>N</i>	47
16	7/3/03	<i>N</i>	<i>U</i>	47
17	5/4/03	<i>N</i>	<i>N</i>	47
18	3/5/03	<i>N</i>	<i>N</i>	47
19	1/6/03	<i>N</i>	<i>N</i>	49

20	1/7/03	N	U	49
21	2/8/03	N	N	49
22				
23				
24				

Questions 5	Answers 5
Fill in the patient card	
Direct patient management?	
When did the patient convert?	
Interim Treatment outcome	
Final Treatment outcome	

Case 3

Part 1: suspect and classification

Lidet Yibeltal, A 55 year old male has been complaining of cough for three weeks, night sweats and fatigue. When interviewed, he says that he has not been sick for a long time but his 25 year old son who lived in the same house with him died of confirmed MDR-TB last year. The patient has no history of TB and has a normal chest X-ray. He is also known to have diabetes. HIV test done and was negative. His sputum smear is positive. Weight: 55 kg. No additional information was available.

Lidet lives in Adama, woreda01 kebele30 H.No. 2009 and gave 0118999999 as contact telephone number.

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

LY., Part 2: results FLD 01/11/2000.

Results of LPA to first line drugs (FLD) reveal:

Resistant: H, R

Sensitive: none

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

LY., Part 3: results of full DST 15/11/2000.

Results of C/DST to FLDs: Pending

Resistant:

Sensitive:

Questions 3	Answers 3
Direct patient management?	
Regimen and dosage?	

LY., Part 4: Side effects and complications

The patient reported difficulty of high-tone hearing since one week after taking treatment for five months. The treating physician also confirms the decrease in hearing.

Questions 4	Answers 4
Diagnosis?	
Cause?	•
Direct patient management?	
Update the treatment card	•

LY., Part 5: Treatment monitoring and outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows

Results of sputum examination				Weight (kg)
Month	Date	Smear	Culture	
<i>Prior**</i>				
0	15/11/00	<i>P</i>	<i>P</i>	52
1	13/12/00	<i>N</i>	<i>N</i>	52
2	11/1/01	<i>N</i>	<i>N</i>	50
3	11/2/01	<i>N</i>	<i>N</i>	49
4	9/3/01	<i>P</i>	<i>U</i>	47
5	9/4/01	<i>P</i>	<i>U</i>	45
6	15/5/01	<i>P</i>	<i>P</i>	45
7	14/6/01	<i>N</i>	<i>N</i>	46
8	13/7/01	<i>P</i>	<i>P</i>	45
9	12/8/01	<i>P</i>	<i>P</i>	44
10	10/9/01	<i>P</i>	<i>P</i>	44
11	8/10/01	<i>P</i>	<i>P</i>	43
12	7/11/01	<i>P</i>	<i>P</i>	42

Questions 5	Answers 5
Fill in the patient card	
Direct patient management?	
When did she convert?	
Interim treatment outcome	
Treatment outcome	

Case 4

SU., Part 1: suspect and classification

A 3 year-old male child is brought to your health facility by his father as he developed cough lasting for three weeks which persistent and getting worse. He has also fever and appetite loss and not playing as he used to. He has never been diagnosed or treated for TB in the past. The father admitted his sister-in-law stayed with at their home while she got treatment for MDR-TB a year ago. You examine the child and he has abnormalities in lungs and cervical Lymphadenopathy.

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

LY., Part 2: results FLD

Results of DST to first line drugs (FLD) from FNA aspirate reveal:

Resistant: pending

Sensitive: pending

Panel team decided to start MDRTB treatment though the DST results is still pending:

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

LY., Part 3: results of full DST

Results of C/DST to FLDs:

Resistant: R,H, E

Sensitive: S

Questions 3	Answers 3
Direct patient management?	
Regimen and dosage?	

LY., Part 4: side effects and complications

No significant complications or side effects

LY., Part 5: Treatment monitoring and outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows

Results of sputum examination				Weight
Month	Date	Smear	Culture	(kg)
0		<i>N</i>	<i>P</i>	12
1		<i>N</i>	<i>U</i>	12
2		<i>N</i>	<i>U</i>	14
3		<i>N</i>	<i>U</i>	14
4		<i>N</i>	<i>U</i>	16
5		<i>N</i>	<i>U</i>	16
6		<i>N</i>	<i>U</i>	16
9		<i>N</i>	<i>U</i>	17
12		<i>N</i>	<i>U</i>	17
15		<i>N</i>	<i>U</i>	19
18		<i>N</i>	<i>U</i>	19
21		<i>N</i>	<i>U</i>	19
24		<i>N</i>	<i>U</i>	19

Questions 5	Answers 5
Fill in the patient card	
Direct patient management?	
Treatment outcome	

Case 5

Martha Ermiais., Part 1: suspect and classification

A female patient, 18 years old, came to your health facility with referral paper from one of the district hospital to continue TB treatment at your clinic due change of patient address. Up on evaluation you have realized she is on the fifth month of TB treatment, told you that dry cough re-appeared. He is also known to have diabetes since he was 8years old. You have also recognized that she has a two year old child at home who is in good health condition. The patient also told you her mother is diabetic but not living in the countryside alone. Her fifth month sputum smear is still positive, Weight: 59 kg.

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

ME., Part 2: DST results FLD at third month

Results of LPA to first line drugs (FLD) is still pending.

However, the Panel team at the center decided to start the patient on standard MDR TB regimen as the clinical condition was not so good.

Questions 2	Answers 2
Diagnosis?	
Direct patient management?	

Regimen and dosage?	

ME., Part 3: Results of full DST for first line drugs (FLD) came on third month of treatment and reveal:

Culture: positive for *M. tuberculosis*

Resistant: R,H, S

Sensitive: E

Questions 3	Answers 3
Direct patient management?	
Regimen and dosage?	

ME., Part 4: side effects and complications

On the third month of treatment for MDR-TB, He noticed facial puffiness and fatigue for the past one week.

creatinine: 3.1 mg/dl

Questions 4	Answers 4
Diagnosis?	
Cause?	
Direct patient management?	
Update in the MDR TB treatment card?	

ME., Part 5: Treatment monitoring and outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows:

It has been three months since the patient last came for treatment. A home visit by a health worker revealed that the patient has moved away to an unknown destination. The neighbor told the health worker that the patient thought he had finished the MDR-TB treatment.

Results of sputum examination				Weight
Month	Date	Smear	Culture	(kg)
<i>Prior**</i>		<i>p</i>	<i>u</i>	
0	15/11/01	<i>P</i>	<i>P</i>	59
1	13/12/01	<i>N</i>	<i>N</i>	59
2	11/1/02	<i>N</i>	<i>N</i>	60.5
3	11/2/02	<i>N</i>	<i>N</i>	61
4	9/3/02	<i>N</i>	<i>N</i>	61
5	9/4/02	<i>N</i>	<i>N</i>	59
6	15/5/02	<i>N</i>	<i>N</i>	59.5
7	14/6/02	<i>N</i>	<i>U</i>	61
8	13/7/02	<i>N</i>	<i>N</i>	62
9	12/8/02	<i>N</i>	<i>U</i>	62.5
10	10/9/02	<i>P</i>	<i>N</i>	63
11	8/10/02	<i>N</i>	<i>Pending</i>	63

12	7/11/02	N	Pending	63
13	5/12/02	u	u	
14	9/1/03	u	u	

Questions 5	Answers 5
Fill in MDR TB treatment card	
Direct patient management?	
Interim outcome	
Final treatment outcome	

Case 6

JS., Part 1: suspect and classification

A 35 year old male patient on re-treatment regimen (for relapse) just finished the seventh month of the re-treatment regimen and is still smear-positive. He still has cough and back pain and has been losing weight. The patient has had no adverse events and complies with the treatment schedule. Weight: 50 kg

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

JS., Part 2: results FLD

Results of C/DST to first line drugs (FLD) reveal:

Resistant: H, R

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

JS., Part 3: results SLD

N/A

JS., Part 4: side effects and complications

He first noticed burning in the soles of his feet one month ago. The symptoms have worsened and soon involve his lower extremities up to the knee. He is unable to walk well.

Questions 4	Answers 4
Diagnosis?	
Cause?	
Direct patient management?	

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ME., Part 5: Treatment outcome

The follow-up data on smear and culture results and the body weight during treatment were as follows

Results of sputum examination				Weight (kg)
Month	Date	Smear	Culture	
0	15/11/00	P	P	59
1	13/12/00	N	N	59
2	11/1/01	N	N	60.5
3	11/2/01	N	N	61
4	9/3/01	N	N	61
5	9/4/01	N	N	59
6	15/5/01	N	N	59.5
9	14/8/01	N	U	61
12	13/11/01	N	N	62
15	12/2/02	N	U	62.5
18	15/4/02	P	N	63
21	13/7/02	N	N	63
24	11/10/02	N	N	63

Questions 5	Answers 5
Fill in MDR TB treatment card	
Interim treatment outcome	
Direct patient management?	
Final Treatment outcome	

Case 7

HA., Part 1: suspect and classification

A 32 year old man referred to the TB clinic from the HIV clinic in the hospital for positive sputum smear microscopy. Diagnosed with HIV one year ago

He has dry cough, fever and fatigue for 2 weeks, no weight loss

He is unmarried, lives with mother and sister’s family. Only mother knows he is HIV positive. Has been taking cotrimoxazole regularly. No previous TB diagnosis or treatment

He is weak, febrile, coarse breath sounds, cervical adenopathy and is sputum smear positive

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

Case 8

CG., Part 1: suspect and classification

She is a 40 year old woman with a cough for one month. She was diagnosed with TB last year and finished New patient regimen six months ago. Her cough is getting worse, now with brownish sputum. She thinks she has fever sometimes, but does not have a thermometer. She lost weight. Her body weight is 50 kg.

Other information: She sometimes forgot to take TB medicines because of work.

She is thin and weak and her sputum smear is positive

Questions 1	Answers 1
Classification for TB register?	
MDR-TB suspect?	
High-risk Group?	
Direct patient management?	

CG., Part 2: results FLD

Results of LPA to first line drugs (FLD) reveal:

Resistant: H, R

Sensitive: Not available

Questions 2	Answers 2
Direct patient management?	
Regimen and dosage?	

CG., Part 3: results full DST for FLD

Not Available

CG., Part 4: side effects and complications

She has difficulty concentrating, difficulty sleeping, loss of interest in her activities, and loss of appetite. She feels he can no longer continue taking his medications or eating and has lost 5 kg.

Questions 4	Answers 4
Diagnosis?	
Cause?	
Direct patient management?	•

Case 9

FS., Part 4: side effects and complications

A 26 year old woman is currently in the 5th month of MDR-TB treatment (Z-Cm-Lfx-Cs-Eto and pyridoxine). She is brought to the clinic by her village health worker because of weakness in her legs. She could barely walk 2 blocks to the clinic because of weakness. She suffers from nausea worse after evening dose and feels numbness in her face, hands and feet.

She lives alone; husband died recently of unknown cause. She says she is not sexually active and she has refused to have an HIV test many times.

Her bodyweight is 67 kg.

Laboratory results show TSH 6.7 (0.2-5), Creatinine 0.6 (0.6-1.2), Potassium 2.7 (3.5-5)

Questions 4	Answers 4
Diagnosis?	•
Cause?	•
Direct patient management?	•

Generating MDR TB treatment outcome reports

Part 5: Treatment monitoring and outcome

Analysis of patients data from filled MDR TB treatment register to generate programmatic report.

Use Annex 1 for Filled MDR TB treatment register:

Questions	Answers
Determine culture and smear conversion date for each patient	
Determine interim sputum conversion date for each patient	
Define treatment outcome of every patient	
Produce report on Enrollment, Six month interim and final treatment outcome for one Quarter	

Annex 1. Filled MDR TB treatment register:

To be Attached