Management of Tuberculosis Training for Health Facility Staff

SECOND EDITION

H. Monitor TB Case Detection and Treatment

World Health Organization
AMERICAN THORACIC SOCIETY 1905 ATS
msh Management Sciences for Health
CDC Centers for Disease Control and Prevention
KNCV TUBERCULOSISFOUNDATION

Management of Tuberculosis
Training for Health Facility Staff
Second Edition

H

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Monitor TB Case Detection and Treatment

Contents

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Management of Tuberculosis: Training for Health Facility Staff, 2nd ed.

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Monitor TB Case Detection and Treatment

Introduction

To **monitor** is to "watch closely." In your health facility, you may already monitor health-care activities such as immunizations or antenatal visits. You will also want to monitor the success of TB case detection and treatment activities. Such monitoring involves:

– keeping good records at your health facility,
– reviewing your health facility's records regularly,
– compiling data, and
– analysing key **indicators**[1] related to TB case detection and treatment.

This module focuses on how a health facility should monitor some of its own activities. This monitoring will reveal the health facility's successes and any problems that need to be solved. The results of this self-monitoring are **for the health facility's own use**. When problems are identified, the health facility should investigate the causes and take action to solve the problems.

This module does not describe additional monitoring done by the District TB Coordinator as part of monitoring the entire district. Monitoring by the District TB Coordinator will require some of the same data collected for the health facility's use. At the district level, since there are larger numbers of cases, more indicators may be analysed than at the health facility level.

Objectives of this module

All objectives relate to data collection, compilation and analysis at the health facility level.

Participants will learn:	**Refer to section:**
• Key indicators related to TB case detection and how to compile data to monitor them	1
• Key indicators related to HIV testing and status of TB patients and how to compile data to monitor them	2
• Key indicators related to TB treatment and how to compile data to monitor them	3
• How to calculate indicators	4
• How to analyse indicators	5
• How to plan appropriate actions to solve problems	6

If you need to look up an unfamiliar word, refer to the glossary at the end of module A: *Introduction*.

[1] An indicator is a measurable number, proportion, percentage or rate that suggests the extent of achievement of a programme, or the level of some condition in the population.

Overview of monitoring

Before learning the detailed steps of monitoring, it will be helpful to have an overview of the purpose of monitoring and the indicators to be measured. Turn to the *Summary Worksheets A: Indicators to monitor TB case detection and HIV testing* and *B: Indicators to monitor TB treatment* on pages 15 and 16. The worksheets summarize the indicators related to TB that a health facility should monitor.

The top part of *Summary Worksheet A* shows three indicators related to **TB case detection**. These indicators should be measured soon after the end of each quarter:

- Proportion of outpatients aged 15 years and older who were identified as TB suspects
- Proportion of TB suspects whose sputum was examined
- Proportion of TB suspects tested who were sputum smear-positive.[2]

The bottom part of *Summary Worksheet A* shows three indicators related to **HIV testing and HIV status of TB patients.** These indicators should also be measured soon after the end of each quarter:

- Proportion of all TB patients who were tested for HIV before or during TB treatment
- Proportion of all HIV-tested TB patients with HIV-positive results
- Proportion of all HIV-positive TB patients who are on CPT (co-trimoxazole preventive therapy).

Summary Worksheet B shows indicators related to **TB treatment** at the health facility:

- Proportion of new sputum smear-positive TB cases that converted (had negative sputum smears) at 2 or 3 months (also called the "conversion rate")

  This indicator is measured for the patients who began treatment in the quarter that ended 3 months ago, so that enough time has passed for conversion to occur.

- Proportion of new sputum smear-positive cases that:
  - were cured
  - completed treatment
  - defaulted
  - were treatment failures
  - that died
  - that transferred out

  } *treatment outcome indicators*

  These treatment outcome indicators are measured for TB patients who began treatment in the quarter that ended 12 months ago, so that enough time has passed for treatment to be completed, patients to be cured or another outcome to be determined.

[2] In this module, the word microscopy is often omitted for ease of reading, but the assumption is that the data refer to suspects whose sputum was examined by sputum smear microscopy. Sputum smear-positive cases are sputum smear microscopy-positive.

All of the indicators on the *Summary Worksheets* can be calculated from data compiled from the health facility's outpatient records, the *Register of TB Suspects* and *TB Treatment Cards*. In section 1 of this module, you will learn to compile data using *Worksheet 1: Data on TB case detection*. In section 2, you will learn to compile data using *Worksheet 2: Data on HIV testing and HIV status of TB patients*. In section 3, you will learn to compile data using *Worksheet 3: Data on TB treatment*.[3]

The results of *Worksheets 1, 2* and *3* will be the numerators and denominators listed in the column of *Summary Worksheets A* and *B* titled "How to calculate." You will learn how to calculate the indicators in section 4 of the module.

Worksheets 1, 2 and *3* and *Summary Worksheets A* and *B* present generic steps in compiling data and calculating indicators. The worksheets are tools for learning in this course, not required programme forms. You may not need these worksheets later when you are used to calculating the indicators.

When calculated and compared over time, the indicators will help you to answer questions such as:

- Are we detecting the number of sputum smear-positive cases expected at our health facility? If not, why not?
  – Are we identifying the expected number of TB suspects?
  – Are all TB suspects having sputum examination?

  If the number of TB suspects is lower than expected, it is important to find out why. Are all adult patients being asked about cough? Are many adult patients using another facility? If TB suspects are not being tested, it is also important to find out why.

- Are we testing all TB patients for HIV?

  If not, health workers are not successfully implementing the recommendation. It is important to investigate why.

- What proportion of TB patients are HIV-positive?

  If the proportion of HIV-positive TB patients is significant or increasing, this shows the risk of TB patients dying during TB treatment will be high and that HIV testing, CPT and ART should be given priority.

- What proportion of new sputum smear-positive cases convert (have negative sputum smears) at 2 or 3 months?

  If all cases are treated correctly, this proportion should be over 80%. If the health facility has a lower result, it is important to investigate why. Is the correct drug regimen being chosen for patients? Is treatment being directly observed? Are patients taking their drugs regularly (daily or 3 times per week)? Are patients defaulting before the second month follow-up sputum examination?

[3] Patients with multidrug-resistant TB, or MDR-TB, have a separate recording system and definitions for registration and treatment outcomes.

- Of new sputum smear-positive cases, how many:
  - are cured?
  - complete treatment?
  - default?
  - are treatment failures?
  - died?
  - transferred out?

  The health facility should see an increase in the number cured and completing treatment, and a decrease in the number defaulting.

  - *If there are many defaults, it is important to ask why. Could directly-observed treatment be made more convenient? Should community TB treatment supporters be used more effectively? Have the treatment outcomes for transferred patients been accounted for?*
  - *If there are many treatment failures, patients may not be taking the drugs, the drugs may be of poor quality, or there is a high proportion of drug-resistant (MDR-TB) cases.*
  - *If there are many deaths, patients may be arriving to diagnosis too late, or there may be a high proportion of HIV-infected patients not receiving appropriate CPT or ART.*

  Each of these reasons can be explored, the corrective measure implemented and the indicator monitored to see if the measure was effective.

Notice that monitoring is the first step towards identifying and solving problems. However, more investigation may be needed to find the causes of problems before they can be solved.

Explanation of *Summary Worksheets*

Tell a facilitator when you reach this point in the module. There will be an explanation of *Summary Worksheets A* and *B* that will provide a framework for the rest of the module.

Optional Exercise A – Written Exercise

The *Register of TB Suspects* is an important source of data for monitoring. This exercise provides practice in completing the *Register of TB Suspects*. If you have just completed module B: *Detect Cases of TB* as part of a comprehensive course, omit this exercise.

If you have <u>not</u> recently completed module B: *Detect Cases of TB,* then this exercise is necessary. Turn to page 35 and follow the instructions for Exercise A.

1. Collect and compile data on TB case detection

On *Summary Worksheet A* (page 15), you have seen the following key indicators for monitoring **TB case detection** in the health facility. Soon after the end of each quarter, these indicators should be measured for the previous quarter:

- Proportion of outpatients aged 15 years and older who were identified as TB suspects
- Proportion of TB suspects whose sputum was examined (by sputum smear microscopy)
- Proportion of TB suspects tested who were sputum smear-positive.

The following data from the previous quarter are needed to measure these indicators:

- Total outpatients aged 15 years and older
- Number of TB suspects identified (aged 15 years and older)
- Number of suspects whose sputum was examined
- Number of sputum smear-positive cases detected.

To determine the total outpatients aged 15 years and older, count from the health facility's Outpatient Register or other relevant health facility records or tally sheets.

The rest of the totals can be compiled from the *Register of TB Suspects* described in module B: *Detect Cases of TB*. It is important to maintain the *Register of TB Suspects* completely and carefully in order to collect the necessary data to calculate indicators, and thereby identify successes and problems.

You need not wait until the end of the quarter to notice problems that can affect the health facility's indicators. One common problem, easily apparent in the *Register of TB Suspects*, is failure of the laboratory to return a patient's test results.

Regularly look at the *Register of TB Suspects* and ask:

Have results been received from the laboratory for all sputum samples sent?

If the laboratory fails to return results, contact the laboratory, ask for the missing results and find out why they were not sent. Make sure that the laboratory knows that the health facility wants these reports and uses them.

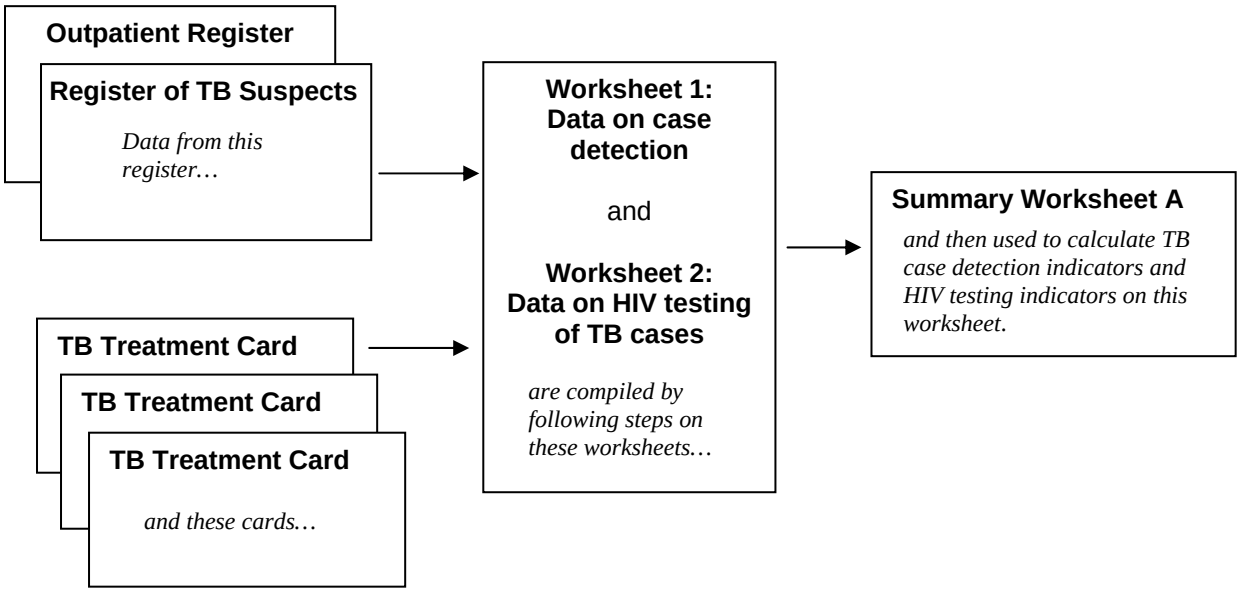
Another common problem is the failure of smear-positive cases to return for their test results and to begin treatment. This problem can also be identified by reviewing the *Register of TB Suspects*.

Regularly look at the *Register of TB Suspects* and ask:

Has a treatment card been opened for all sputum smear-positive cases?

Household visits may be needed to find sputum smear-positive cases who have not begun treatment. It is critical to contact these patients, inform them about TB and begin treatment.

At the end of a quarter, the first step in monitoring is to compile or summarize the data recorded in the *Register of TB Suspects*. *Worksheets 1* and *2*, shown on pages 7 and 9 (and in the *Reference Booklet*) will guide you through the steps. By reading and following the instructions, step by step, you will compile the data on TB case detection and on HIV testing and status of TB patients. The resulting numbers are then used to calculate the indicators on *Summary Worksheet A*. ***Worksheets 1*** **and** ***2*** **and** ***Summary Worksheet A*** **are not required TB forms, but are simply learning tools for use in this course.**



Note: The case detection indicators calculated in this module are intended to reflect the efforts of the health facility and are thus limited to suspects identified at the health facility and cases detected by sputum smear microscopy examination. Other cases may be diagnosed by clinicians.

Example for Malini Health Centre

Worksheet 1: Data on TB case detection

Case detection in the previous quarter (the quarter that just ended)

Soon after the end of a quarter, use this worksheet to compile data on TB case detection at the health facility during that quarter. Use the results of this worksheet to calculate indicators related to TB case detection. See *Summary Worksheet A: Indicators to monitor TB case detection and HIV testing.*

Circle the previous quarter: 1 (2) 3 4 of year: 2009

Record the dates included in the previous quarter: 1 April – 30 June 2009

Write answers in the blanks to the left of each step:

1a. 2 800 Determine the total number of outpatients aged 15 years and older seen for any reason during the quarter. To do this, use whatever health facility records are available.

1b. 125 Determine the number of TB suspects aged 15 years and older identified during the quarter. To do this, mark the beginning and ending dates for the quarter in the *Register of TB Suspects*. Then count the entries for suspects aged 15 years and older.*

1c. 118 Determine the number of these TB suspects whose sputum was examined.[4] Do this by counting the number of entries in the column headed "Date sputum sent to laboratory."

1d. 13 Count the number of these TB suspects who had one or more smear-positive results. Do this by looking in the columns headed "Results of sputum examinations."

* Be careful not to count any entries for children aged under 15 years. If there were any TB suspects aged under 15 years during the quarter, lightly cross through the entire row for these younger TB suspects so that you do not count them in this step.

[4] By sputum smear microscopy.

Now do Exercise B – Written Exercise

When you have reached this point in the module, you are ready to do Exercise B. Turn to page 45 and follow the instructions for Exercise B. Do this exercise by yourself. Then discuss your answers with a facilitator.

2. Collect and compile data on HIV testing and HIV status

On *Summary Worksheet A*, you have seen the following key indicators for monitoring **HIV testing and HIV status of TB patients** in the health facility. Soon after the end of each quarter, these indicators should be measured for the previous quarter:

- Proportion of all TB patients who began treatment during the quarter who were tested for HIV before or during TB treatment
- Proportion of all HIV-tested TB patients who are HIV-positive
- Proportion of all HIV-positive TB patients who are on CPT.

The following data <u>from the previous quarter</u> are needed to measure these indicators:

- Total TB patients who began treatment (any age, any type of TB)
- Number of TB patients who were tested for HIV before or during TB treatment
- Number of TB patients who are HIV-positive
- Number of HIV-positive TB patients who are on CPT.

To determine the total TB patients who began treatment in the previous quarter, use the health facility's *Register of TB Suspects*. In that register, mark the beginning and ending dates of the quarter. For that quarter, look in the column headed "TB treatment card opened." This column should have dates for TB patients put on treatment during the quarter. Find the *TB Treatment Cards* for all of these patients. Also find the *TB Treatment Cards* for any patients referred to your health facility to <u>begin</u> treatment during the quarter, for example children or extrapulmonary cases diagnosed by a clinician and sent to the facility for treatment.

Example for Malini Health Centre

Worksheet 2: Data on HIV testing

HIV testing in the previous quarter (the quarter that just ended)

Soon after the end of a quarter, use this worksheet to compile data on HIV testing and HIV status of TB patients who began treatment at the health facility during the previous quarter. Use the results of this worksheet to calculate indicators related to HIV testing and HIV status. See *Summary Worksheet A: Indicators to monitor TB case detection and HIV testing.*

Circle the previous quarter: 1 (2) 3 4 of year: 2009

Record the dates included in the previous quarter: 1 April – 30 June 2009

Write answers in the blanks to the left of each step:

2a. Determine the total number of TB patients (any age, any type of TB) who began treatment in the previous quarter.

In the *Register of TB Suspects*, mark the beginning and ending dates of the quarter. For that quarter, look in the column headed "TB treatment card opened." This column should have dates for most TB patients who began treatment during the quarter. Find the *TB Treatment Cards* for all of these patients. (Remember to omit any patient whose *TB Treatment Card* was opened after the quarter ended.)

Also look back in the *Register of TB Suspects* for suspects identified shortly before the quarter began but who began treatment during the quarter. Find the *TB Treatment Cards* for all of these patients.

Also find the *TB Treatment Cards* for any patients referred to your health facility to begin treatment during the quarter.

2b. 16 Look at the *TB Treatment Cards* found in step 2a. Count the cards remaining. **This is the number of TB patients who began treatment in the quarter.**

2c. 12 On these *TB Treatment Cards*, look at the box "TB/HIV" to see whether each TB patient was tested for HIV. Count the patients who have an HIV test date and result recorded. **This is the number of TB patients who were HIV-tested before or during TB treatment**.

2d. 1 On these same cards, look at the box "TB/HIV" and count the patients who had a positive HIV test result. **This is the number of HIV-positive TB patients.**

2e. 1 Determine the number of HIV-positive TB patients on CPT. On these same cards (all HIV-positive TB patients), look at the box "TB/HIV" and count the patients who have a date recorded for CPT start. **This is the number of HIV-positive TB patients on CPT.**

Now do Exercise C – Written Exercise

When you have reached this point in the module, you are ready to do Exercise C. Turn to page 57 and follow the instructions for Exercise C. Do this exercise by yourself. Then discuss your answers with a facilitator.

3. Collect and compile data on TB treatment

On the *Summary Worksheet B* (page 16), you have seen the following key indicators for monitoring **TB treatment**:

- Proportion of new sputum smear-positive TB cases that converted (had negative smears) at 2 or 3 months (also called the "conversion rate")

- Proportion of new smear-positive cases that:
  - were cured
  - completed treatment
  - defaulted
  - were treatment failures
  - died
  - transferred out

  } *treatment outcome indicators*

The above indicators cannot be measured immediately after the end of a quarter. It is necessary to wait 3 months to measure the conversion rate. Since TB treatment takes 6–8 months, it is necessary to wait about 9 months to know the treatment outcome for a TB patient. To allow plenty of time for all TB patients to achieve outcomes, this module suggests waiting 1 year from the end of a quarter to measure the treatment outcome indicators for TB patients who began treatment in that quarter.

Thus, at the end of a given quarter, you will review not only data on TB patients who began treatment during that quarter (as taught in sections 1 and 2 and on *Worksheets 1 and 2*), but also data on TB patients who began treatment during the quarter that ended 3 months ago and those who began treatment during the quarter that ended 1 year ago:

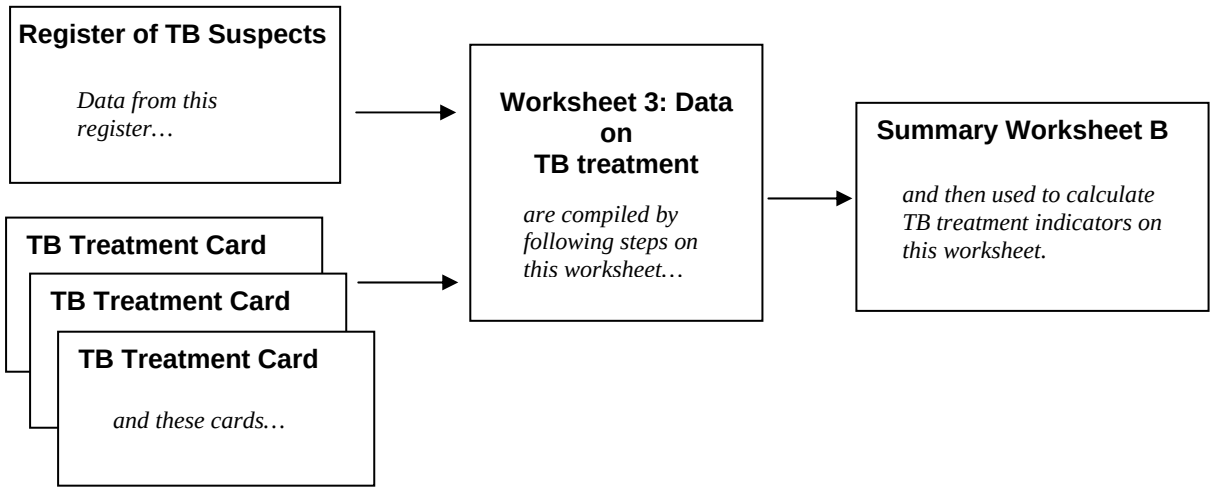
- **For the quarter that ended 3 months ago, to measure the conversion rate:**
  - Number of new sputum smear-positive (aged 15 years and older) cases put on treatment
  - Number of these cases that converted at 2 or 3 months.

- **For the quarter ending 1 year ago, to measure treatment outcome indicators:**
  - Number of new smear-positive cases (aged 15 years and older) put on treatment
  - Number of these cases cured
  - Number of these cases that completed treatment
  - Number of these cases that defaulted
  - Number of these cases that were treatment failures

– Number of these cases that died
– Number of these cases that transferred out.

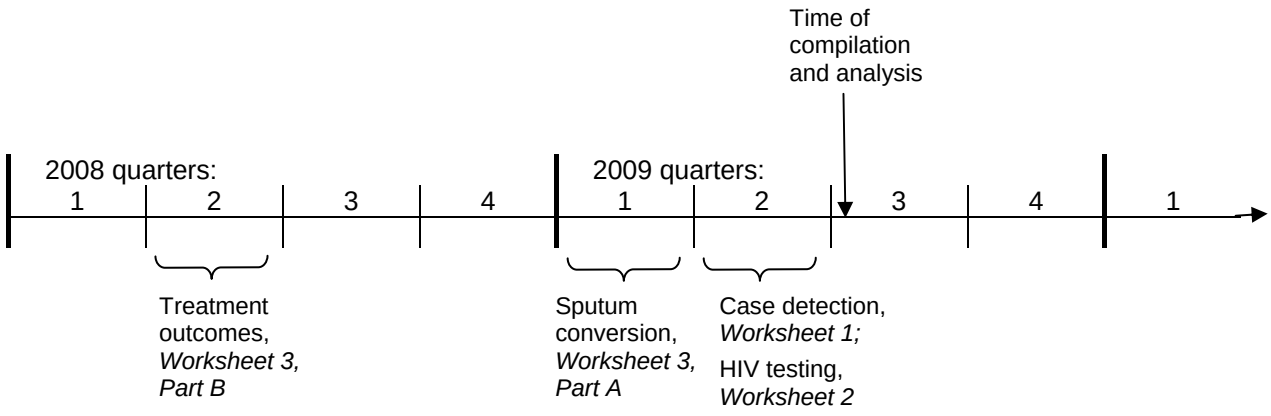
All of these totals can be compiled from the health facility's *Register of TB Suspects* and *TB Treatment Cards*. Maintain these records completely and carefully. File *TB Treatment Cards* in order by patient name or case number, so that they can easily be found and reviewed.

Worksheet 3 (page 12) describes the steps in compiling the data on conversion and TB treatment outcomes. The results are then used to complete the *Summary Worksheet B* (page 16). Like *Worksheets 1* and *2*, *Worksheet 3* is a learning tool, not a required TB form.



Example

The following time line summarizes the data compiled at a given point in time to measure indicators. In this example, the second quarter of 2009 has just ended. It is now time to compile and analyse data on case detection, HIV testing, conversion and treatment outcomes for the different quarters shown.



Example for Malini Health Centre

Worksheet 3: Data on TB treatment

Use this worksheet to compile data on TB treatment. Use the results to complete *Summary Worksheet B: Indicators to monitor TB treatment.*

Part A – Conversion (for the quarter that ended 3 months ago)

Circle the quarter that ended 3 months ago: (1) 2 3 4 **of year:** 2009

Record the dates in that quarter: 1 January – 31 March 2009

Find the number of new, sputum smear-positive cases put on treatment in the quarter. Then find the number of these cases that converted at 2 or 3 months. To do this, complete steps 3a–3e below. Write answers in the blanks for 3d and 3e.

3a. In the *Register of TB Suspects*, mark the beginning and ending dates of the quarter. For that quarter, look in the column headed "TB treatment card opened?" This column should have dates for most TB patients put on treatment during the quarter. Find the *TB Treatment Cards* for all of these patients. Also find the *TB Treatment Cards* for any patients referred to your health facility to begin treatment during the quarter. (Omit any children aged under 15 years.)

3b. Look at the *TB Treatment Cards* found in step 3a. Put the cards for any extrapulmonary or sputum smear-negative cases back into the files.

3c. On each *TB Treatment Card* remaining in your hand, look in the section titled "Type of Patient" to see whether the case was new. If new, keep the card out. If not new (anything else ticked), put the card back in the files.

3d. 7 Count the cards remaining in your hand. **This is the number of new, sputum smear-positive cases put on treatment in the quarter.** *Important: Mark or tag these cards so that you can easily find them later (to determine treatment outcomes 12 months after starting treatment).*

3e. 5 On these same cards, look at the "Results of sputum examination" in the row for month 2 or 3. Count the cases who had a negative result for month 2 or 3. **This is the number of new smear-positive cases that converted at 2 or 3 months.**

Part B – Treatment outcomes (for the quarter that ended 12 months ago)

Circle the quarter that ended 12 months ago: 1 (2) 3 4 **of year:** 2008

Record the dates in that quarter: 1 April – 30 June 2008

3f. 6 Determine the number of new smear-positive cases put on treatment during the quarter that ended 12 months ago. To do this, find the *TB Treatment Cards* for these cases. *(The cards should have been tagged or marked.)* Count the cards. How many cards are there?

Determine the number of these cases with each outcome. To do this, look at treatment outcomes recorded on the back of the *TB Treatment Cards.* Count the number of cases with each outcome:

3g. 2 Cure	3h. 3 Treatment completed	3i. 1 Default
3j. 0 Treatment failure	3k. 0 Died	3l. 0 Transfer out

Explanation of time line

Tell a facilitator when you have reached this point in the module. There will be an explanation of the time line for compiling data and analysing indicators.

Now do Exercise D – Written Exercise

When you have reached this point in the module, you are ready to do Exercise D. Turn to page 71 and follow the instructions for Exercise D. Do this exercise by yourself. Then discuss your answers with a facilitator.

4. Calculate indicators

Formulae for all of the indicators are on *Summary Worksheets A* and *B* (pages 15 and 16). In each formula, a numerator (top number) is divided by a denominator (bottom number) to obtain a proportion. The column headed "How to Calculate" describes the numerator and denominator. Step numbers from *Worksheets 1*, *2* and *3* are given in parentheses to show where to find the numerator and denominator.

If you use a calculator to calculate a proportion, the result is usually expressed as a decimal fraction, for example, 0.94. You may wish to express the proportion as a percentage. To do this, multiply by 100 (move the decimal point two places to the right). Thus, the decimal fraction 0.94 can be expressed as 94%.

$$\frac{\text{Numerator}}{\text{Denominator}} = \text{Proportion} \qquad \text{Proportion} \times 100 = \text{percentage}$$

Example

The first indicator, the proportion of outpatients aged 15 and older in the previous quarter who were identified as TB suspects, is calculated as follows:

$$\frac{\text{Number TB suspects identified}}{\text{Total outpatients aged 15 years and older}} = \frac{125}{2\,800} = 0.04 \qquad 0.04 \times 100 = 4\%$$

The *Summary Worksheets* show how to calculate the indicators. These worksheets should be completed soon after the end of every quarter; however, at that time you are looking back at health centre activities related to four different groups of people:

- TB suspects (aged 15 years and older) identified and tested in the **previous quarter** (that is, the quarter that just ended)
- TB patients (any age, any type of TB) who began treatment in the **previous quarter**
- New smear-positive TB cases (aged 15 years and older) who began treatment in the **quarter that ended 3 months ago**
- New smear-positive TB cases (aged 15 years and older) who began treatment in the **quarter that ended 12 months ago.**

Example for Malini Health Centre

Summary Worksheet A: Indicators to monitor TB case detection and HIV testing

To monitor:	Measure these indicators:	Record time frame:[a]	How to calculate (numerator / denominator)[b]		Calculate and record result here:
TB case detection *(using data from Register of TB Suspects, compiled on **Worksheet 1**)*	Proportion of outpatients aged 15 years and older who were identified as TB suspects	previous quarter: *2nd quarter, 2008*	Number TB suspects identified (1b) / Total outpatients aged 15 years and older (1a)	= 125 / 2 800	0.04 = 4%
	Proportion of TB suspects whose sputum was examined for TB		Number TB suspects whose sputum was examined (1c) / Number TB suspects identified (1b)	= 118 / 125	0.94 = 94%
	Proportion of TB suspects tested who were sputum smear-positive		Number smear-positive cases detected (1d) / Number TB suspects whose sputum was examined (1c)	= 13 / 118	0.11 = 11%
HIV testing and HIV status *(Using data from TB Treatment Cards, compiled on **Worksheet 2)***	Proportion of all TB patients who were tested for HIV before or during TB treatment		Number of TB patients tested for HIV (2c) / Number of TB patients (2b)	= 12 / 16	0.75 = 75%
	Proportion of all HIV-tested TB patients who are HIV-positive		Number of HIV-positive TB patients (2d) / Number of HIV-tested TB patients (2c)	= 2 / 12	0.08 = 8%
	Proportion of all HIV-positive TB patients who are on CPT		Number of HIV-positive TB patients on CPT (2e) / Number of HIV-positive TB patients (2d)	= 1 / 1	1.0 = 100%

[a] *The time frame applies to the denominator. The persons in the numerator are part of this group.*
[b] *Numbers in parentheses tell where to find the numerator and denominator on Worksheet 1, 2 or 3.*

Example for Malini Health Centre

Summary Worksheet B: Indicators to monitor TB treatment

TB treatment *(using data from Register of TB Suspects and TB Treatment Cards, compiled on **Worksheet 3**)*	**Conversion rate**: Proportion of new sputum smear-positive TB cases that converted at 2 or 3 months	quarter that ended 3 months ago: *1st quarter, 2008*	Number new smear-positive cases that converted at 2 or 3 months (3e) / Number new smear-positive cases put on treatment (3d) = 5/7	*0.71 = 71%*
	Treatment outcomes: Proportion of new sputum smear-positive cases that: – were cured	quarter that ended 12 months ago: *2nd quarter, 2007*	Number new smear-positive cases cured (3g) / Number new smear-positive cases put on treatment (3f) = 2/6	*0.33 = 33%*
	– completed treatment		Number new smear-positive cases that completed treatment (3h) / Number new smear-positive cases put on treatment (3f) = 3/6	*0.50 = 50%*
	– defaulted		Number new smear-positive cases that defaulted (3i) / Number new smear-positive cases put on treatment (3f) = 1/6	*0.16 = 16%*
	– were a treatment failure		Number new smear-positive cases that failed treatment (3j) / Number new smear-positive cases put on treatment (3f) = 0/6	*0.0 = 0%*
	– died		Number new smear-positive cases that died (3k) / Number new smear-positive cases put on treatment (3h) = 0/6	*0.0 = 0%*
	– transferred out		Number new smear-positive cases that transferred out (3l) / Number new smear-positive cases put on treatment (3f) = 0/6	*0.0 = 0%*

[a] *The time frame applies to the denominator. The persons in the numerator are part of this group.*
[b] *Numbers in parentheses tell where to find the numerator and denominator on Worksheet 1, 2 or 3.*

Now do Exercise E – Written Exercise

When you have reached this point in the module, you are ready to do Exercise E. Turn to page 81; fold out pages 83 and 85; and follow the instructions for Exercise E. Do this exercise by yourself. Then discuss your answers with a facilitator.

5. Analyse indicators

It is not enough just to calculate indicators. You must also analyse them, that is, interpret what they mean.

For some indicators, analysis may involve comparing the actual proportion achieved to the expected or desired proportion. For example, it is desired that 100% of TB suspects have their sputum tested. Any result less than 100% is less than desired.

Analysis may also involve comparing results achieved from one quarter to the next. For example, if the proportion of TB suspects whose sputum was tested increases from 50% in one quarter to 85% in the next, the health facility has improved. However, the health facility should continue to try to reach 100%.

To see the health facility's improvement, it is helpful to keep a line graph of the following numbers from quarter to quarter:

- the number of TB suspects tested
- the number of sputum smear-positive cases detected.

The graph may be kept on the wall of the health facility as a reminder of the importance of TB case detection. See the example of a graph on the next page.

Indicators must also be considered in relation to each other. For example, you will want to look at the proportion of cases cured in relation to the proportion who completed treatment and the proportion who defaulted.

- If the proportion cured is low, but the proportion who completed treatment is high, the reason may be that the final follow-up sputum examinations are not being done.
- If the proportion who defaulted is high, this suggests other reasons for the low proportion cured.
- A high proportion of deaths may be caused by TB severity (late diagnosis) or HIV.
- A high proportion of failures may be caused by poor compliance with treatment, inadequate drugs, or high proportion of drug-resistant cases (MDR-TB).

The table on page 19 shows possible ways to analyse the indicators related to case detection, HIV testing and TB treatment. You may think of other comparisons and interpretations that could be made.

Example

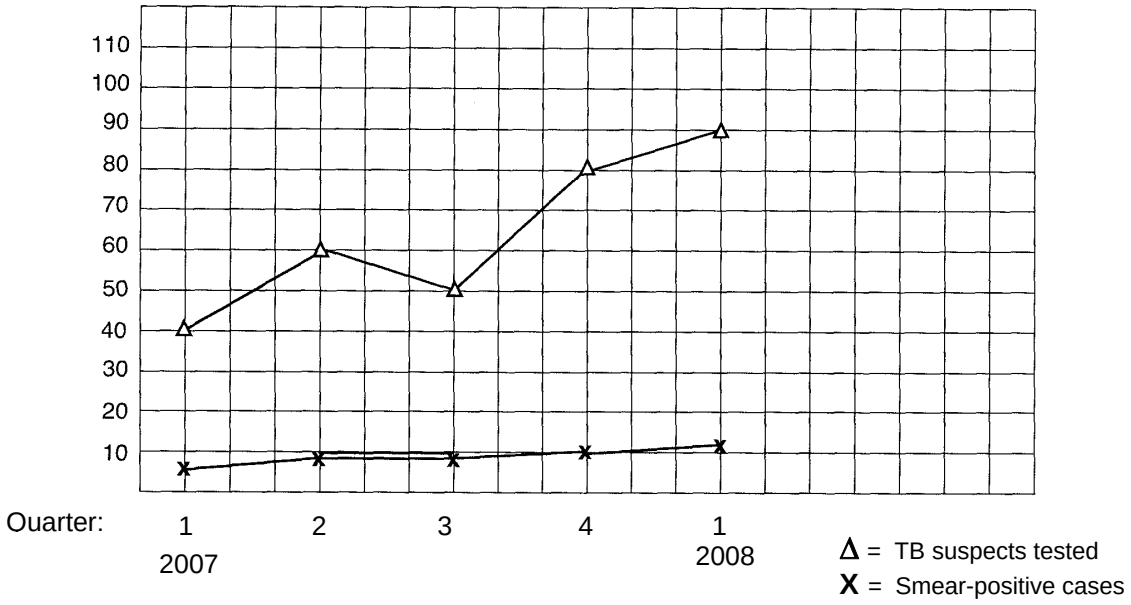
Graph of TB suspects tested and smear-positive cases detected at a health facility

There are two lines drawn on the graph below:

– The upper line shows numbers of TB suspects tested at a health facility over 5 consecutive quarters. On this line, a triangle (**Δ**) is used to show the number of TB suspects tested in a quarter.

– The lower line shows numbers of smear-positive cases detected in the same 5 quarters. On this line, a cross (**X**) is used to show the number of smear-positive cases in a quarter.

The dates of the quarters are written under the bottom axis. The vertical axis shows the number of TB suspects tested (**Δ**) or smear-positive cases (**X**).



The above example shows that, over five quarters, both the number of TB suspects tested and the number of smear-positive cases increased greatly. The number of TB suspects tested has more than doubled; the number of cases identified has doubled.

For the first quarter of 2008, the graph shows that 90 TB suspects were tested. In that same quarter, 12 smear-positive cases were identified. This means that the proportion of TB suspects tested who were smear-positive was about 13% (12/90). In the table on the next page, you will see that the expected proportion for this indicator is 2–15%. So 13% is high but within the expected range. It is possible that this health facility is still finding mostly the obviously coughing TB suspects. This health facility should continue to increase efforts to ask <u>all</u> adult outpatients about cough in order to identify all TB suspects.

Analysing indicators

Indicator	Compare to:	Possible interpretation, or investigation needed:
Proportion of outpatients aged 15 years and older who were TB suspects	Expected result:[a] 2–10%	If lower than 2%, it is likely that patients are not routinely being asked about cough. If higher than 10%, consider whether patients with cough less than 2 weeks are being recorded.
Proportion of TB suspects whose sputum was tested for TB	Desired result: 100%	If less than 100%, find out why. Have suspects failed to produce sputum samples? Has the laboratory failed to return test results?
	Results from previous quarters	If the proportion is less than previous quarters, find out what new problems are occurring. If the proportion has increased, find out what made the difference.
Proportion of TB suspects tested who were sputum smear-positive	Expected result:[a] 2–15%	If higher, check procedures used to identify TB suspects. It is possible that only people with severe respiratory symptoms have sputum samples sent for testing.
	Results from previous quarters	If the proportion varies greatly from one quarter to the next, check procedures used to identify TB suspects and send sputum samples. There may have been a change. Over a longer period of time, an increase or decrease could indicate a change in the actual level of TB in the community.
Proportion of all TB patients who were tested for HIV before or during TB treatment	Desired result in countries with high HIV prevalence: 100%	If less than 100%, find out why. Do health workers recommend HIV testing to all TB cases? Is this a TB programme policy? Do patients decline HIV testing? Is testing difficult for patients to access (distance, cost)? Are supplies and trained staff consistently available to do HIV testing?
	Results from previous quarters	If the proportion is less than previous quarters, find out whether new problems are occurring. If the proportion has increased, find out what made the difference.
Proportion of all HIV-tested TB patients who are HIV-positive	Expected result: About five times the HIV prevalence in the general population	There is no target, because the proportion depends on the HIV prevalence in the population. The indicator is useful to evaluate the workload (drugs, staff) and priority of TB/HIV co-treatment, and the expected impact of HIV on the TB treatment outcomes.
Proportion of all HIV-positive TB patients who are on CPT	Desired result: 100%	If less than 100%, find out why. Do health workers recommend and give CPT to HIV-positive patients? Is co-trimoxazole consistently available?
	Results from previous quarters	If the proportion is less than previous quarters, find out what new problems are occurring. If the proportion has increased, find out what made the difference.

(continued on next page)

Indicator	Compare to:	Possible interpretation, or investigation needed:
Proportion of new sputum smear-positive cases that converted at 2 or 3 months (conversion rate)	Desired result: more than 80% (8 out of 10)	If patient compliance is high and treatment is consistently done correctly, more than 80% should convert. If the proportion is 80% or less, look for reasons such as follow-up sputum examinations not done, defaults, or transfers.
	Results from previous quarters	An increase in this proportion suggests that patient compliance and treatment are improving. A decrease suggests problems. Look for problems related to monitoring, patient compliance and treatment.
Proportion of new sputum smear-positive cases that: -- were cured	Results from previous quarters	An increase suggests that patient compliance and treatment are improving and/or that follow-up sputum examinations are being done to confirm cures. A decrease suggests problems in one or both of these areas. (See below.)
-- completed treatment	For the same quarter, the proportion of cases with other outcomes	Added together, the proportion cured plus the proportion that completed treatment (called "treatment success") should increase towards 100% and reach at least 85% with good case management. Considered separately, the proportion that completed treatment should be much lower than the proportion cured. Otherwise, it is likely that the final follow-up sputum examinations are not being done to confirm cures.
-- defaulted	Desired result: less than 5%	If greater than 5% default, investigate problems related to patient compliance, organization of services, etc.
– were a treatment failure	Results from previous quarters	An increase may suggest that patient compliance is declining or that the incidence/prevalence of MDR-TB is increasing.
– died	Results from previous quarters	An increase may suggest that more TB cases are HIV-positive and are dying during treatment. An increase may indicate problems with delays in diagnosis or quality of care that should be investigated. A decrease may suggest that TB cases are being diagnosed earlier and treated more effectively.
– transferred out	Results from previous quarters	A high proportion of transfers usually indicates poor follow-up of patients that have moved to other facilities or districts, and lack of reclassification of the outcome based on the information received.

[a] *Based on results from well-organized TB control programmes worldwide.*

Now do Exercise F – Written Exercise

When you have reached this point in the module, you are ready to do Exercise F. Turn to page 87 and follow the instructions for Exercise F.

6. Solve problems

The purpose of monitoring and calculating indicators is to recognize success and solve problems. The steps in problem solving are as follows:

6.1 Identify the problem
6.2 Investigate the causes of problems
6.3 Determine solutions
6.4 Implement solutions

This section of the module will describe the problem-solving process in relation to TB case detection and treatment.

6.1 Identify the problem

Based on analysis of indicators, you find some successes. On the other hand, you may discover some problems. For example, you may find that:

- Health workers do not routinely ask outpatients whether they have cough, or
- Of new smear-positive cases who began treatment in a quarter, 10% defaulted.

Both of these are problems, but the first example is more focused than the second. In the first example, it is clear that a certain task is not being done. In the second, it is not clear what problems have led to the high default rate; there could be many. Investigation is needed. Upon investigation, you may find that:

- Patients have to wait in long queues at the health facility; they resent the waste of time and thus stop coming for treatment.

- Health workers behave in a rude and hurried way when TB patients come for treatment.

- Community TB treatment supporters are sometimes not identified for patients who live far from the health facility.

The above problems are more focused. If solved, they will probably lead to a decrease in the proportion of cases defaulting.

When a problem is identified, describe it in as much detail as possible. Try to determine when, where and with whom the problem occurs.

6.2 Investigate the causes of problems

Find the causes of a problem before trying to solve it. Different causes require different solutions. Keep asking “why” until you find the root causes of a problem.

Investigation of causes may involve observing and asking questions, visiting or talking with patients (including those who default) or reviewing records.

6.3 Determine solutions

Solutions will depend on the causes of the problem. For example, if someone does not know how to do a task, a solution may be training. On the other hand, if the cause is a lack of equipment or supplies, a different solution is needed. Solutions should:

- remove the cause of the problem (or reduce its effects)
- be feasible (affordable, practical, realistic)
- not create another problem.

Following are two examples of the problem-solving process.

Example 1

Problem: Sputum smear examination results were recorded for only 75% of TB suspects identified in the previous quarter. Review of records showed that 32 out of 130 TB suspects (25%) did not have sputum samples tested. Some (17) did not provide the first sputum sample. Others (15) did not return the next day with the second sputum sample.

Possible cause:	***Possible solution:***
Some TB suspects were unable to cough up the first sputum sample when requested, so they left the health facility.	In the future, tell TB suspects that, if they cannot produce sputum at the moment, they should try again at home in the morning and then bring the sputum sample in.
After producing the first sputum sample, some TB suspects were not told to return with another sputum sample the next day.	Clearly explain to TB suspects the need to return with a sputum sample. This should be the last instruction given.
Suspects were afraid of being diagnosed with TB, so they did not return.	Reassure TB suspects that TB can be cured. Tell them that it is important to be diagnosed in order to be cured and protect their families.
Suspects did not return with the second sputum sample because they could not take the time from home or work duties.	Ensure that suspects do not have to wait in line when they return. Tell them that they will not have to wait. If more samples are needed for diagnosis by a clinician, send a health worker to collect the samples, or have a family member bring them.
If suspects do not return with the second sputum sample, send the first sample to the laboratory anyway.	Teach health workers to submit a suspect's first sputum sample to the laboratory if the sustpect does not return with the second sample within 3 days.

Example 2

On the surface, the following problem seems similar, but the details and the causes are very different. Thus, the solutions must also be different. By investigating the causes of a problem, one can avoid wasting time, effort and money on the wrong solutions.

Problem: Sputum smear examination results were recorded for only 75% of TB suspects identified in the previous quarter. Review of records showed that test results for 32 out of 130 (25%) TB suspects were not available even though sputum samples were sent to the laboratory.

Possible cause:	***Possible solution:***
The laboratory did not know where to send the results.	Provide an addressed return envelope with the "Request for Sputum Examination."
The laboratory was too busy to send reports on a timely basis, or the results were lost.	Assign a health worker to deliver samples and also pick up reports at the laboratory.
Results were received from the laboratory but were never recorded in the *Register of TB Suspects.*	Make sure that someone is assigned to record the results and knows how to do so. If that person must be away, prepare another person to do this task.

6.4 Implement solutions

Implementing a solution may be relatively simple (such as speaking with an individual health worker) or more complex (such as changing health facility procedures). Good communication with other health facility staff is important whenever any change is made.

To promote good communication when solving problems:

- Provide clear instructions whenever any change is made.
- Prepare and post "job-aids" such as checklists or instructions for any complex tasks.

Follow up to determine whether a solution is implemented as intended. Then continue monitoring to determine whether the problem is solved. Post and discuss results of monitoring so that health workers are aware of both successes and problems.

Now do Exercise G – Group Discussion

Turn to page 91 to read the questions to be discussed. When everyone is ready, there will be a group discussion.

Summary of important points

- Each health facility should monitor its TB case detection and treatment activities. Monitoring involves keeping good health facility records, reviewing records regularly, compiling data and analysing key indicators.

- Regularly review the *Register of TB Suspects* and ask:

  – Have results been received for all sputum samples sent?
  – Has a treatment card been opened for all sputum smear-positive cases?

  If not, take action to find causes of the problems and solve them.

- Worksheets are provided in this module and in the *Reference Booklet* to help you compile data and calculate indicators. After the end of each quarter, use the worksheets to compile data on health facility activities related to four different groups of people:

  – TB suspects aged 15 years and older identified and tested in the **previous quarter** (i.e. the quarter that just ended)
  – TB patients (any age, any type of TB) who began treatment in the **previous quarter** who were tested for HIV before or during TB treatment
  – TB cases (sputum smear-positive, aged 15 years and older) who began treatment in the **quarter that ended 3 months ago**
  – TB cases (sputum smear-positive, aged 15 years and older) who began treatment in the **quarter that ended 12 months ago.**

- Key indicators related to **TB case detection** are:

  – Proportion of outpatients aged 15 years and older who were identified as TB suspects
  – Proportion of TB suspects whose sputum was tested
  – Proportion of TB suspects tested who were sputum smear-positive.

- Key indicators related to **HIV testing and status of TB patients** are:

  – Proportion of TB patients (any age, any type of TB) who were tested for HIV before or during TB treatment
  – Proportion of HIV-tested TB patients who are HIV-positive
  – Proportion of HIV-positive TB patients who are on CPT.

- Key indicators related to **TB treatment** are:

  – Proportion of new sputum smear-positive TB cases (aged 15 years and older) that converted at 2 or 3 months (**conversion rate**)
  – Proportion of new sputum smear-positive cases (aged 15 years and older) that:

    - were cured
    - completed treatment
    - defaulted
    - were treatment failures
    - died
    - transferred out

    } *treatment outcome indicators*

- Analysis of indicators may involve:
  - comparing the actual proportion achieved to the expected or desired proportion
  - comparing one indicator to other indicators (such as by comparing the proportion of cases that defaulted to the proportion that completed treatment or were cured)
  - comparing results achieved from one quarter to the next.

- To see the health facility's improvement keep a line graph of:
  - the number of TB suspects tested each quarter
  - the number of sputum smear-positive cases detected each quarter.

- The purpose of monitoring is to recognize success and solve problems. It is important to thoroughly describe the problem and investigate its causes before identifying and implementing solutions. Solutions must be appropriate for the causes of a problem.

Self-assessment questions

Answer the self-assessment questions below to check what you have learnt. Then compare your answers to those provided on pages 30–31.

1. Tick the indicators below that are related to TB case detection:

   ___ Proportion of outpatients aged 15 years and older who were identified as TB suspects
   ___ Proportion of TB cases that were cured
   ___ Proportion of TB suspects whose sputum was tested for TB
   ___ Proportion of cases that defaulted
   ___ Proportion of suspects tested who were sputum smear-positive
   ___ Proportion of TB patients who were tested for HIV before or during TB treatment

2. What two registers are used to compile data on TB case detection on *Worksheet 1*?

3. The data needed to calculate indicators related to HIV testing and HIV status of TB patients can be compiled on *Worksheet 2* from the health facility's _____ and from _____ kept for each patient.

4. To measure the proportion of new sputum smear-positive cases in a quarter that converted at 2 or 3 months, it is necessary to wait at least ___ months after the end of the quarter in which they started treatment. Indicators related to treatment outcomes (cure, treatment completed, default) can be measured for the group of patients who began treatment in the quarter ending _____ago.

5. What records are used to compile data on TB treatment on *Worksheet 3*?

6. During a quarter, 120 TB suspects were identified. Of these suspects, 90 had their sputum tested. What is the proportion of TB suspects whose sputum was tested for TB?

Should the health facility be satisfied with this result? Why or why not?

7. During the previous quarter, of 10 TB cases who began treatment at Panola Health Centre, 7 were tested for HIV before or during TB treatment. One of the TB patients was HIV-positive. She has not started CPT. Calculate the following indicators:

_____ *% of TB patients have been tested for HIV*

_____ *% of HIV-tested TB patients are HIV-positive*

_____ *% of HIV-positive TB patients are on CPT*

Should the health facility be satisfied with its performance related to the three indicators related to HIV-testing and HIV status of TB patients?

8. During a quarter at the outpatient department of a hospital, 60 new sputum smear-positive cases were put on treatment. Of these cases, 65% were eventually cured; 10% completed treatment; and 10% defaulted.

What are two possible explanations for the low proportion of cases cured?

Suggest two questions that should be asked to investigate problems and their causes:

9. Before trying to solve a problem, it is important to determine the _____ of the problem.

Now compare your answers with those on the next page. 

Answers to self-assessment questions

If you had difficulty answering any question, turn back and study the section indicated. If you do not understand something, discuss it with a facilitator.

1. *The following indicators should be ticked: (See section 1)*

   Proportion of outpatients aged 15 years and older who were identified as TB suspects
   Proportion of TB suspects whose sputum was tested for TB
   Proportion of TB suspects tested who were sputum smear-positive

2. *Outpatient Register and Register of TB Suspects (See section 1)*

3. *The data needed to calculate indicators related to HIV testing and HIV status of TB patients can be compiled on Worksheet 3 from the health facility's* ***Register of TB Suspects*** *and from* ***TB Treatment Cards*** *kept for each patient. (See section 2)*

4. *To measure the proportion of new sputum smear-positive cases in a quarter that converted at 2 or 3 months, it is necessary to wait at least* ***3*** *months after the end of the quarter in which they started treatment. Indicators related to treatment outcomes (cure, treatment completed, default) can be measured for the group of patients who began treatment in the quarter ending* ***1 year*** *ago. (See section 3)*

5. *Register of TB Suspects and TB Treatment Cards (See section 3)*

6. *90/120 = 0.75 = 75%*

   The health facility should not be satisfied. 100% of TB suspects should have their sputum tested. (See sections 4–5)

7. *7/10 = 0.70 = 70% of TB patients have been tested for HIV. The health facility should not be satisfied with this.*

   1/7 = 0.14 = 14% of HIV-tested TB patients are HIV-positive. The health facility's performance has no impact on the proportion of TB cases who are HIV-positive.

   0/1 = 0 = 0% of HIV-positive TB patients are on CPT. The health facility should not be satisfied because it has failed to put the HIV-positive TB patient on CPT (or to successfully refer the patient for HIV care including CPT). (See sections 4–5)

8. *You may have other answers, but here are some possible explanations:*

   Follow-up sputum examinations are not being done to prove cures.
   Too many cases are defaulting.
   There may be treatment failures, either because of poor compliance or MDR-TB.
   Outcomes are not known for patients who transfer out.
   There were a number of HIV-related deaths.

Possible questions to investigate:

Why are final sputum examinations not being done? (Is it because health workers do not insist on them, or because patients do not cooperate?)

What are the reasons that patients default? (Are they related to lack of convenience, attitudes of health workers, other?)

How many treatment failures were there? Were they caused by poor compliance? Could they have MDR-TB?

Is an effort made to find out the treatment outcomes of transferred patients? If not, why not?

What were the causes of death among TB patients?

(See section 6)

9. *Before trying to solve a problem, it is important to determine the* ***cause(s)*** *of the problem. (See section 6)*

Exercises for Module H:

Monitor TB Case Detection and Treatment

Optional Exercise A
Written Exercise – Recording in the Register of TB Suspects

This is the same as Exercise B of Module B: Detect Cases of TB. If that module has recently been done, participants will skip this exercise. Otherwise, follow the instructions below.

Work individually on this exercise. Ask your facilitator for help if you do not understand what to do.

1. Fold out page 43, a blank *Register of TB Suspects*. Fill in the year (2009) and the name of the health facility (Veld Health Centre).

2. The people below were identified as TB suspects during a two-day period at Veld Health Centre.

    - List each suspect in the *Register of TB Suspects.*
    - Assign each, in sequence, a TB suspect number. The first will be TB suspect number 489.
    - Fill in the rest of the information about each suspect and when the sputum was collected and sent to the laboratory.

    Anna Abouya: She came to the health facility complaining of cough, fever and headache on 13 November. She is female, aged 27 years. Her address is 192 Market Road, Apartment 3, Veld. When asked, she said that she and her husband had been tested for HIV and were negative, and promised to bring the written results. Her first sputum was collected on 13 November; her samples were sent to the laboratory on 15 November.

    Nyore Lori: He came to the health facility on 13 November because he was referred by the HIV clinic for sputum examination. He is HIV-positive and says he has coughed for weeks. He is male, aged 40 years. His address is Bader House, 200 Airport Road, Veld. His first sputum sample was collected on 13 November; his samples were sent to the laboratory on 15 November.

    Kumante Waweru: Identified during routine screening on 14 November with cough lasting more than 2 weeks. He is male, aged 31 years. His address is 21 Middle Street, Raman. His first sputum sample was collected on 14 November. He declined an HIV test. After several days, he had not returned with the second sample. His single sputum sample was sent to the laboratory on 19 November.

    Pooran Singh: He came to the health facility on 14 November because of fever and trouble sleeping. He says that he has night sweats and has lost weight recently. He is male, aged 65 years. His address is 5 President Street, Veld. His first sputum sample was collected on 14 November. He said that he had an HIV

test some years ago and it was negative. He declined another test. His sputum samples were sent to the laboratory on 16 November.

Esna Josephus: She came to the health facility on 14 November for an antenatal visit that included an HIV test. It was negative. Routine screening identified her as having cough for more than 2 weeks. She is female, aged 21 years. She lives at 77 Kingsway Park, Veld. Her first sputum sample was collected on 14 November. Her sputum was sent to the laboratory on 16 November.

3. On the next pages are four *Request for Sputum Smear Microscopy Examination* forms that were returned to the health centre on 22 November with the results of sputum examination for the above TB suspects. The form for TB suspect #491, Kumante Waweru, was not returned.

   For each TB suspect, record in the *Register of TB Suspects* the date the results were received (that is, 22 November). Then record the results of the sputum examination.

REQUEST FOR SPUTUM SMEAR MICROSCOPY EXAMINATION

The completed form with results should be sent promptly by laboratory back to the referring facility

Referring facility[1] Veld Health Centre Date 13 Nov 2009

Name of patient Anna Abouya Age 27 Sex: ☐ M ☑ F

Complete address 192 Market Road, Apt 3

Veld

Reason for sputum smear microscopy examination:

☑ Diagnosis

OR ☐ Follow-up Number of month of treatment: _____ District TB Register No.[2] _____

Name and signature of person requesting examination P. Sele P Sel

1. *Including public or private health facility/providers*
2. *Be sure to enter the patient's District TB Register No. for follow-up of patients on TB treatment*

RESULTS (to be completed in the laboratory)

Laboratory Serial No. 1793

Date collected[3]	Sputum Specimen	Visual appearance[4]	RESULTS				
			NEG	(1–9)	(+)	(++)	(+++)
13/11	1	m/pur	√				
15/11	2	m/pur	√				
	3						

3. *To be completed by the person collecting the sputum*
4. *Blood-stained, muco-purulent, or saliva*

Examined by H. Celfrement

Date 18/11/09 Signature Celf

REQUEST FOR SPUTUM SMEAR MICROSCOPY EXAMINATION

The completed form with results should be sent promptly by laboratory back to the referring facility

Referring facility[1] Veld Health Centre Date 13 Nov 2009

Name of patient Nyore Lori Age 40 Sex: ☑ M ☐ F

Complete address Bader House, 200 Airport Rd

Veld

Reason for sputum smear microscopy examination:

☑ Diagnosis

OR ☐ Follow-up Number of month of treatment: _____ District TB Register No.[2] _____

Name and signature of person requesting examination P. Sele

1. *Including public or private health facility/providers*
2. *Be sure to enter the patient's District TB Register No. for follow-up of patients on TB treatment*

RESULTS (to be completed in the laboratory)

Laboratory Serial No. 1794

Date collected[3]	Sputum Specimen	Visual appearance[4]	RESULTS				
			NEG	(1–9)	(+)	(++)	(+++)
13/11	1	M/PUR	√				
14/11	2			7			
	3						

3. *To be completed by the person collecting the sputum*
4. *Blood-stained, muco-purulent, or saliva*

Examined by H. Celfrement

Date 18/11/09 Signature

REQUEST FOR SPUTUM SMEAR MICROSCOPY EXAMINATION

The completed form with results should be sent promptly by laboratory back to the referring facility

Referring facility[1] Veld Health Centre Date 14 Nov 2009

Name of patient Pooran Singh Age 65 Sex: ☑ M ☐ F

Complete address 5 President Street, Veld

Reason for sputum smear microscopy examination:

☑ Diagnosis

OR ☐ Follow-up Number of month of treatment: _____ District TB Register No.[2] _____

Name and signature of person requesting examination P. Sele

1. *Including public or private health facility/providers*
2. *Be sure to enter the patient's District TB Register No. for follow-up of patients on TB treatment*

RESULTS (to be completed in the laboratory)

Laboratory Serial No. 1807

Date collected[3]	Sputum Specimen	Visual appearance[4]	RESULTS				
			NEG	(1–9)	(+)	(++)	(+++)
14/11	1	M/pur	√				
15/11	2	M/pur	√				
	3						

3. *To be completed by the person collecting the sputum*
4. *Blood-stained, muco-purulent, or saliva*

Examined by H. Celfrement

Date 20/11/09 Signature

REQUEST FOR SPUTUM SMEAR MICROSCOPY EXAMINATION

The completed form with results should be sent promptly by laboratory back to the referring facility

Referring facility[1] Veld Health Centre Date 14 Nov 2009

Name of patient Esna Josephus Age 21 Sex: ☐ M ☑ F

Complete address 77 Kingsway Park

Veld

Reason for sputum smear microscopy examination:

☑ Diagnosis

OR ☐ Follow-up Number of month of treatment: _____ District TB Register No.[2] _____

Name and signature of person requesting examination P. Sele

1. *Including public or private health facility/providers*
2. *Be sure to enter the patient's District TB Register No. for follow-up of patients on TB treatment*

RESULTS (to be completed in the laboratory)

Laboratory Serial No. 1808

Date collected[3]	Sputum Specimen	Visual appearance[4]	RESULTS				
			NEG	(1–9)	(+)	(++)	(+++)
14/11	1	M/pur				√	
16/11	2	M/pur			√		
	3						

3. *To be completed by the person collecting the sputum*
4. *Blood-stained, muco-purulent, or saliva*

Examined by H. Celfrement

Date 20/11/09 Signature

4. Beside each TB suspect's name listed below, write the next action that you should take for the TB suspect (for example, informing the patient and opening a *TB Treatment Card*, or referring the patient to a clinician for assessment). Base your answer on laboratory results and other information given.

   - For Anna Abouya: (She is no longer coughing and feels quite well.)

   - For Nyore Lori:

   - For Kumante Waweru:

   - For Pooran Singh: (He is still coughing and does not look well.)

   - For Esna Josephus:

When you have finished this exercise, please discuss your answers with a facilitator.

Then GO BACK to page 5, section 1, and read until the next stop sign.

Year _____

REGISTER OF TB SUSPECTS

Facility _____

Date (dd/mm)	TB suspect number	Name of TB suspect	Age		Complete address	Result of HIV test *	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations			TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
			M	F						1	2	3		

***** (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done / unknown. Documented evidence of HIV test performed during or before TB treatment is reported here.

Exercise B

Written Exercise – Compiling data related to case detection

In this exercise, you will practise compiling general outpatient data and data from a *Register of TB Suspects* onto *Worksheet 1*.

1. Fold out *Worksheet 1* on page 55. You will complete this worksheet for Nikobo Health Centre.

2. Use the information below to record the quarter and complete step 1a of the worksheet:

    - The first quarter of 2009 has just ended. The dates in that quarter were: 1 January–31 March 2009.

    – Tally sheets kept at Nikobo Health Centre show that there were 3000 outpatients aged 15 years and older during the quarter.

3. Following are eight pages from a *Register of TB Suspects* for the same quarter. Use the pages from the *Register of TB Suspects* to complete the rest of *Worksheet 1*. Begin by marking the beginning and ending dates of the quarter.

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
2 Jan	1	Chris Mbeya	48		4 Ramalyn Road, Nikobo	Neg	2-1	4-1	7-1	neg	neg			
2-1	2	Varma Knallyo		34	10 Yalta Road, Emeru Village	Neg	2-1	4-1	7-1	neg	neg			
3-1	3	Ella Pneuya		19	by newstand, Charko Rd, Nikobo	ND	3-1	4-1	7-1	neg	neg			
5-1	4	Joseph Pudro	24		24 Market Street, Nikobo	Neg	5-1	7-1	9-1	neg	neg			
5-1	5	Cecile Junga		40	Rim Road, Kangetu	Neg	5-1	7-1	9-1	neg	neg			
7-1	6	Alia Mindalo		31	28 Long Street, Nikobo	ND	7-1	9-1	11-1	neg	neg			
7-1	7	Salim Dubaro	44		86 Ramalyn Road, Nikobo	Neg	7-1	9-1	11-1	+	++		15-1	
8-1	8	Toni Bundri	38		6 Ramalyn Road, Nikobo	Neg	8-1	9-1	11-1	neg	neg			
9-1	9	Lucy Aramban		27	Rim Rd, Kangetu, near flower shop	Neg	9-1	11-1	14-1	neg	neg			
9-1	10	Arman Kwanob	41		Rupana Road, Malari	Neg	9-1	11-1	14-1	neg	neg			
10-1	11	Malina Nkindo		22	over grocery, 48 Charko Rd, Nikobo	ND	10-1	11-1	14-1	neg	neg			
10-1	12	Wambui Saguka		39	32 Main Street, Nikobo	ND	10-1	14-1	16-1	neg				
12-1	13	Ramesha Wundamo	24		11 Tugo Road, Nikobo	Neg	12-1	16-1	21-1	neg				
14-1	14	John Butswali	49		30 Wander Road, Kangetu	Neg	14-1	16-1	21-1	neg	neg			
14-1	15	Joshua Nkonge	44		42 Main Street, Nikobo	Neg	14-1	16-1	21-1	neg	neg			
14-1	16	Christina Karnga		32	12 Yalta Road, Emeru Village	ND								
15-1	17	Joshua Karnga	14		12 Yalta Road, Emeru Village	**Pos**	15-1	16-1	21-1	neg	neg		26-1	EP TB (pleurisy)
15-1	18	Mary Karimi		24	Rupana Road, Malari	Neg	15-1	16-1	21-1	neg	neg			
16-1	19	Chris Mwala	46		18 Long Street, Nikobo	ND	16-1	18-1	21-1	neg				
16-1	20	Salima Kunga		36	56 Market Circle, Parmu	ND	16-1	21-1	23-1	neg	neg			

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
17-1	21	Joseph Yamta	54		15 Station Square, Nikobo	Neg	17-1	18-1	21-1	+++	+++		24-1	
17-1	22	Cristal Mwenda		47	38 Main Street, Nikobo	Neg	17-1	18-1	21-1	neg	neg			
17-1	23	Abdullah Mbayo	28		72 Long Street, Nikobo	neg	17-1	21-1	23-1	neg	neg			
17-1	24	Mohammed Arata	58		24 Rumolo Road, Emeru	ND	17-1	21-1	23-1	neg	neg			
19-1	25	Yasser Mereno	49		46 Ugana Road, Malari	ND	19-1	23-1	25-1	neg				
19-1	26	Christina Koffi		57	10 Centre Street, Parmu	Neg	19-1	21-1	23-1	neg	neg			
19-1	27	John Nusuyu	40		18 Centre Street, Parmu	ND	19-1	21-1	23-1	neg	neg			
21-1	28	Elizabeth None		21	450 Charko Road, Nikobo									
21-1	29	Mohammed Mbeya	34		over tea shop, Market Circle, Parmu	neg	21-1	23-1	25-1	neg	neg			
21-1	30	Sebu Kwanda	40		71 Tugo Road,Nikobo	ND	21-1	23-1	25-1	neg	neg			
22-1	31	Anna Koffi		30	10 Centre Street, Parmu	ND	22-1	25-1	28-1	neg				
22-1	32	Paul Nkonge	38		44 Main Street, Nikobo	neg	22-1	23-1	25-1	neg	neg			
22-1	33	Angelina Kwari		62	8 Inenya Road, Kangetu	ND	22-1	25-1	28-1	neg	neg			
23-1	34	Ramesh Rambuku	45		11 Wander Road, Kangetu	**Pos**	23-1	25-1	28-1	neg	+		1-2	TBP (Xray)
23-1	35	Jane Mwala		38	18 Long Street, Nikobo	ND	23-1	25-1	28-1	neg	neg			
24-1	36	Anthony Mbeya	18		32 Yalta Road, Emeru	neg	24-1	25-1	28-1	neg	neg			
24-1	37	Omar Nasser	68		30 Yalta Road, Emeru	neg	24-1	28-1	30-1	neg	neg			
26-1	38	Mary Mwarecki		39	20 Station Square, Nikobo	neg	26-1	28-1	30-1	neg				
26-1	39	Anna Nkonge		60	44 Main Street, Nikobo	neg	26-1	30-1	1-2	neg				
28-1	40	Mohammed Nkone	56		10 Tugo Road, Nikobo	ND								

Exercise B

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
28-1	41	Anne Kofti		43	End of Bicycle Lane, Malari	neg	28-1	30-1	1-2	neg	neg			
29-1	42	John Mwarena	42		56 Third Street, Parmu	neg	29-1	30-1	1-2	neg	neg		10-2	S-neg PTB
29-1	43	Adul Kwandullah	40		76 Charko Road, Nikobo	neg	29-1	30-1	1-2	neg	neg			
30-1	44	Salima Nkone		50	10 Tugo Road, Nikobo	neg	30-1	1-2	4-2	neg	neg			
30-1	45	Christina Karimi		49	Rupana Road, Malari	ND	30-1	4-2	6-2	neg				
31-1	46	Peter Patel	33		12 Centre Street, Parmu	neg	31-1	4-2	6-2	neg				
31-1	47	Indira Patel		67	12 Centre Street, Parmu	ND	31-1	1-2	4-2	neg	neg			
2 Feb	48	Joseph Hoda	42		32 Market Street, Nikobo	**Pos**	2 - 2	4-2	6-2	+	++		11-2	
2-2	49	Abdulla Koffi	37		Inenya Road, Kangetu	Neg	2-2	4-2	6-2	neg	neg			
2-2	50	Anthony Karimi	60		Rupana Road, Malari	ND	2-2	6-2	8-2	neg	neg			
3-2	51	Emma Wambuka		22	Behind Post Office, Kangetu	ND								
3-2	52	Joseph Njeri	47		by cheese shop, Market Cir, Parmu	Neg	2-2	4-2	6-2	neg	neg			
4-2	53	Mary Hoda		7	32 Market Street, Nikobo	neg	4-2	6-2	9-2	neg	neg		7-2	EP-neck lymphatic TB
4-2	54	Pauline Hoda		30	32 Market Street, Nikobo	Neg	4-2	6-2	8-2	neg	neg			
4-2	55	Marc Kawera	39		420 Ramalyn Road, Nikobo									
5-2	56	Thomas Kinyata	52		68 Long Street, Nikobo	ND	5-2	6-2	8-2	neg	neg			
5-2	57	Mary Mareto		50	Bakery, Ugana Road, Malari	neg	5-2	8-2	11-2	neg				
5-2	58	John Wmendwa	29		28 Rumolo Road, Emeru	neg	5-2	6-2	8-2	neg	neg			
6-2	59	Anya Patel		60	10 Centre Street, Parmu	neg	6-2	8-2	11-2	++	++		13-2	
6-2	60	Emma Koffi		30	Inenya Road, Kangetu	neg	6-2	8-2	11-2	neg	neg			

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
7-2	61	Omar Andino	56		18B Station Square, Nikobo	ND	7-2	8-2	11-2		neg			
7-2	62	Paul Kwabari	34		114 Memorial Drive, Nikobo	neg	7-2	11-2	13-2	neg	neg			
7-2	63	Antonina Njeri		52	520 Main Street, Nikobo	neg	7-2	11-2	13-2	neg	neg			
9-2	64	Fati Patel		30	10 Centre Street, Parmu	ND	8-2	11-2	13-2	neg	neg			
9-2	65	Rachael Mwenda		34	212 Market St, upstairs, Nikobo	neg	9-2	11-2	13-2	neg	neg			
11-2	66	Joshua Ayro	43		14 Yalta Road, Emeru	neg	11-2	13-2	15-2	neg	neg			
11-2	67	Paul Njeri	41		by cheese shop, Market Cir, Parmu	ND								
12-2	68	Ayo Patel		33	10 Centre Street, Parmu	neg	12-2	13-2	15-2	+	+++		19-2	
13-2	69	John Andino	38		Rupana Rd,north end, Malari	ND	13-2	15-2	18-2	neg	neg			
14-2	70	Anne Njeri		24	by cheese shop, Market Cir, Parmu	Neg	14-2	15-2	18-2	neg	neg			
14-2	71	Christopher Kwanda	40		Inenya Road West, Kangetu	Neg	14-2	15-2	18-2	neg	neg			
14-2	72	Emma Mbaye		41	Schoolhouse Road, Malari	Neg	14-2	18-2	20-2	neg				
16-2	73	Lola Okrong		37	Creek Path, Kangetu	ND	15-2	18-2	20-2	neg				
16-2	74	Okal Curanda	32		48 Liberation way, Nikobo	Neg	16-2	18-2	20-2	neg				
18-2	75	Anton Nkobi	28		68 Ramalyn Road, Nikobo	Neg	18-2	20-2	22-2	neg	neg			
19-2	76	Ruth karishma		35	82 Market Street, Nikobo	ND	19-2	22-2	25-2	neg				
19-2	77	Fati Pakuka		50	Creek Path, Kangetu	Neg	19-2	20-2	22-2	neg	neg			
19-2	78	Ramesh Arojalal	50		12 Yalta Road, Emeru	**Pos**	19-2	22-2	26-2	neg	++		4-3	
20-2	79	Mary Swanya		45	88 Tugo Road, Nikobo	ND	20-2	22-2	26-2	neg	neg			
21-2	80	Kala Nkuka		23	748 Long Street, Nikobo	neg	21-2	22-2	26-2	+	+++		4-3	Moved -Bulawayo HC

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
23-2	81	Anthony Twanda	33		65 Charko Rd, Nikobo	Neg	23-2	26-2	27-2	neg				
23-2	82	Cecile Wrang		28	111B Tugo Road, Nikobo	Neg	23-2	26-2	27-2	neg	neg			
23-2	83	Teewa Woffi		40	River Settlement, Row 4, Nikobo	ND	23-2	26-2	27-2	neg				
25-2	83	Wambui Nbaku		35	10 Rumolo Road, Emeru	Neg	25-2	27-2	1-3	neg	neg			
25-2	85	Toni Petaka	19		Schoolhouse Road, Malari	ND	28-2	1-3	4-3	neg				
26-2	86	Paul Lowaka	42		48 Station Square, Nikobo	Neg	26-2	27-2	1-3	neg	neg			
26-2	87	Ella Nkonga		50	12 Fourth Street, Parmu	Neg	26-2	1-3	4-3	neg				
26-2	88	Jun Swandu	36		Split Tree Road, Bornu	ND	26-2	27-2	1-3	+	+			Referred 3-3 to Bornu HC
27-2	89	Nona Wambuki		38	end of Dubano Road, Nikobo	ND	27-2	1-3	4-3	neg	neg			
28-2	90	Matthew Mahon	34		behind Government house, Nikobo	ND	28-2	1-3	4-3	neg	neg			
28-2	91	Johanna Karone		25	520 Liberation Way, Nikobo	Neg	28-2	1-3	4-3	neg	neg		12-3	S-neg PTB
2 Mar	92	Angelina Kwari		62	44 High Street, Nikobo	Neg	2-3	4-3	6-3	neg				
2-3	93	Thomas Rundako	38		240 Memorial Drive, Nikobo	Neg	2-3	4-3	6-3	neg	neg			
2-3	94	Koling Nkuna		39	6 Centre Street, Parmu	ND	2-3	4-3	6-3	neg				
2-3	95	Nana Korba		18	411 Market St, Nikobo	POS	2-3	4-3	6-3	+	++		7-3	
4-3	96	Peter Swalno	27		15 Rim Road, Kangetu	ND	5-3	8-3	11-3	neg				
4-3	97	Jean Sinalon		30	98 Ramalyn Road, Nikobo	Neg	4-3	6-3	8-3	neg	neg			
5-3	98	John Gorenta	43		River Settlement, Row 6, Nikobo	Neg	5-3	6-3	8-3	neg	neg			
5-3	99	Marta Kumbo		46	80 Long Street, Nikobo	Neg	5-3	8-3	11-3	neg				
5-3	100	Esna Josephus		40	Main Street at bus term, Nikobo	ND	5-3	6-3	8-3	neg	neg			

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
6-3	101	Florence Corlei		21	62 Yalta Road, Emeru	ND								
6-3	102	Amir Khan	42		11 College Street, Nikobo	Neg	6-3	8-3	11-3	neg	neg			
7-3	103	Asma Elsony	51		Circle St. coffee house, Nikobo	neg	7-3	8-3	11-3	neg	neg			
7-3	104	Vanesia Dutoit		40	80 High Street, Nikobo	Neg	7-3	8-3	11-3	neg	neg			
7-3	105	Hatim Haseeb	39		52 Cross Street, Emeru	Neg	7-3	8-3	11-3	neg	neg			
9-3	106	Kamau Morefu	34		32 Wander Road, Kangetu	ND	8-3	11-3	18-3	neg	neg			
9-3	107	Stella Machu		32	16 New Lane, Parmu	POS	11-3	13-3	18-3	neg	neg		24-3	PTB (X-ray)
11-3	108	Thomas Machu	34		16 New Lane, Parmu	POS	11-3	13-3	18-3	neg	neg		24-3	PTB (X-ray)
11-3	109	Jama Salu	22		River Settlement, Row 2, Nikobo	neg	11-3	13-3	18-3	+	++		21-3	
11-3	110	Nyore Ria	45		Auto shop, Main Street, Nikobo	ND								
11-3	111	Margaret Masinda		29	72 Cemetery Road, Nikobo	ND	11-3	13-3	18-3	neg	neg			
12-3	112	Farah Simba	32		by tobacco shop, Rim Rd, Kangetu	neg	12-3	15-3	18-3	neg				
12-3	113	Marian Simba		30	by tobacco shop, Rim Rd, Kangetu	ND	12-3	15-3	18-3	neg				
13-3	114	Louisa Carol		42	28 Old Fort Road, Parmu	Neg	13-3	15-3	18-3	neg				
13-3	115	Ismail Fatua	62		Village Way, Malari	ND	13-3	15-3	18-3	neg	neg			
14-3	116	Kamante Masunga	30		28 River Street, Nikobo	Neg	15-3	18-3	20-3	+++	+++		23-3	
14-3	117	Esa Ngore	36		Bicycle Lane, Malari	Neg	14-3	15-3	18-3	neg	neg			
14-3	118	Margaret Naidoo		61	15 Town Park, Nikobo	ND	15-3	18-3	20-3	neg	neg			
16-3	119	Lulu Ngufu		28	Station Square Newstand, Nikobo	Neg	15-3	18-3	20-3	neg				
16-3	120	Bernice Willems		52	90 Tower Road, Nikobo									

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
16-3	121	Annalene Retia		26	27 Garden Street, Nikobo	Neg	16-3	18-3	20-3	neg	neg			
16-3	122	Joseph Waweru	42		112 South Street, Nikobo	Neg	16-3	18-3	20-3	neg	neg			
18-3	123	Sakib Wamai	32		60 Yalta Road, Emeru	Neg	18-3	20-3	22-3	neg	neg			
18-3	124	Delip Singh	20		48 High Street, Nikobo	ND	18-3	20-3	22-3	neg				
18-3	125	Pooran Singh	18		48 High Street, Nikobo	Neg	18-3	20-3	22-3	neg	neg			
18-3	126	Jana kanyagga		30	Cross Street Grocery, Emeru	ND	18-3	20-3	22-3	neg				
19-3	127	Annzita Numari		44	Inenya Road Bakery, Kangetu	Neg	19-3	22-3	25-3	neg	neg			
20-3	128	Opu Kaninu	34		4 Ugana Road, Malari	ND	20-3	22-3	25-3	neg	neg			
21-3	129	Panir Wamai	18		60 Yalta Road, Emeru	neg	21-3	25-3	27-3	neg			31-3	PTB (X-ray)
21-3	130	Mariamo Rohkal		38	98 West Street, Nikobo	ND	21-3	22-3	25-3	neg	neg			
21-3	131	Carolina Corlei		43	62 Yalta Road, Emeru	ND	22-3	25-3	27-3	neg	neg			
23-3	132	James Corlei	46		62 Yalta Road, Emeru	Neg	22-3	25-3	27-3	neg				
23-3	133	Kamau Morefu	48		12 Second Street, Parmu	Neg	23-3	25-3	27-3	neg	neg			
23-3	134	Tahmeed Arif	29		56 Circle Street, Nikobo	ND	23-3	25-3	27-3	neg	neg			
23-3	135	Ahad Kaninu	60		4 Ugana Road, Malari	neg	23-3	27-3	29-3	neg				
25-3	136	Ndwetti Lori	31		Malari-Parmu Road Guesthouse	ND	25-3	29-3	1-4	neg				
25-3	137	Vivi larena		62	14 College Street, Nikobo	neg	25-3	27-3	29-3	neg	neg			
26-3	138	Paul Kinanjui	28		33 Main Street, Nikobo	ND	26-3	27-3	29-3	neg	neg			
26-3	139	Rebecca Kinanjui		20	33 Main Street, Nikobo	neg	26-3	29-3	1-4	neg	++		4-4	
26-3	140	Sonia Kaninu		30	4 Ugana Road, Malari	ND	26-3	27-3	29-3	neg	neg			

Year 2009

REGISTER OF TB SUSPECTS

Facility Nikobo Health Centre

Date (dd/mm)	TB suspect number	Name of TB suspect	Age M	Age F	Complete address	Result of HIV test*	Date first sputum collected	Date sputum sent to laboratory	Date results received	Results of sputum examinations 1	2	3	TB Treatment Card opened (record date)	Observations/ Clinician's diagnosis
26-3	141	Elena Faru		43	22 Market St, upstairs, Nikobo	Neg	26-3	27-3	29-3	neg	neg			
27-3	142	Sarina Padma		24	45 East Street, Nikobo	Neg	27-3	29-3	1-4	+	++			
27-3	143	Joseph Abouya	40		142 Tower Road, Nikobo	ND	27-3	29-3	1-4	neg	neg			
27-3	144	Lovely Zida		18	Station Sq., above jeweler, Nikobo	ND	27-3	29-3	1-4	neg	neg			
28-3	145	Rezwan Rasel	32		38 Town Park, Nikobo	Neg	28-3	1-4	5-4	neg				
28-3	146	Sowroy Patel	61		w/ Chan family, Rim Rd, Kangetu	ND	28-3	29-3	1-4	neg	neg			
28-3	147	Kalim Shuva	38		260 Memorial Drive, Nikobo	Neg	28-3	1-4	5-4	neg				
28-3	148	Peter Faru	44		22 Market St., upstairs, Nikobo	ND								
30-3	149	Marian Faru		54	22 Market St, downstairs, Nikobo	ND	30-3	1-4	5-4	neg				
30-3	150	Lucien Jamil	24		High St. Flower shop, NIkobo	Neg	30-3	1-4	5-4	neg	neg			
30-3	151	Diana Faru Mwande		36	82 North Street, Nikobo	ND	30-3	1-4	5-4	neg	neg			
30-3	152	Tomas Mwande	38		82 North Street, Nikobo	Neg	30-3	3-4	5-4	neg	neg			
1 Apr	153	Masud Riat	51		92 Cemetery Road, Nikobo	ND	1-4	3-4	5-4	neg	neg			
1-4	154	Jolie Aleem		21	Basket stall, Market Circle, Parmu	Neg	1-4	5-4	8-4	neg				
2-4	155	Shila Tareef		34	20 Old Fort Way, Parmu	ND	2-4	5-4	8-4	neg	neg			
3-4	156	Mark Msunga	42		Tool Shop, Bicycle Lane, Malari	Neg	3-4	5-4	8-4	neg				
3-4	157	Kalam Arende	20		78 River Street, Nikobo	Neg	3-4	8-4	10-4	++			12-4	
4-4	158	Ria Sanee		31	River Settlement, Row 2, Nikobo	ND	4-4	5-4	8-4	neg	neg			
4-4	159	Ratma Sakib		26	59 Circle Street, Nikobo	Neg	4-4	5-4	8-4	neg	neg			
4-4	160	Mukti Shakur	38		Next to church, Emeru	Neg	4-4	8-4	10-4	neg	neg			

Worksheet 1: Data on TB case detection

Case detection in the previous quarter (the quarter that just ended)

Soon after the end of a quarter, use this worksheet to compile data on TB case detection at the health facility during that quarter. Use the results of this worksheet to calculate indicators related to TB case detection. See *Summary Worksheet A: Indicators to monitor TB case detection and HIV testing.*

Circle the previous quarter: 1 2 3 4 of year: _____

Record the dates included in the previous quarter: _____ –_____

Write answers in the blanks to the left of each step:

1a. _____ Determine the total number of outpatients aged 15 years and older seen for any reason during the quarter. To do this, use whatever health facility records are available.

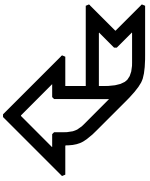
1b. _____ Determine the number of TB suspects aged 15 years and older identified during the quarter. To do this, mark the beginning and ending dates for the quarter in the *Register of TB Suspects*. Then count the entries for suspects aged 15 years and older.*

1c. _____ Determine the number of these TB suspects whose sputum was examined. Do this by counting the number of entries in the column headed "Date sputum sent to laboratory."

1d. _____ Count the number of these TB suspects who had one or more smear-positive results. Do this by looking in the columns headed "Results of sputum examination."

* Be careful not to count any entries for children aged under 15 years. If there were any TB suspects aged under 15 years during the quarter, lightly cross through the entire row for these younger TB suspects so that you do not count them in this step.

When you have finished completing *Worksheet 1*, discuss your answers with a facilitator.



Then GO BACK to page 8, section 2, and read until the next stop sign.

Exercise C

Written Exercise – Compiling data related to HIV testing and HIV status of TB patients

In this exercise, you will practise compiling data from a *Register of TB Suspects* and *TB Treatment Cards* onto *Worksheet 2*.

1. Fold out *Worksheet 2* on page 69. You will complete this worksheet for Nikobo Health Centre.

2. Use the information below to record the quarter on the worksheet:

    - The second quarter of 2009 has recently begun. The dates in the previous quarter were:

      1 January–31 March 2009.

3. To determine the total number of TB patients (any age, any type of TB) who began treatment in the previous quarter (step 2a), look back at the *Register of TB Suspects* for the quarter for the names of all TB patients who began treatment, and then locate the *TB Treatment Cards* for those cases. Also look for the *TB Treatment Cards* for any patients who were referred to your facility to begin treatment.

    Note: The indicators to monitor HIV testing *(Worksheet 2)* are measured for the same quarter as the indicators to monitor TB case detection *(Worksheet 1)*. However, the individuals counted may be different: TB suspects age 15 and older are the focus of *Worksheet 1*, whereas TB patients (any age, any type of TB) are the focus of *Worksheet 2*.

    Step 2a of the worksheet has been done for you as described below:

    The *Register of TB Suspects* (pages 47–54) showed that 19 patients had *TB Treatment Cards* opened (began treatment) in the 1st quarter of 2009. In addition, there was one TB patient who was referred to the Nikobo Health Centre to begin treatment.

    The *TB Treatment Cards* for all of these TB patients were found and are copied on the next 10 pages.

4. Use the *TB Treatment Cards* on the following 10 pages to complete steps 2b–2e of *Worksheet 2*.

Tuberculosis Treatment Card

District TB Register No. D-25

Name: Salim Dubaro

Sex: ☑M ☐F Date of registration in District TB Register: 9 February 2009

Age: 44 Health facility: Nikobo Health Centre

Address: 86 Ramalyn Road, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑Pulmonary ☐Extrapulmonary, specify _____

Type of patient (check one)

☑New ☐Relapse ☐Transfer in ☐Treatment after default ☐Treatment after failure ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑New ☐Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
4	

Cotrimoxazole	ARV	Other

Referral by:

☑Self-referral
☐Community member
☐Public facility
☐Private facility/provider: _____
☐Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	10-1-09	98	++	56
2	24-3-09	693	neg	

TB/HIV		
	Date	Result*
HIV test	15-1-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Jan															✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		13	13		
Feb	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓					20	33		
March	—	✓	✓	✓	Ø	Ø	Ø	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	21	54		
April	✓	✓			—																											2	56		

Tuberculosis Treatment Card

District TB Register No. D-26

Name: Joshua Karnga

Sex: ☑M ☐F Date of registration in District TB Register: 9 Feb 2009

Age: 14 Health facility: Nikobo Health Centre

Address: 12 Yalta Road, Emeru Village

Name / address of treatment supporter (if applicable)

Disease site (check one)

☐Pulmonary ☑Extrapulmonary, specify pleurisy

Type of patient (check one)

☑New ☐Relapse ☐Transfer in ☐Treatment after default ☐Treatment after failure ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑New ☐Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
4	

Cotrimoxazole	ARV	Other
2		

Referral by:

☐Self-referral
☑Community member
☐Public facility
☐Private facility/provider: _____
☐Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	19-1-09	166	neg	55 kg

TB/HIV		
	Date	Result*
HIV test	15-1-09	pos
HIV test		
CPT start	26-1-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Jan																									—	✓	✓	✓	✓	✓	✓	6	6		
Feb	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓	✓	—	✓	✓	Ø	✓	✓	✓	—	✓	✓	✓	Ø	Ø	Ø				19	25		
Mar	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	23	48		
April	✓	✓	✓		—	✓							—																						

Tuberculosis Treatment Card

District TB Register No. D-27

Name: Joseph Yanta

Sex: ☑M ☐F Date of registration in District TB Register: 9 Feb 2009

Age: 54 Health facility: Nikobo Health Centre

Address: 15 Station Square, Nikobo

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

Name / address of treatment supporter (if applicable)

Rahm Tahel, Kunga Manufactoring Co, Nikobo

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	20-1-09	168	+++	45 kg
2	24-3	696	neg	45 kg

TB/HIV		
	Date	Result*
HIV test	17-1-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
JAN																								✓	—	✓	✓	✓	✓	✓	✓	7	7	27/1	25
Feb	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	———	•	✓	—	✓	✓	✓	✓	✓	✓	✓	[illegible]			24	31	25/2	28
March	—	✓	✓	✓	✓	Ø	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	25	56	31/3	28
April																																			

Tuberculosis Treatment Card

District TB Register No. D-28

Name: Ramesh Rambuku

Sex: ☑M ☐F Date of registration in District TB Register: 9 Feb 2009

Age: 45 Health facility: Nikobo Health Centre

Address: 11 Wander Road, Kangetu

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☐ New ☑ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

Name / address of treatment supporter (if applicable)

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	0.75g

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other
2		

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	26-1-09	225	+	49

TB/HIV		
	Date	Result*
HIV test	19-11-08	pos
HIV test		
CPT start	2-2-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓	✓	—	✓	Ø	Ø	✓	✓	[illegible]				20	20		
March	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	✓	Ø	✓	✓	—	✓	✓	24	44		
April	✓	✓	✓	✓	—	✓																													
May																																			

Tuberculosis Treatment Card

District TB Register No. D-49

Name: John Mwarena

Sex: ☑ M ☐ F Date of registration in District TB Register: 9 March 2009

Age: 40 Health facility: Nikobo Health Facility

Address: 56 Third Street, Parmu

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	1-2-09	252	neg	54
2	31-3-09	750	neg	54

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other

TB/HIV		
	Date	Result*
HIV test	10-2-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb										✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓					14	14		
March	—	✓	✓	✓	✓	✓		—	✓	Ø	Ø	✓	✓		—	✓	Ø	✓	✓	Ø		—	✓	✓	Ø	Ø	✓		—	✓	✓	16	30		
April	✓	✓	✓																																

Tuberculosis Treatment Card

District TB Register No. D-50

Name: Navif Hoda

Sex: ☑ M ☐ F Date of registration in District TB Register: 9 March 2009

Age: 32 Health facility: Nikobo Health Centre

Address: 31 Market Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	5-2-09	294	++	40

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other
2		

TB/HIV		
	Date	Result*
HIV test	1-2-09	pos
HIV test		
CPT start	16-2-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb	—							—			✓	✓	✓	✓	—	✓	✓	Ø	Ø	Ø	✓	—	✓	✓	✓	✓	✓	✓				13	13		
March	—	✓	✓	———	•	—	✓		———	•	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	—	✓	✓					25	38		
April	✓	✓	✓	✓	—						—								—							—									

Tuberculosis Treatment Card

District TB Register No. D-51

Name: Mary Hoda

Sex: ☐ M ☑ F Date of registration in District TB Register: 9-March 2009

Age: 7 Health facility: Nikobo H.C.

Address: 31 Market Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☐ Pulmonary ☑ Extrapulmonary, specify neck, lymphatic TB

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
1	

Referral by:

☐ Self-referral
☐ Community member
☑ Public facility
☐ Private facility/provider:
☐ Other, specify:

Cotrimoxazole	ARV	Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	6-2-09	297	neg	21

TB/HIV		
	Date	Result*
HIV test	9-20-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb	—							—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		[redacted]				15	15		
March	—	✓	✓	✓	✓	✓		—	———				✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓		22	37		
April	✓	✓	✓		—	✓																													

Tuberculosis Treatment Card

District TB Register No. D-52

Name: Ania Patel

Sex: ☐ M ☑ F Date of registration in District TB Register: 9 March 2009

Age: 60 Health facility: Nikobo Health Centre

Address: 10 Centre Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
2	

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider:
☐ Other, specify:

Cotrimoxazole	ARV	Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	10-2-09	360	++	38 kg

TB/HIV		
	Date	Result*
HIV test	13-2-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb													✓		—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	[redacted]				13	13		
March	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	Ø	Ø	Ø	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	Ø	—	✓	✓		22	35		
April	✓	Ø	Ø		—																														

Tuberculosis Treatment Card

District TB Register No. D-53

Name: Di Jon Muster

Sex: ☑ M ☐ F Date of registration in District TB Register: 9 March 2009

Age: 24 Health facility: Nikobo Health Centre

Address: 63 Market Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Referral by:

☐ Self-referral
☐ Community member
☐ Public facility
☑ Private facility/provider: Dr Wang, Borno Hosp
☐ Other, specify:

Cotrimoxazole	ARV morning	ARV evening	Other
allergic to sulfas	(d4T-3TC)	(d4T-3TC)EFV	

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	10-2-09	369	neg	50 kg

TB/HIV		
	Date	Result*
HIV test	15-4-08	Pos
HIV test		
CPT start	(stopped)	
ART start	9-9-08	

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb																✓	✓	✓	✓	✓	Ø	—	✓	✓	✓	✓	✓	Ø	[redacted]			10	10		
March	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	Ø	—	✓	✓	✓	✓	✓	✓	—	✓	✓	25	35		
April	✓	✓	✓	✓	—	✓						—							—						—					[redacted]					

Tuberculosis Treatment Card

District TB Register No. D-54

Name: Ayo Patel

Sex: ☐ M ☑ F Date of registration in District TB Register: 9 March 2009

Age: 33 Health facility: Nikobo Health Centre

Address: 10 Centre Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify

Type of patient (check one)

☐ New ☐ Relapse ☐ Transfer in ☑ Treatment after default ☐ Treatment after failure ☐ Other

1. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	0.75g

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider:
☐ Other, specify:

Cotrimoxazole	ARV	Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	14-2-09	406	+++	47

TB/HIV		
	Date	Result*
HIV test	12-2-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Feb																			✓	✓	✓	—	✓	✓	✓	✓	✓	✓	[redacted]			9	9		
March	—	✓	✓	Ø	✓	✓	✓	—	✓	✓	✓	Ø	Ø	Ø	—	✓	✓	✓	✓	✓	Ø	—	✓	✓	✓	✓	✓	Ø	—	✓	✓	20	29		
April	✓	Ø	Ø		—							—							—							—					[redacted]					

Tuberculosis Treatment Card

District TB Register No. D-55

Name: Razi Arojalal

Sex: ☑ M ☐ F Date of registration in District TB Register: 9 March 2009

Age: 50 Health facility: Nikobo Health Centre

Address: 12 Yalta Rd, Emeru

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Referral by:

☐ Self-referral
☐ Community member
☑ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other
2	morning (d4T-3TC) evening (d4T-3TC)EFV	

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	24-2-09	460	++	51 kg

TB/HIV		
	Date	Result*
HIV test	25-10-08	Pos
HIV test		
CPT start	20-11-08	
ART start	15-12-08	

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given
March	—			✓	✓	✓		—	✓	✓	✓	✓	Ø	Ø	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	Ø	—	✓	✓	20	20
April	✓	✓	✓	✓	—							—							—							—							

Drugs given to supporter	
Date	Doses

Tuberculosis Treatment Card

District TB Register No. D-56

Name: Kala Nkuka

Sex: ☐ M ☑ F Date of registration in District TB Register: 9 March 2009

Age: 23 Health facility: Nikobo Health Centre

Address: 748 Long Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☐ New ☐ Relapse ☐ Transfer in ☑ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
4	1g

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Cotrimoxazole	ARV	Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	24-2-09	464	+++	55

TB/HIV		
	Date	Result*
HIV test	21-2-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given
March				✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓		—	✓	Ø	Ø	✓	✓		—	✓	✓	18	18
April																																	

Drugs given to supporter	
Date	Doses

Tuberculosis Treatment Card

District TB Register No. _____

Name: Johanna Parone

Sex: ☐ M ☑ F Date of registration in District TB Register: _____

Age: 25 Health facility: Nikobo Health Centre

Address: 520 Liberation Way, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	3-3-09	524	neg	50

TB/HIV		
	Date	Result*
HIV test	28-2-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
March	—						—					✓	✓	✓	—	—	—	—	—	—	•	—	✓	✓	✓	✓	✓	✓	—	✓	✓	17	17		
April	✓	✓	✓	✓	—							—							—							—									
May																																			
June																																			

Tuberculosis Treatment Card

District TB Register No. _____

Name: Nana Zorba

Sex: ☐ M ☑ F Date of registration in District TB Register: _____

Age: 18 Health facility: Nikobo Health Centre

Address: 411 Market Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☐ New ☑ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
2	0.50g

Cotrimoxazole	ARV	Other
2		

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	5-3-09	541	++	38 kg

TB/HIV		
	Date	Result*
HIV test	2-3-09	Pos
HIV test		
CPT start	7-3-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
March	—						✓	—	Ø	✓	✓	✓	Ø	Ø	—	✓	✓	✓	✓	✓	✓	—	Ø	Ø	✓	✓	✓	Ø	—	✓	✓	15	15		
April	✓	Ø	✓	✓	—							—							—							—									
May																																			

Tuberculosis Treatment Card

District TB Register No._____

Name: Stella Manchu

Sex: ☐M ☑F Date of registration in District TB Register:_____

Age: 32 Health facility: Nikobo Health Centre

Address: 16 New Lane, Parmu

Name / address of treatment supporter (if applicable)
Celesta Fairly, 20 New Lane, Parmu (pharmacy)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S	Cotrimoxazole	ARV	Other
3		2		

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	17-3-09	637	neg	44

TB/HIV		
	Date	Result*
HIV test	19-12-08	neg
HIV test	9-3-09	pos
CPT start	24-3-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given
March																								✓	✓								
April																																	
May																																	

Drugs given to supporter	
Date	Doses
25-3	26

Tuberculosis Treatment Card

District TB Register No._____

Name: Thomas Manchu

Sex: ☑M ☐F Date of registration in District TB Register:_____

Age: 34 Health facility: Nikobo Health Centre

Address: 16 New Lane, Parmu

Name / address of treatment supporter (if applicable)
Celesta Fairly, 20 New Lane, Parmu (pharmacy)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☐ New ☑ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S	Cotrimoxazole	ARV	Other
3	0.75g	2		

Referral by:

☐ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	17-3-09	642	neg	48

TB/HIV		
	Date	Result*
HIV test	10-12-08	Pos
HIV test		
CPT start	24-03-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given
March																								✓	✓								
April																																	
May																																	

Drugs given to supporter	
Date	Doses
25-3	26

Tuberculosis Treatment Card

District TB Register No._____

Name: Hamama Salu

Sex: ☑ M ☐ F Date of registration in District TB Register:_____

Age: 22 Health facility: Nikobo Health Centre

Address: River Settlement, Row 2, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☐ Self-referral
☐ Community member
☐ Public facility
☑ Private facility/provider: Dr Yang, 771-1608
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	15-3-09	620	++	40

TB/HIV		
	Date	Result*
HIV test	11-3-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
March																					✓	—	✓	Ø	✓	✓	✓	✓	—	✓	Ø	7	7		
April	Ø	✓	✓	✓	—							—							—							—									
May																																			

Tuberculosis Treatment Card

District TB Register No._____

Name: Kamante Masunga

Sex: ☑ M ☐ F Date of registration in District TB Register:_____

Age: 30 Health facility: Nikobo H.C.

Address: 28 River Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
4	

Cotrimoxazole	ARV	Other

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	19-3-09	654	+++	59 kg

TB/HIV		
	Date	Result*
HIV test	14-3-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
March																						—	✓	✓	✓	✓	✓		—	✓	Ø	6	6		
April	Ø	✓	✓	✓	—	✓						—							—							—									
May																																			

Tuberculosis Treatment Card

District TB Register No._____

Name: Panu Wamai

Sex: ☑M ☐F Date of registration in District TB Register:_____

Age: 18 Health facility: Nikobo H.C.

Address: 60 Yalta Road, Emeru

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑Pulmonary ☐Extrapulmonary, specify _____

Type of patient (check one)

☐New ☐Treatment after default
☑Relapse ☐Treatment after failure
☐Transfer in ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐New ☑Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	0.750g

Cotrimoxazole	ARV	Other

Referral by:

☑Self-referral
☐Community member
☐Public facility
☐Private facility/provider:
☐Other, specify:

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	26-3-09	710	neg	52

TB/HIV		
	Date	Result*
HIV test	20-3-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
March																															✓				
April	✓	✓	✓	✓	—							—							—							—									
May																																			

Tuberculosis Treatment Card

District TB Register No._____

Name: Rebeka Kinanjui

Sex: ☐M ☑F Date of registration in District TB Register:_____

Age: 20 Health facility: Nikobo Health Centre

Address: 33 Main Street, Apt 4, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑Pulmonary ☐Extrapulmonary, specify _____

Type of patient (check one)

☐New ☑Treatment after default
☐Relapse ☐Treatment after failure
☐Transfer in ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐New ☑Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	0.750g

Cotrimoxazole	ARV	Other

Referral by:

☐Self-referral
☐Community member
☑Public facility
☐Private facility/provider:
☐Other, specify:

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	31-3-09	749	++	53

TB/HIV		
	Date	Result*
HIV test	26-3-09	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
April				✓	—	✓						—							—							—									
May																																			
June																																			

Worksheet 2: Data on HIV testing

HIV testing in the previous quarter (the quarter that just ended)

Soon after the end of a quarter, use this worksheet to compile data on HIV testing and HIV status of TB patients who began treatment at the health facility during the previous quarter. Use the results of this worksheet to calculate indicators related to HIV testing and HIV status. See *Summary Worksheet A: Indicators to monitor TB case detection and HIV testing.*

Circle the previous quarter: 1 2 3 4 of year: _____

Record the dates included in the previous quarter: _____ – _____
Write answers in the blanks to the left of each step:

2a. Determine the total number of TB patients (any age, any type of TB) who began treatment in the previous quarter.

In the *Register of TB Suspects*, mark the beginning and ending dates of the quarter. For that quarter, look in the column headed "TB treatment card opened." This column should have dates for most TB patients who began treatment during the quarter. Find the *TB Treatment Cards* for all of these patients. (Remember to omit any patient whose *TB Treatment Card* was opened after the quarter ended.)

Also look back in the *Register of TB Suspects* for suspects identified shortly before the quarter began but who began treatment during the quarter. Find the *TB Treatment Cards* for all of these patients.

Also find the *TB Treatment Cards* for any patients referred to your health facility to begin treatment during the quarter.

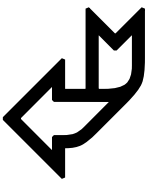
2b. _____ Look at the *TB Treatment Cards* found in step 2a. Count the cards. **This is the number of TB patients who began treatment in the quarter.**

2c. _____ On these *TB Treatment Cards*, look at the box "TB/HIV" to see whether each TB patient was tested for HIV. Count the patients who have an HIV test date and result recorded. **This is the number of TB patients who were HIV-tested before or during TB treatment**.

2d. ____ On these same cards, look at the box "TB/HIV" and count the patients who had a positive HIV test result. **This is the number of HIV-positive TB patients.**

2e. _____ Determine the number of HIV-positive TB patients on CPT. On these same cards (all HIV-positive TB patients), look at the box "TB/HIV" and count the patients who have a date recorded for CPT start. **This is the number of HIV-positive TB patients on CPT.**

When you have finished completing *Worksheet 2*, discuss your answers with a facilitator.



GO BACK to page 10, section 3, and read until the next stop sign.

Exercise D

Written Exercise – Compiling data related to TB treatment

In this exercise, you will practise compiling data on TB treatment from a *Register of TB Suspects* and *TB Treatment Cards* onto *Worksheet 3*.

1. Fold out the copy of *Worksheet 3* on page 79. First you will complete **Part A – Conversion** for Nikobo Health Centre.

2. The quarter that ended 3 months ago was the 4th quarter of 2008 (dates: 1 October–31 December 2008). Circle the quarter and enter the dates in Part A of the worksheet.

3. Steps 3a and 3b of the worksheet have been done and are described below:

   3a. The *Register of TB Suspects* showed that 10 patients had *TB Treatment Cards* opened (were put on treatment) in the 4th quarter of 2008. You found the *TB Treatment Cards* for all of these 10 patients. There were no cards for additional patients referred in to begin treatment during that quarter.

   3b. Looking at the cards for the 10 patients put on treatment, you found that 9 were smear-positive. The other patient was a case of extrapulmonary TB diagnosed by a clinician. You put the card for the extrapulmonary case back in the files. The front sides of the remaining *TB Treatment Cards* (for the 9 smear-positive patients) are shown on the following pages.

4. Using the 9 *TB Treatment Cards* that follow, complete steps 3c, 3d and 3e of *Worksheet 3*.

Tuberculosis Treatment Card

District TB Register No. 312

Name: Paul Msunga

Sex: ☑M ☐F Date of registration in District TB Register: 15 Nov 2008

Age: 26 Health facility: Nikobo Health Centre

Address: 12 Fourth Street, Parmu

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑Pulmonary ☐Extrapulmonary, specify _____

Type of patient (check one)

☑New ☐Relapse ☐Transfer in ☐Treatment after default ☐Treatment after failure ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑New ☐Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☑Self-referral
☐Community member
☐Public facility
☐Private facility/provider: _____
☐Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	11 Oct	1235	++	51
2	20 Dec	1429	neg	53

TB/HIV		
	Date	Result*
HIV test	12 Oct 2008	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Oct'08																	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	13	13		
Nov	✓	Ø	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	——●			✓	✓	—	✓	✓	✓	✓	✓	▒		25	38		
Dec	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓											18	56		

Tuberculosis Treatment Card

District TB Register No. 313

Name: Nyore Alonga

Sex: ☑M ☐F Date of registration in District TB Register: 15 Nov 2008

Age: 21 Health facility: Nikobo Health Centre

Address: 68 Station Square, Nikobo

Name / address of treatment supporter (if applicable)
Lee Misra, 60 Station Sq, Nikobo

Disease site (check one)

☑Pulmonary ☐Extrapulmonary, specify _____

Type of patient (check one)

☑New ☐Relapse ☐Transfer in ☐Treatment after default ☐Treatment after failure ☐Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑New ☐Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other
2		

Referral by:

☐Self-referral
☑Community member
☐Public facility
☐Private facility/provider: _____
☐Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	26-10-08	1279	+++	47
3	26-12-08	1460	+	49
3	1-2-09	45	neg	49

TB/HIV		
	Date	Result*
HIV test	6-6-07	neg
HIV test	3-1-09	pos
CPT start	7-1-09	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Oct																														✓	✓	2	2	30-10	28
Nov	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	▒		26	28	30-11	28
Dec	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	——●		✓	✓	—	✓		26	54		
Jan'09	✓	✓																														2	(56)		

Tuberculosis Treatment Card

District TB Register No. 350

Name: John Masinda

Sex: ☑ M ☐ F Date of registration in District TB Register: 15 Nov 2008

Age: 42 Health facility: Nikobo Health Centre

Address: River Settlement, Row 2, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☐ New ☐ Treatment after default
☑ Relapse ☐ Treatment after failure
☐ Transfer in ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☐ New ☑ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
4	1.0g

Cotrimoxazole	ARV	Other

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	5-11-08	1312	++	58
3	18-2-09	137	neg	60

TB/HIV		
	Date	Result*
HIV test		
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Nov								✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	Ø	Ø	✓	✓	✓	✓	–	✓	✓	✓	✓	✓		18	18		
Dec	✓	–	✓	✓	Ø	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	Ø	✓	✓	✓	✓	✓	–	✓	Ø	✓	✓	✓	✓	–	✓	23	41		
Jan '09	Ø	Ø	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	Ø	24	65		
Feb	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓		–								19	84		

Last dose 5 given 19 January

Tuberculosis Treatment Card

District TB Register No. 351

Name: Salim Mwabunga

Sex: ☑ M ☐ F Date of registration in District TB Register: 15 Nov 2008

Age: 59 Health facility: Nikobo Health Centre

Address: 56A High Street, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Treatment after default
☐ Relapse ☐ Treatment after failure
☐ Transfer in ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	6-11-08	1319	+	52
2	14-1-09	5	neg	54

TB/HIV		
	Date	Result*
HIV test	14-11-08	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Nov											–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓		17	17		
Dec	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	Ø	Ø	✓	✓	✓	–	✓	——•	✓	✓	✓	–	—•		24	41		
Jan '09	—•		✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓															15	56		

Tuberculosis Treatment Card

District TB Register No. 380

Name: Jajona Faru

Sex: ☐M ☑F Date of registration in District TB Register: 14 Dec 2008

Age: 33 Health facility: Nikobo Health Centre

Address: 18 Cemetery Road, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other
2		

Referral by:

☐ Self-referral
☐ Community member
☑ Public facility
☐ Private facility/provider: _____

☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	16-11-08	1355	++	41
2	18-1-09	38	neg	42

TB/HIV		
	Date	Result*
HIV test	16-11-08	Pos
HIV test		
CPT start	20-11-08	
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Day / Month	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	Number doses this month	Total number doses given
Nov																				✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		10	10
Dec	✓	—	✓	✓	✓	✓	✓	✓	—	✓	———			✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	Ø	✓	✓	✓	✓	—	✓	25	35
Jan '09	———		✓	✓	—	✓	✓	✓		✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓								21	56

Drugs given to supporter	
Date	Doses

Tuberculosis Treatment Card

District TB Register No. 381

Name: Marielle Masuda

Sex: ☐M ☑F Date of registration in District TB Register: 14 Dec 2008

Age: 19 Health facility: Nikobo Health Centre

Address: School house Road, by tea stall, Malari

Name / address of treatment supporter (if applicable)
Victoria Janaka, Ugana Rd, Malari

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
2	

Cotrimoxazole	ARV	Other

Referral by:

☑ Self-referral
☐ Community member
☐ Public facility
☐ Private facility/provider: _____

☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	20-11-08	1370	+++	38 kg
2	19-1-09	48	neg	41

TB/HIV		
	Date	Result*
HIV test	27-11-08	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Day / Month	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	Number doses this month	Total number doses given
Nov																						✓	✓	✓	—	✓	✓	✓	✓	✓		8	
Dec	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	26	34
Jan '09	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓		—	✓	✓	✓	✓	✓	✓	—					22	56

Drugs given to supporter	
Date	Doses
22-11	28
22-12	28

Tuberculosis Treatment Card

District TB Register No. 420

Name: Naomi Ngufu

Sex: ☐ M ☑ F Date of registration in District TB Register: 14 Dec 2008

Age: 27 Health facility: Nikobo Health Centre

Address: 42 Town Park, Nikobo

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	29-11-08	1898	++	45
2	5-2-09	72	neg	46

TB/HIV		
	Date	Result*
HIV test	29-11-08	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Dec		—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	——●		✓	✓	✓	✓	—	——●	25	25		
Jan'09	——●		✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	Ø	✓	26	51		
Feb	✓	✓	—	✓	✓	✓																										5	56		

Tuberculosis Treatment Card

District TB Register No. 421

Name: Grace Wanabe

Sex: ☐ M ☑ F Date of registration in District TB Register: 14 Dec 2008

Age: 33 Health facility: Nikobo Health Centre

Address: Rumolo Road (by bakery), Emeru

Name / address of treatment supporter (if applicable)

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	4-12-08	1417	+	39

TB/HIV		
	Date	Result*
HIV test	4-12-08	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (——●) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Dec							✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	Ø	Ø	—	✓	✓	✓	✓	✓	✓	—	Ø	18			
Jan'09	Ø	Ø	Ø	Ø	Ø	—							—							—							—								
Feb																																			

Tuberculosis Treatment Card

District TB Register No. 460

Name: Sanji Ria

Sex: ☐ M ☑ F Date of registration in District TB Register: 11 Jan 2009

Age: 39 Health facility: Nikobo Health Centre

Address: 420 Liberation Way, Nikobo

Name / address of treatment supporter (if applicable)
Cecile Limon, 390 Liberation Way

I. INITIAL PHASE - prescribed regimen and dosages

Regimen: ☑ New ☐ Retreatment

Number of tablets per dose, doses per week, dosage of S:

(RHZE)	S
3	

Cotrimoxazole	ARV	Other

Referral by:

☐ Self-referral
☑ Community member
☐ Public facility
☐ Private facility/provider: _____
☐ Other, specify: _____

Disease site (check one)

☑ Pulmonary ☐ Extrapulmonary, specify _____

Type of patient (check one)

☑ New ☐ Relapse ☐ Transfer in ☐ Treatment after default ☐ Treatment after failure ☐ Other

Sputum smear microscopy				Weight (kg)
Month	Date	Lab No.	Result	
0	19-12-08	1476	++	50
2	18-2-09	149	+	50
3	11-3-09	225	+	51

TB/HIV		
	Date	Result*
HIV test	19-12-08	neg
HIV test		
CPT start		
ART start		

* (Pos) Positive; (Neg) Negative; (I) Discordant/Inconclusive; (ND) Not Done/unknown

Tick appropriate box after the drugs have been administered

Daily intake observed: enter ✓. Periodic supply: enter X on day when drugs are collected and draw a horizontal line (———•) through number of days supplied. Ø = drugs not taken

Month \ Day	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	Number doses this month	Total number doses given	Drugs given to supporter: Date	Drugs given to supporter: Doses
Dec																					✓	✓	—	✓	✓	✓	✓	✓	✓	—	•—	9		30-12	28
Jan 09	—•	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	27	36	21-1	28
Feb	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓	—								20	56		

Next complete **Part B – Treatment Outcomes** of *Worksheet 3* for Nikobo Health Centre. Leave *Worksheet 3* (page 79) folded out and continue to write on it.

Note that Part B is about a **different** group of patients than Part A. Part B is about cases who began treatment in the quarter that ended 12 months ago. Enough time has now passed for these cases to have completed treatment.

Use the following information to complete Part B:

1. The quarter that ended 12 months ago was the 1st quarter of 2008 (dates: 1 January–31 March 2008). Circle the quarter and enter the dates in Part B of the worksheet.

2. You found *TB Treatment Cards* for 10 new smear-positive cases put on treatment in the 1st quarter of 2008. Cards for these cases had been tagged earlier so they could easily be found. Record the number of cases in step 3f.

3. You looked on the back of the *TB Treatment Cards* and found the following treatment outcomes for these 10 cases. Record the outcomes in steps 3g–3l of *Worksheet 3*:

   Cure: 4
   Treatment completed: 2
   Default: 2
   Treatment failure: 0
   Died: 1
   Transfer out: 1

When you have finished completing *Worksheet 3*, discuss your answers with a facilitator.

GO BACK to page 14, section 4, and read until the next stop sign.

Worksheet 3: Data on TB treatment

Use this worksheet to compile data on TB treatment. Use the results to complete the bottom half of the *Summary Worksheet B: Indicators to monitor TB case detection and treatment.*

Part A – Conversion (for the quarter that ended 3 months ago)

Circle the quarter that ended 3 months ago: 1 2 3 4 of year: _____

Record the dates in that quarter: _____ – _____

Find the number of new, sputum smear-positive cases put on treatment in the quarter. Then find the number of these cases that converted at 2 or 3 months. To do this, complete steps 3a–3e below. Write answers in the blanks for 2d and 2e.

3a. In the *Register of TB Suspects*, mark the beginning and ending dates of the quarter. For that quarter, look in the column headed "TB Treatment Card opened?" This column should have dates for most TB patients put on treatment during the quarter. Find the *TB Treatment Cards* for all of these patients. Also find the *TB Treatment Cards* for any patients referred to your health facility to begin treatment during the quarter. (Omit any children aged under 15 years.)

3b. Look at the *TB Treatment Cards* found in step 3a. Put the cards for any extrapulmonary or sputum smear-negative cases back in the files.

3c. On each *TB Treatment Card* remaining in your hand, look in the section titled "Type of Patient" to see whether the case was new. If new, keep the card out. If not new (anything else ticked), put the card back in the files.

3d. _____ Count the cards remaining in your hand. **This is the number of new, sputum smear-positive cases put on treatment in the quarter.** *Important: Mark or tag these cards so that you can easily find them later (to determine treatment outcomes 12 months after starting treatment).*

3e. _____ On these same cards, look at the "Results of sputum examination" in the row for month 2 or 3. Count the cases who had a negative result for month 2 or 3. **This is the number of new smear-positive cases that converted at 2 or 3 months.**

Part B – Treatment outcomes (for the quarter that ended 12 months ago)

Circle the quarter that ended 12 months ago: 1 2 3 4 of year: _____

Record the dates in that quarter: _____–_____

3f. _____ Determine the number of new smear-positive cases put on treatment during the quarter that ended 12 months ago. To do this, find the *TB Treatment Cards* for these cases. *(The cards should have been tagged or marked.)* Count the cards. How many cards are there?

Determine the number of these cases with each outcome. To do this, look at treatment outcomes recorded on the back of the *TB Treatment Cards.* Count the number of cases with each outcome:

3g. _____ Cure 3h. _____ Treatment completed 3i. _____ Default

3j. _____ Treatment failure 3k. _____ Died 3l. _____ Transfer out

Exercise E

Written Exercise – Calculating indicators

In this exercise, you will practise calculating indicators using the *Summary Worksheets*.

1. Fold out the copies of *Summary Worksheets A and B* provided on pages 83 and 85.

2. Complete the *Summary Worksheets* for Nikobo Health Centre:

   - Complete the top part of *Summary Worksheet A* using results from *Worksheet 1*, completed in Exercise B. Remember to record the time frame in the middle column.
   - Complete the bottom part of *Summary Worksheet A* using results from Worksheet 2 completed in Exercise C.
   - Complete *Summary Worksheet B* using results from *Worksheet 3*, completed in Exercise D. Remember to record the time frames in the appropriate column.

3. When you have finished *Summary Worksheets A and B,* answer the following questions or fill in the blanks:

   a) In the previous quarter, how many TB suspects had sputum tested?

   What percentage of TB suspects had their sputum tested?

   b) In the previous quarter, how many TB patients were tested for HIV?

   What percentage of these TB patients are HIV-positive?

   What percentage of the HIV-positive TB patients are on CPT?

   c) In the quarter that ended 3 months ago, _____ new sputum smear-positive cases were put on treatment. Of these cases, ____ converted at 2 or 3 months. This means that _____% of the cases converted.

   d) How many new sputum smear-positive cases were put on treatment in the quarter that ended 12 months ago?

   e) What percentage of cases were cured?

   f) What percentage of cases completed treatment?

g) Sometimes, the percentage cured plus the percentage that completed treatment are added together as an indicator of "treatment success." For Nikobo, what is the percentage cured plus the percentage that completed treatment?

h) What percentage defaulted?

When you have finished this exercise, discuss your answers with a facilitator.

GO BACK to page 17, section 5, and read until the next stop sign.

Summary Worksheet A: Indicators to monitor TB case detection and HIV testing

To monitor:	Measure these indicators:	Record time frame:[a]	How to calculate (numerator / denominator)[b]	$\frac{x}{y}$	Calculate and record result (%) here:
TB case detection *(using data from Register of TB Suspects, compiled on **Worksheet 1**)*	Proportion of outpatients aged 15 years and older who were identified as TB suspects	previous quarter:	Number TB suspects identified (1b) / Total outpatients aged 15 years and older (1a)	_____	
	Proportion of TB suspects whose sputum was examined for TB		Number TB suspects whose sputum was examined (1c) / Number TB suspects identified (1b)	_____	
	Proportion of TB suspects tested who were sputum smear-positive		Number smear-positive cases detected (1d) / Number TB suspects whose sputum was examined (1c)	_____	
HIV testing and status *(Using data from TB Treatment Cards, compiled on **Worksheet 2)***	Proportion of all TB patients who were tested for HIV before or during TB treatment		Number of TB patients tested for HIV (2c) / Number of TB patients (2b)	_____	
	Proportion of all HIV-tested TB patients who are HIV-positive		Number of HIV-positive TB patients (2d) / Number of HIV-tested TB patients (2c)	_____	
	Proportion of all HIV-positive TB patients who are on CPT		Number of HIV-positive TB patients on CPT (2e) / Number of HIV-positive TB patients (2d)	_____	

[a] *The time frame applies to the denominator. The persons in the numerator are part of this group.*
[b] *Step numbers in parentheses tell where to find the numerator and denominator on Worksheet 1, 2 or 3.*

Summary Worksheet B: Indicators to monitor TB treatment

To monitor:	Measure these indicators:	Record time frame:[a]	How to calculate (numerator / denominator)[b]	$\frac{x}{y}$	Calculate and record result (%) here:
TB treatment *(using data from Register of TB Suspects and TB Treatment Cards, compiled on **Worksheet 3**)*	**Conversion rate**: Proportion of new sputum smear-positive TB cases that converted at 2 or 3 months	quarter that ended 3 months ago:	Number new smear-positive cases that converted at 2 or 3 months (3e) Number new smear-positive cases put on treatment (3d)	_____	
	Treatment outcomes: Proportion of new sputum smear-positive cases that: – were cured	quarter that ended 12 months ago:	Number new smear-positive cases cured (3g) Number new smear-positive cases put on treatment (3f)	_____	
	– completed treatment		Number new smear-positive cases that completed treatment (3h) Number new smear-positive cases put on treatment (3f)	_____	
	– defaulted		Number new smear-positive cases that defaulted (3i) Number new smear-positive cases put on treatment (3f)	_____	
	– were a treatment failure		Number new smear-positive cases that failed treatment (3j) Number new smear-positive cases put on treatment (3f)	_____	
	– died		Number new smear-positive cases that died (3k) Number new smear-positive cases put on treatment (3f)	_____	
	– transferred out		Number new smear-positive cases that transferred out (3l) Number new smear-positive cases put on treatment (3f)	_____	

[a] *The time frame applies to the denominator. The persons in the numerator are part of this group.*
[b] *Step numbers in parentheses tell where to find the numerator and denominator on Worksheet 1, 2 or 3.*

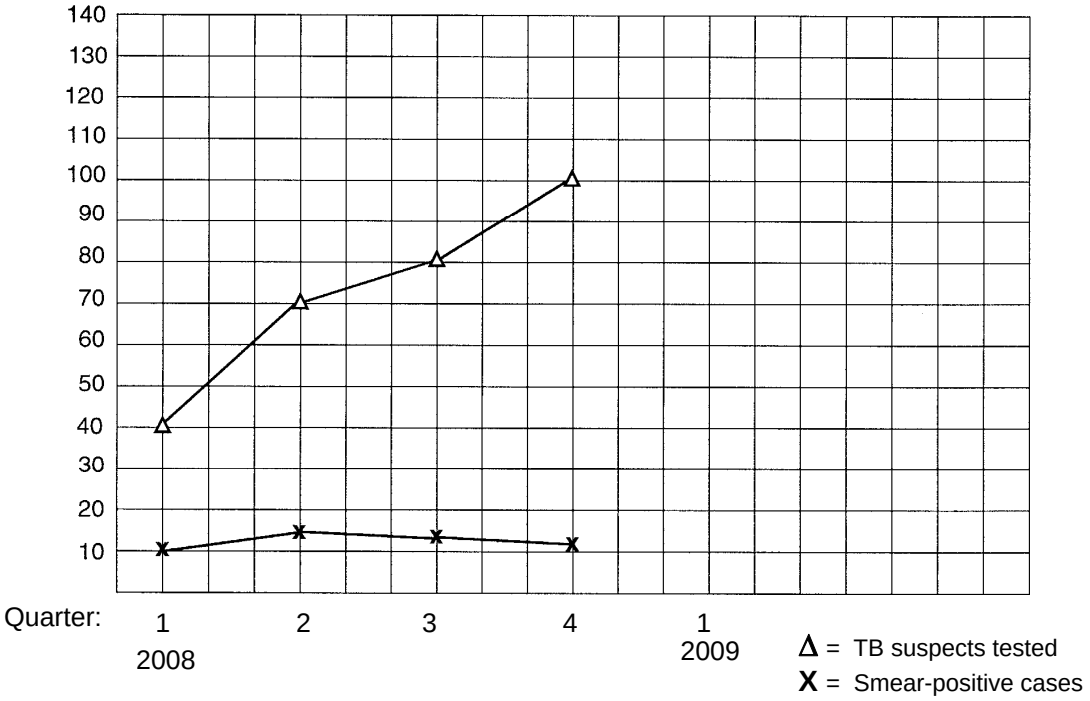
Exercise F

Written Exercise – Graphing data and analysing indicators

In this exercise, you will practise graphing data, interpreting a graph and analysing indicators.

Part A: Graph

The graph below shows the number of TB suspects tested (Δ) (by sputum smear microscopy examination) and smear-positive cases detected (**X**) at Nikobo Health Centre in four consecutive quarters. Refer to the *Summary Worksheet A* that you completed on fold-out page 83 to find the numbers that should be graphed for the first quarter of 2009. Add the points for that quarter to the graph below.



1. Describe how the number of TB suspects tested has changed over the past year and a quarter. For example, has the number of TB suspects tested increased greatly, increased slightly, decreased, stayed the same?

   What are some possible reasons?

2. Describe how the number of sputum smear-positive cases detected has changed over the past year and a quarter. For example, has the number of sputum smear-positive cases detected increased greatly, increased slightly, decreased, stayed the same?

   What are some possible reasons?

Part B: Analysing Indicators

Refer to *Summary Worksheets A and B* from Exercise E and to the table titled "Analysing Indicators" (pages 19–20 of this module) to answer the following questions.

1. In past quarters, Nikobo Health Centre had the following rates for HIV testing of TB patients and HIV-positive patients on CPT. Complete the last row below with data from the *Summary Worksheet A* completed in Exercise E:

Quarters	Proportion of all TB patients who were tested for HIV before or during TB treatment	Proportion of all HIV-positive TB patients who are on CPT
2nd quarter 2008	2 out of 20 = 0.1	0 out of 1 = 0
3rd quarter 2008	10 out of 16 = 0.625	1 out of 4 = 0.25
4th quarter 2008	15 out of 18 = 0.83	5 out of 5 = 1.0
1st quarter 2009		

   In 2008, the facility's nurses were trained to recommend HIV testing to all TB patients and to start CPT for all HIV-positive TB patients. The drug storeroom's supply of co-trimoxazole was increased after the training.

   a) The desired result for both of these measures is 100%. Has HIV testing of TB patients reached the desired level?

      Would you say that the training was successful?

   b) Has the proportion of all HIV-positive patients who are on CPT reached the desired level? Why do you say that?

      If the proportion decreased later in 2009, what might be an explanation?

2. In past quarters, Nikobo Health Centre had the following conversion rates (proportion of new smear-positive cases that converted at 2 or 3 months). Complete the last row below with data from the *Summary Worksheet B* completed in Exercise E:

Quarters in 2008:	Number of cases that converted at 2 or 3 months, out of number of new sputum smear-positive cases put on treatment:	Conversion rate:
1st	4 out of 8 cases	50%
2nd	6 out of 12 cases	50%
3rd	6 out of 10 cases	60%
4th		

a) Has the conversion rate increased or decreased over these quarters?

What could be an explanation for this change?

b) Has the conversion rate reached the desired level?

What could be a possible reason?

3. Data on treatment outcomes are just now available for the first quarter of 2008. (Before that quarter, treatment outcomes were not monitored at Nikobo Health Centre.) Look at the *Summary Worksheet B* and consider the proportion of cases with different treatment outcomes.

a) Which is higher, the proportion of cases that were cured, or the proportion that completed treatment?

What does this suggest about final follow-up sputum exams?

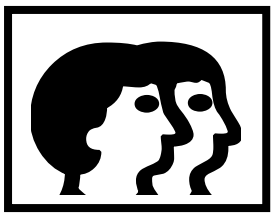
b) Added together, what is the proportion of cases that completed treatment plus the proportion cured?

What is the proportion of cases that defaulted?

c) Given the above proportions, does it seem that improvements may be needed at Nikobo Health Centre? If so, what types of problems should be investigated?

When you have finished this exercise, discuss your answers with a facilitator.

GO BACK to page 21, section 6, and read until the next stop sign.



Exercise G

Group Discussion – Monitoring and problem solving

In this exercise, the group will discuss monitoring and problem solving in relation to their own health facilities.

To prepare for the discussion, think about the questions below:

1. Have you monitored TB case detection, HIV testing of TB patients and TB treatment at your health facility in the past? If so, how? What indicators have you used, if any?

2. What problems have you identified with TB case detection, HIV testing of TB patients, or TB treatment at your health facility?

3. What are the likely causes of these problems? What would be logical solutions?

Tell a facilitator when you are ready for the group discussion.

GO BACK to page 25. Read and work to the end of the module (page 31).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