ARKANGELO ALI ASSOCIATION

# TB HIV Training Manual for Community Health Workers

First Edition, July 2009

## Trainers' Manual

GOSS
MINISTRY OF HEALTH

Investing in our future
The Global Fund
To Fight AIDS, Tuberculosis and Malaria

UNDP

# CONTENTS

# Acronyms

| | |
|---|---|
| AIDS | Acquired immunodeficiency syndrome |
| ARV | Antiretroviral |
| ART | Antiretroviral therapy |
| CB-DOTS | Community-based DOTS |
| CHW | Community health worker |
| CBO | Community-based organization |
| CPT | Co-trimoxazole preventive therapy |
| DOTS | Directly observed treatment short course |
| DTC | Diagnostic testing and counseling |
| EPTB | Extra pulmonary Tuberculosis |
| HIV | Human immunodeficiency virus |
| HCW | Health care worker |
| MDR | Multi-drug resistant TB |
| NGO | Nongovernmental organization |
| PITC | Provider Initiated Testing and Counseling |
| OI | Opportunistic infection |
| PAL | Practical approach to lung health |
| PTB | Pulmonary Tuberculosis |
| SSTLBCP | Southern Sudan TB, Leprosy and Buruli Ulcer Control Program |
| TB | Tuberculosis |
| VCT | Voluntary counseling and testing |
| WHO | World Health Organization |
| XDR | Extensively-drug resistant TB |

# Acknowledgements

This TB and TB HIV training guide for community leaders would not have been possible to develop without the financial and technical support of several partners, particularly the United Nations Development Program (UNDP) and Global Fund for AIDS TB and Malaria. The following people are acknowledged for their invaluable inputs:

- Dr Callixte Minani
- Lina Natarina Sala
- Jane N. Onteri for technical review and proof reading of the document.
- All field officers for Arkangelo Ali Association (AAA)
- Dr. Denis Mali of UNDP/GoSS for his inputs during the pretesting at Gordhim Hospital.

The Ministry of Health Government of Southern Sudan (GoSS) is also acknowledged for their technical support by providing policy documents. This enabled us complete the TB HIV Training guide for Community Leaders in Southern Sudan.

The writer wishes to thank all those who are not mentioned but contributed to the development and finalization of this document.

**Guide on how to use this manual**

This manual will be used as a guide to assist community leaders provide correct information on TB and TB–HIV co-infection to improve the overall health and well-being of members of their community. It provides facts on TB and TB-HIV, as well as information on key messages and basic fact about stigma and discrimination. This manual can also be used as a resource to answer questions on TB and TB-HIV and help community members make decisions to get and complete treatment.

**Target audience**

This manual is for community leaders including political leaders, county and *payam* administrators, religious leaders, business leaders, and all other community leaders. After reading this manual, readers will be able to share information and answer general questions about TB infection and TB–HIV co-infection, promote TB prevention, encourage people to go for TB diagnosis and treatment, enhance adherence to TB treatment, and address issues of stigma/discrimination in their communities.

***Written by:***
Ng'iela O Ronald
P.O. Box 147, Rongo, Kenya
Tel: +254 728 562515
Email: ngura2004@yahoo.com

***Printed by:***
DO-DESIGN & Print Factory
Taveta Court, Taveta Rd,
1st Floor, Room 101
P.O. Box 8089-00100
Nairobi, Kenya
Tel: + 254 (0) 20 2014780
Cell: +254 (0)722 271926
Email: do.designprint@gmail.com
info@do-designandprint.co.ke

***For more information contact***
Arkangelo Ali Association -
AAA / Medical Coordinator
P.O. Box 21102 - 00505
NAIROBI (KENYA)
Tel. + 254 722 672 932 (Kenya) /
Tel. + 249 910 554 044 (Sudan)
Email address:
arkangeloaliassociation52@yahoo.it
Website www.arkangelo.org

# Course overview

Community Health Workers (CHWs) need basic information about tuberculosis (TB) and TB/HIV co-infection, including management of the two diseases, to understand what they are doing and why they are doing it. They also need to know how to perform their assigned tasks.

This course is divided into 12 main sessions covering all the necessary information on both TB and HIV to enable CHWs to carry out their tasks effectively. The TB officer will use this manual to train Community Health Workers for 5 days on TB HIV. Participants will be expected to use the skills and knowledge gained in the implementation of community TB care activities in their respective areas.

## Objectives

At the end of this course participants will be able to:

1. Sensitize the community on TB and available services.
2. Suspect TB.
3. Appropriately refer suspected TB patients to health facilities for diagnosis.
4. Supervise DOTS.
5. Identify, trace, and bring back defaulters for treatment.
6. Give a report of activities undertaken.
7. Understand their role as community health workers (CHWs) in the context of the community tuberculosis (TB) care approach.

## Structure

The three-day workshop is divided into sessions covering the following 12 areas:

1. Introduction, objectives, course overview, and pretest.
2. TB disease, including definition, transmission, risk factors, signs and symptoms, and diagnosis.
3. Management of TB.
4. Defaulter tracing.
5. Nutrition in TB management.
6. TB in special groups.
7. TB/HIV co-infection.
8. Stigma and discrimination.
9. Recording and reporting.
10. The roles of CHWs.
11. Field visits.
12. Posttest and workshop evaluation.

## Training materials and methods

The package for the training course includes:

- Participants' manual.
- Newsprint and markers.
- Name tags.
- Pencils, erasers, and sharpeners.
- Notebooks.
- Ball-point pens.
- Masking tape.
- TB data collection and reporting tools.

## Training methods will include:

- Lectures
- Interactive learning
- Demonstrations
- Group discussions
- Roles plays
- Field visits

# Session 1: Introduction

### Session objectives

- TB able to understand the burden of Tuberculosis (TB) globally and nationally
- To be able to understand the components of Stop TB Partnership

Tuberculosis (TB) continues to cause a large burden of disease in the world, killing an approximately 2 million people a year. Fueled by poverty, poor public health systems, and increasing HIV/AIDS prevalence, TB continues to be a persistent challenge for global health and development.

TB control programs currently emphasize the Direct Observed Therapy Short-Course (DOTS) strategy, promoted by the World Health Organization and the International UNION Against tuberculosis and Lung Disease. The current goals are to achieve 85% treatment success and 70% case detection. Among others, TB global control currently confronts two challenges to meet those goals: diagnosis delay and non-completion of treatment.

Tuberculosis remains a major cause of morbidity and mortality in Sudan where the burden and rates are increasing dramatically over two-fold from 45,221 in 1990 to 70,734 in 2000, and then to 93,808 in 2007. World Health Organization (WHO) estimated Sudan's case detection rate for TB in 2007 to be 76%, 228/100,000 population. This suggests that about 24% of TB patients could still be in the community undetected and may be dying from the disease. The country is ranked 17th among the 22 countries in Eastern Mediterranean Region (EMR). It is estimated that 95 % of all TB cases and 98% percent of all TB death occur in the Southern Sudan.

Routine data collection on TB HIV collaboration indicates that about 15% to 20% of these TB patients are also HIV infected. With increased efforts to improve quality of life for those patients with both TB and HIV, 87% are currently receiving cotrimoxazole, and 26% are receiving antiretroviral. Tuberculosis control is limited in the southern sector of Sudan, covering only 25% of the total population. Southern Sudan has 55% DOTS coverage (the more populous north being 100%). This is the strategy recommended by the World Health Organization (WHO) and the International Union Against Tuberculosis and Lung Disease (IUATLD) and there is need for scale-up.

Although the HIV pandemic is currently thought to be the major reason for the rapid increase in TB cases worldwide, The TB epidemic in Southern Sudan is largely an outgrowth of a long-standing war, which has resulted in poverty, malnutrition, and a large number of displaced populations and refugees. Destruction of health infrastructure, lack of microscopic services, and displacement or lack of health personnel leading to limited access to health care services have also contributed to the epidemic. TB affects all ages, but those most severely affected by the epidemic are the young and economically productive persons in our society, 15 to 44 years old. Although the incidence of HIV infection in TB patients is largely unknown, it is estimated that between 15% and 20% of all TB patients in Southern Sudan are infected with HIV.

The rising number of TB cases being reported, the poor infrastructure in Southern Sudan and the inequitable distribution of resources has increased the urgency and need to explore new interventions to increase access to TB care services. The Community TB Care Initiative has been shown to have potential in improving case finding and case holding without a significant increase in costs. This has resulted to renewed interest in alternative cost-effective approaches to delivery of TB services such as community-based TB care approaches. Experiences in the African region and elsewhere indicate that community participation has the potential to overcome some of the limitations of relying on the public health facilities alone for the delivery of TB services.

Community TB care approaches are proven viable and cost-effective interventions for TB control. Community

participation in health care is an age-old concept. It is part of primary health care (PHC) principle that recognizes that health services should be accessible, cost-effective, tailored to local needs, and characterized by inter-sectoral cooperation with the participation of the people in health services delivery.

In TB control, community involvement in implementation of program activities is also not new. The WHO Expert Committee on Tuberculosis observed in its ninth report (1974) that " it is important that the community should be involved in the program, including leaders, such as village elders, tribal chieftains, or other influential persons, and the welfare organizations including the voluntary agencies and laity." Consequent to that report, WHO has been promoting the integration of national TB control programs within the general health service to increase access to effective TB care. Community involvement in TB means the involvement of people with TB and their communities in the design, implementation, monitoring and evaluation of health promotion, TB preventive and curative services. Home-based care and community-based approaches for management of TB are part of community involvement in TB control.

The WHO has observed that the integration has gone a long way in increasing access to TB services. However, the limited coverage of general public health services has continued to impede accelerated access to TB control. This has partly been due to inadequate health service infrastructure, insufficient decentralization, and inadequate human, material, and financial resources.

TB control programs are currently advocating for inclusion of communities in TB care as one of the approaches to increase access to DOTS in the population to improve program performance.

## The six components of the Stop TB strategy

**1. Pursue high-quality DOTS expansion and enhancement**

- Political commitment with increased and sustained financing.
- Case detection through quality-assured bacteriology.
- Standardized treatment with supervision and patient support.
- An effective drug supply and management system.
- Monitoring and evaluation system, and impact measurement.

**2. Address TB/HIV, MDR-TB, and other challenges**

- Implement collaborative TB/HIV activities.
- Prevent and control multidrug-resistant TB.
- Address prisoners, refugees, and other high-risk groups and special situations.

**3. Contribute to health system strengthening**

- Actively participate in efforts to improve system-wide policy, human resources, financing, management, service delivery, and information systems.
- Share innovations that strengthen systems, including the Practical Approach to Lung Health (PAL).
- Adapt innovations from other fields.

**4. Engage all care providers**

- Public-public and public-private approaches
- International Standards for Tuberculosis Care

**5. Empower people with TB, and communities**

- Advocacy, communication, and social mobilization.
- Community participation in TB care.
- Patients' Charter for Tuberculosis Care.

**6. Enable and promote research**

- Program-based operational research.

Research to develop new diagnostics, drugs, and vaccines.

# Session 2: Tuberculosis disease

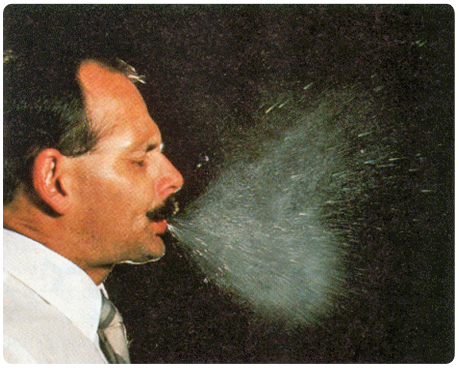
## Session objectives

- ***To ascertain and improve participants' knowledge about TB and its causative agent***
- To harmonize participants' ideas by telling them the correct definition of tuberculosis, what its causes are, and how transmission of the disease occurs.

## Definition, transmission, risk factors, and clinical presentation of TB disease

TB is a chronic infectious disease caused by bacteria known as *Mycobacterium tuberculosis* (and occasionally by *Mycobacterium bovis* that causes TB of the bone [bovine TB]). Tuberculosis disease mostly affects the lungs, though other parts of the body can be infected (except teeth, hair, and nails).

TB is transmitted from a person with TB disease to a healthy person through coughing, sneezing, talking, singing, and laughing. This type of transmission of disease is called droplet infection.



Being infected with TB organisms does not necessarily mean having TB disease. Progression to TB disease depends on the following factors:

- Malnutrition.
- Presence of chronic diseases (e.g., diabetes).
- Use of immunosuppressive drugs (e.g., cancer drugs).
- Age (there is increased risk of getting TB disease in the very young and the very old).
- HIV infection.
- Overcrowding and poverty.
- Low socio-economic status.
- Alcoholism or smoking.

## There are many rumors about TB that are not true. The truth is:

- TB is not hereditary (does not run in the family).
- TB is not sexually transmitted.
- TB is not brought about by witchcraft or by breaking taboos.
- TB is not transmitted from a mother with TB disease (or person in close contact) to her unborn child during pregnancy.
- TB is not caused by trauma/injury to the chest.

## The clinical presentation of TB (what may make you suspect TB) may include:

- Cough lasting two weeks or more.
- Blood in the sputum.
- Chest pain.
- Night sweat.
- Loss of appetite.
- Weight loss.
- Fever.
- Other signs and symptoms, which may include oozing, matted or enlarged lymph nodes as well as breathlessness and fatigue; depend on the site affected by TB disease .

## Diagnosis of TB

### Clinical forms of TB

TB can be classified into two forms:

- TB that affects the LUNGS called Pulmonary TB (PTB).

  - Smear-positive TB or the infectious type.
  - Smear-negative TB.
- TB that occurs OUTSIDE the lungs is called Extra-pulmonary TB (EPTB).

### General diagnosis of TB

- History of family members with TB.
- Physical examinations.
- Laboratory (sputum, biopsy, etc.) examination.
- X-ray (chest, bones, etc) in some instances.

### Diagnosis of TB in children

- Cough of two or more weeks.
- History of contact with active TB.
- Unexplained fever.
- Failure to thrive (poor growth).

### Laboratory diagnosis

- Done by testing sputum three times in a laboratory using a microscope.
- Is inexpensive and takes only two to three days to obtain results.

### Importance of sputum examination

- It confirms the diagnosis.
- It is used to monitor the patient's response to treatment. *Above: Laboratory diagnosis using a microscope*
- It is used to determine treatment outcome(s) and declare whether the patient is cured.

### Method for collecting sputum for testing at the hospital

- Always use the spot, morning, and spot (SMS) process.
- On the first day at the hospital when the person is suspected to have TB, he/she will put sputum in a container and leave it at the laboratory.
- The patient then gets a second container to carry home for collecting early morning sputum before breakfast. This should be delivered to the hospital (laboratory) before 10 a.m.

| | Sample collected | When | Where |
|---|---|---|---|
| Spot (S) | 1st sample | On the spot when TB is suspected | In the health facility |
| Morning (M) | 2nd sample | When patient wakes up the following morning | At home and brings to health facility (or in hospital if patient is admitted in the ward) |
| Spot (S) | 3rd sample | On the spot when the patient brings the second sample to the health facility (at least within 1 hour from the collection of the morning sample if patient is hospitalized) | In the health facility (or in the hospital) |

- The patient receives a third container as he/she delivers the second one to the laboratory. He/she puts another sputum sample into this container and gives it back to the laboratory. The patient then waits for the laboratory results, which should be available before this second day is over.
- Remember, this only takes **two days** and is absolutely **free**.
-

### Other key diagnostic points

- If smears are negative, other investigations could be considered (e.g., chest x-ray).
- Chest x-ray in diagnosis of pulmonary TB is unreliable.

### Factors that may delay diagnosis of TB

- Cost.
- Distance to the health centre.
- Stigma.
- Patient's preference for traditional healers and prayers before seeking treatment.
- Barriers in communication between HCWs and clients.
- Ignorance of the facts on TB.

### How to collect sputum safely and avoid infecting oneself: sputum management

TB bacteria are mainly in the lungs of the infected person. Although a sputum test is the most specific for diagnosis, it can be a source of infection to other people. Whether suffering from TB or not, it is good practice not to spit sputum anywhere after a cough. Some ways of preventing the spread of TB through sputum are:

- Use a handkerchief or tissue paper to cover the mouth when coughing and spit the sputum into it. If a tissue paper is used, this can be burnt or thrown into a flush toilet or pit latrine. If a handkerchief is used, this should be washed—preferably with jik, soap, and water, then aired in the sun to dry.
- If sputum accidentally spills on the floor, use jik to clean the area as quickly as possible.
- Use a small, easy-to-carry container with lid to spit sputum in. This can be emptied into a toilet or pit latrine after pouring some jik into the container.
- If transporting sputum, screw the container lid tightly and wrap the container in polythene paper to avoid spillage.
- Collect sputum for testing in a safe place where the patient is alone and in an open place.

Do not contaminate the outside of the container to avoid infecting others. If the case gets contaminated, this should be discarded and a new container obtained.

# Session 3: Management of TB

### Objectives

- Enable participants to understand basics and principles of TB treatment.
- Help CHWs identify common side effects of TB drugs.
- Help participants to be able to advise and refer patients with TB drug side effects.
- Explain the importance of adherence to treatment and the dangers of failure to do so.
- Explain the role of support supervision in ensuring adherence to treatment.

### Treatment of TB in adults and children

TB treatment occurs in two phases: two months of an intensive phase followed by four months of a continuation phase. These drugs are a combination of Rifampicin (R), Isoniazid (H), Pyrazinamide (Z) and Ethambutol (S). The treatment lasts six months.

- Drug dosages are calculated based on the patient's weight and varies from one patient to another.
- In cases of retreatment the continuation phase extends to six months and an injection is used in the intensive phase**. These are cases such as** relapse, treatment failure and those returning after default. The drugs used are a combination of Streptomycin (S), Rifampicin (R), Isoniazid (H), Pyrazinamide (Z) and Ethambutol (E). This treatment lasts 8 months.
- Ethambutol and its combination should be used with caution in children below 13 years of age because of dangers to the eye.

## Side-effects of TB drugs

### Minor side effects

- Gastrointestinal disturbance (nausea, vomit, diarrhea)—caused by Isoniazid. Solution: Promote fluid uptake and continue with treatment.
- Itchy skin—caused by Rifampicin. Solution: Refer symptomatic patients to health facility.
- Red urine—caused by Rifampicin. Solution: Reassure the patient that this is harmless.
- Flu-like syndrome (fever, chills, malaise, headache)—caused by Rifampicin. Solution: Refer to health facility for symptomatic treatment.

### Major side effects

- Jaundice (yellow discoloration of eye, palm, and skin).
- Blurred/poor vision and red/green colorblindness—caused by Ethambutol.
- Shortness of breath—caused by Rifampicin.
- Peripheral neuropathy or numbness (common in HIV co-infected and malnourished)—caused by Isoniazid.

For all major side effects, urgently refer all cases to a health facility.

## Adherence to TB treatment

**Simplified table of treatment.**

| | Phase 1 | Phase 2 | Sputum follow up |
|---|---|---|---|
| New cases smear positive (SMP)<br>Total of 6 months | RHZE for 2 months | RH for 4 months | End of 2, beginning of 5 and beginning of 6 months |
| Retreatment SMP<br>Total of 8 months | SRHZE for 2 months, continue RHZE for 1 more month | RHE for 5 months | End of 3, beginning of 5 and beginning of 8 months |
| New cases smear negative (SMN)<br>Total of 6 months | RHZE for 2 months | RH for 4 months | No follow up sputum.<br>Monitor clinically |

### Importance of adherence to treatment

- Reduce disease transmission.
- Reduce relapses.
- Increase cure rate.
- Reduce defaulter rate.
- Reduce mortality.
- Reduce the emergence of drug resistance (multidrug-resistant strains).

### Support and supervision by treatment supporter (CHW, employer, administrator or family member) to ensure adherence

- Implement directly observed treatment (DOT).
- Involve close relatives to create a suitable home environment for treatment (e.g., psychological and physical support).
- Provide health education to close family members and relatives to create a positive attitude towards the patients and to reduce stigma.
- Ensure access to TB drugs at health facilities.
- Provide information, education, and communication materials in form of pamphlets for patients and relatives to increase adherence.
- Remind patients of follow-up sputum examinations at the second, fifth, and eighth months of treatment.
- Refer TB patients to the health facility for further treatment in case of any complications.
- Ensure proper update of patients' records.
- Provide counseling to patients on TB treatment adherence.

### Game 2. Random box/cards/blindfolding to demonstrate DOT

This game demonstrates the role played by the DOT supporter in guiding TB patients.

### Instructions

Request two volunteers to play the roles of TB patient and TB treatment supporter. In the blindfolding game, requested the "TB patient" to pull out his/her handkerchief. Blindfold the patient with it and request the supporter to walk the patient through the room to disorientate him/her. The supporter randomly picks a paper from the upside-down cards or the box and pins it on his or her own chest. Now let the patient get his/her way out to the door, with the supporter keeping watch not to allow the patient to get hurt. After a few attempts, the supporter blocks the patient's way and the patient bumps into him/her. The patient then removes the blindfold and reads the barrier to completing treatment on the supporter's chest. The patient is given the first chance to try and give possible solutions to the barrier. The treatment supporter gets a second chance to strengthen the solutions given. The group exhaustively discuss possible solutions. The treatment supporter is not merely a treatment observer but gives encouragement, moral support, and advises the patient to avoid being blind to locally available and workable solutions.

## Defaulter tracing

### Objectives

- ***To enable participants understand the terms defaulter and defaulter tracing.***
- To enable participants to understand why patients default and importance of defaulter tracing.
- To enable participants understand the process of defaulter tracing and the people responsible

### Definitions

- **TB patient defaulter—**Any TB patient who misses scheduled appointments twice during the intensive treatment phase or misses the second month's scheduled appointment during continuation.
- **Defaulter tracing of TB patient—**The process of identifying and locating patients who have stopped collecting /taking TB medication against medical advice.

### Possible reasons that make patients default

- Long distance to treatment centers.
- Long duration of treatment.
- Large number of tablets required for treatment (pill burden).
- Adverse effects of TB drugs.
- Lack of adequate health education.
- Lack of support from community, family, and friends.
- Negative attitude of clinic staff towards patients.

### Importance of defaulter tracing

- ***Return patients to treatment.***
- Help patients understand the importance of adherence.
- Reduce emergence of multidrug-resistant strains of TB.
- Reduce transmission and spread of TB, thus helping to control TB.
- Increase cure rate.
- Reduce mortality

### People potentially responsible for defaulter tracing

- Health workers.
- Community health workers (CHWs).
- Village health volunteers
- Family members/community members.
- Administration e.g. county, *payam*, chiefs.

### Defaulter tracing process

- Identify defaulters by:
    1. Checking the appointment card (if not with the patient).
    2. Confirming and getting details from the health facility TB register which includes:
        - α. Name
        - β. Age
        - χ. Sex
        - δ. TB patient's number
        - ε. The time when the patient started treatment
        - ϕ. Physical address
- Trace the patient using the physical address provided.
- Provide health education and counsel the patient on the importance of adherence to TB treatment.
- Refer the traced patient to the health facility.
- Obtain feedback from the health facility on the patient.

### Game 1. The coin and the TB treatment river

This game facilitates discussion among participants about why people might stop taking their TB drugs. The facilitator should use the findings to re-emphasize the importance of completing treatment.

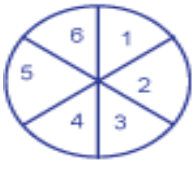
### Instructions

1. Explain that in this game players have to try to cross the TB treatment river using the stepping stones. If they reach the other side, they have completed their treatment and are cured. However, there are many reasons why they might slip off the stones and fail to take their drugs. Explain that a person who stops taking his or her TB treatment is called a defaulter.

2. Draw a circle about 50 cm in diameter on the floor and divide it into six or eight equal wedges. Write the numbers 1 to 6 or 8 in the wedges. Draw a boundary line 2 metres away from the centre of the circle.

3. **Ask**: Can you describe a health worker's typical reaction to people who stop their TB treatment? [Often anger and frustration] **Then ask**: What are all of the reasons you can think of why people with TB might not complete their treatment? Write all of the reasons given by the participants on a flipchart and ask them to select the ten most important ones. Write each reason on a piece of paper and spread them out like stepping stones in a river on the other side of the boundary line. Conversely, let each participant write a reason on an A4-size paper using a felt pen, and then group them to get the ten most important ones.

4. Explain the rules of the game:
    - The start is on one riverbank, the pieces of paper are stepping stones to get across the "TB treatment river," and the finish is on the other riverbank. The objective is to cross the river by walking across the stones.
    - A player stands behind the boundary line, and throws a coin into the circle. If the coin lands inside a wedge, the player moves across that number of stones. If the first throw is out, allow the player to throw again until landing



in a wedge. For subsequent throws, if the coin lands outside the circle, or on a line, then the player has fallen off the stone and is out. A player can avoid falling off if they can think of a way to overcome that reason for missing their treatment. All players whose coin lands outside the circle in the second round should be considered as initial defaulters before start of treatment. Calculate this as a percentage of total players and compare this with the District Tuberculosis and Leprosy Coordinator's records of initial defaulters (either from smear-positive patients in the chronic coughers' registers or acid-fast bacilli registers vs. smear-positive patients on treatment).

- Each player gets one throw per turn and continues throwing until they reach the other side or fall off a stone.

5. Discuss the game with participants:
   - How many people fell off? Is this figure similar to the proportion of people who do not complete their treatment?
   - Which stones did people fall off most? Are these the common reasons in real life? Of the reasons given, for which can the person be blamed? And the health worker? Is it fair for health workers to be angry with people who do not finish their treatment? How can health workers encourage people to complete their treatment? How can friends and family members support people to complete their treatment?
   - How can they help in defaulter tracing? Initial and patients on treatment?

6. Explain that usually only one or two reasons are the person's fault, and the rest are the health service's responsibility. Finish by asking whether it is the patient who should be angry with the health worker, rather than the other way round!

7. Assume all those who failed to be in the circle initially were initial defaulters. A good number of them on second attempt managed to be in the circle with only a small percentage still unable to be in the circle. Use this to explain the importance of tracing and imploring initial defaulters to go back to the health care provider to start treatment. (**Note**: Remember, they may not have grasped the instructions correctly or were discouraged.) The remaining small percentage of initial defaulters is probably unknown in their physical address, deceased, or relocated.

## Drug-resistant TB

### Session objectives

- To understand the new challenges and threats to TB control.
- To understand the reasons why TB patients can develop resistance to drugs.

*Guidelines*

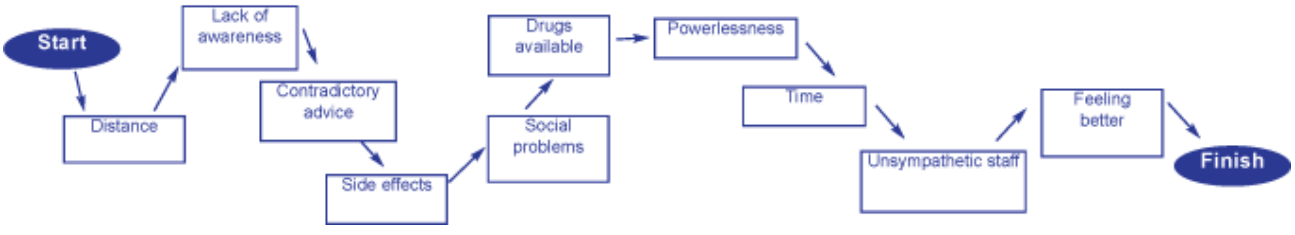
Encourage participants to explore their knowledge and experiences with multidrug-resistant TB (MDR- TB) and extensively drug-resistant TB (XDR TB) by asking the following:

1. What is MDR TB? XDR TB? Review the answers given.

2. How does MDR/XDR TB come about? Use the adherence chapter (session 8) for discussion.

3. Is there treatment for MDR/XDR TB? Explain your answer.

4. How can MDR/XDR TB be prevented? Review



with the participants the dangers of non-adherence to TB treatment.

*Basic information*

- The latest challenge and threat to TB control is the emergence of a resistant type of TB referred to as multidrug-resistant TB. More recently, a worse type has emerged called extremely/extensively drug-resistant TB. These are types of TB that do not respond to normally used TB drugs.
- For one to develop MDR TB it means that DOT was not adhered to. This usually happens when drugs were taken irregularly, in low dosages, or the recommended duration of treatment not completed. Such patients may also infect someone else with MDR TB.
- Treatment for MDR TB is expensive and not readily available. If the MDR TB patient does not take the drugs as required, he or she may develop XDR TB. Treatment for XDR TB is still uncertain, with unpredictable outcomes.
- To treat someone with MDR TB takes two years of daily work, the drugs need to be directly observed and taken five or six days a week. The drugs are toxic.
- To prevent MDR/XDR TB, it is recommended that all TB patients' treatment be supervised to ensure adherence. Patients should also take charge of their own lives and ensure completion of treatment as prescribed.

## The role of nutrition on TB and TB HIV

### Objective

***The objective of this section is to improve participants' knowledge of nutrition and feeding habits necessary for TB patients.***

### Definitions

- **Nutrition**— in simple terms this means eating a balanced diet. Scientifically, nutrition refers to the sum of all processes involved in taking in of nutrients and their assimilation and use for proper body functioning and maintenance of health. The successive stages include; ingestion, digestion, absorption, assimilation and excretion.
- **Malnutrition** – in simple terms this means bad feeding. Scientifically this refers to any disorder of nutrition. It may result from an unbalanced, insufficient or excessive dietary intake or from impaired absorption, assimilation or use of nutrients.

### There are three categories of malnutrition:-

**Over nutrition** - Is a condition of excess nutrient and intake of energy intake over time. It may be regarded as a form of malnutrition when it leads to morbid obesity.

**Under-nutrition** - form of malnutrition caused by an inadequate food/nutrients supply or an inability to use the nutrients.

**Micronutrient deficiencies** - This is a form of malnutrition often referred to as hidden hunger. It is caused by inadequate intake of vitamins, minerals and trace elements

Excessive intake of micronutrients may result in toxicities.
There are two categories of malnutrition; acute malnutrition and chronic Malnutrition

Children can present with both acute and chronic malnutrition.

**Acute malnutrition** is categorized into:-Moderate acute malnutrition (MAM) and Severe Acute Malnutrition (SAM), determined by the patient's degree of wasting .All cases of bi-lateral edema are categorized as SAM. These guidelines specify on what to be done for malnourished cases putting in consideration adults and children.

**Nutrition Care** - This refers to procedures and settings involved in ensuring the proper intake, assimilation and use of food. Different categories of food are:

- **Proteins**—Body-building foods. They are needed for growth and development, repair and control of body systems. Protein is required for repair of

worn-out tissues.

- **Carbohydrates**—these are energy-giving foods. The main function of carbohydrates is to provide the body with energy. Carbohydrates usually provide about half of your body's energy when one is resting or performing a low-level activity.
- **Vitamins**—these protective foods. They protect the body against infections and aid in metabolism of all body systems.
- **Minerals**— these are trace elements required by the body in relatively small amounts thet help in utilization of energy in the body cells. Foods in this group provide essential dietary elements, such as calcium, iron, magnesium, potassium, iodine and zinc.

Over the years countries through NTPs scale up activities focusing mainly on controlling/preventing the spread of tuberculosis and promoting effective treatment. There is often little or no emphasis put on nutrition yet nutrition is an important component in health care. There is good reason to believe that real malnutrition contributes to 60% of both the incidence and severity of tuberculosis (Macallan 1999). The association between TB and malnutrition has long been known. TB makes malnutrition worse. Malnutrition on the other hand weakens immunity, thereby increasing the likelihood that latent TB will develop into active TB. This often lead to nutritional stress and weight loss, thereby lowering body's ability to fight infections (weakening immune functions) and nutritional status. At the same time, the risk of TB relapse increases 3-4 fold in patients who are undernourished.

The wasting found in patients with active TB is usually as a result of factors like decreased appetite, decreased food intake, increased nutrient losses, and altered metabolism. TB affects protein metabolism and nutritional status through multiple mechanisms. With anti-TB drugs, nutritional status usually improves. This may be for various reasons including improved appetite and food intake, reduced energy/nutrient demands, and improved metabolic efficiency. However, most improvements are limited to increases in fat mass with little effect on muscle tissue. Adequate nutrient intake during TB care and recovery is needed to fully restore nutritional status during and following TB treatment and microbial cure.

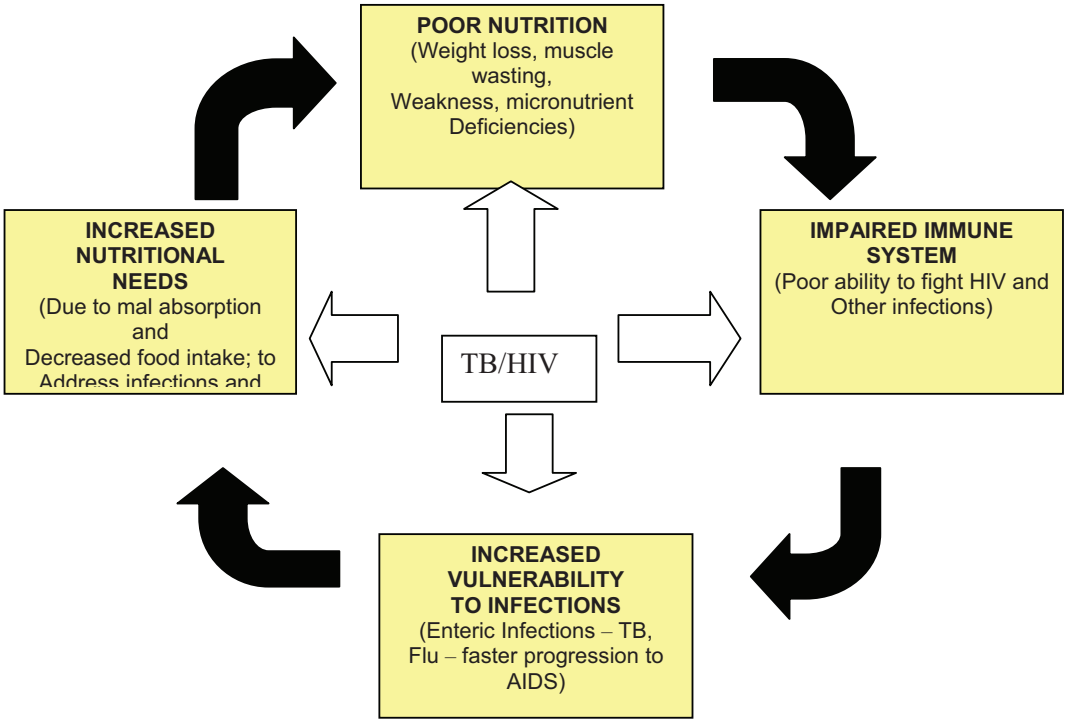
With the rampant household food insecurity in the country, most TB, TB /HIV clients are at risk of defaulting and having inadequate drug efficacy. This may contribute to development of drug resistance. Nutrition interventions play a major role in prevention, control, and promoting adherence. It can also be used as a case holding tool for the clients.

## Locally available foods

Ask participants to use the table below to list locally available foods under each category. The examples in the table have been translated in Dinka language and are meant for ease of the lecture and can be erased for participants of other communities to give their versions

| Proteins | Carbohydrates | Vitamins | Minerals |
|---|---|---|---|
| Fish - Reec | Sorghum – Rap | Okra – Amelak/Weka/Lueka | Salt - Awai |
| Milk – Ca | Maize – Anyuol/mataba/Abeu | Pumpkin – Abutho | |
| Meat – Riing | Bread – Hec | Mangos – Amukubek/ Anyukubek | Liver - Chweny |
| Beans – Ngar/Akuame | Cassava – Mabondo/guanda | Pumpkin leaves - Yiny biath | Tak - Spleen |
| Greengrams – Aguoth | Nyangal | Cow pease - Yiny ngar | |
| Groundnuts – Tom piny | Awou - Millet | | |
| Simsim - Nyuom | | | |

***A diagrammatic illustration of the vicious cycle of nutrition and TB, TB/HIV***



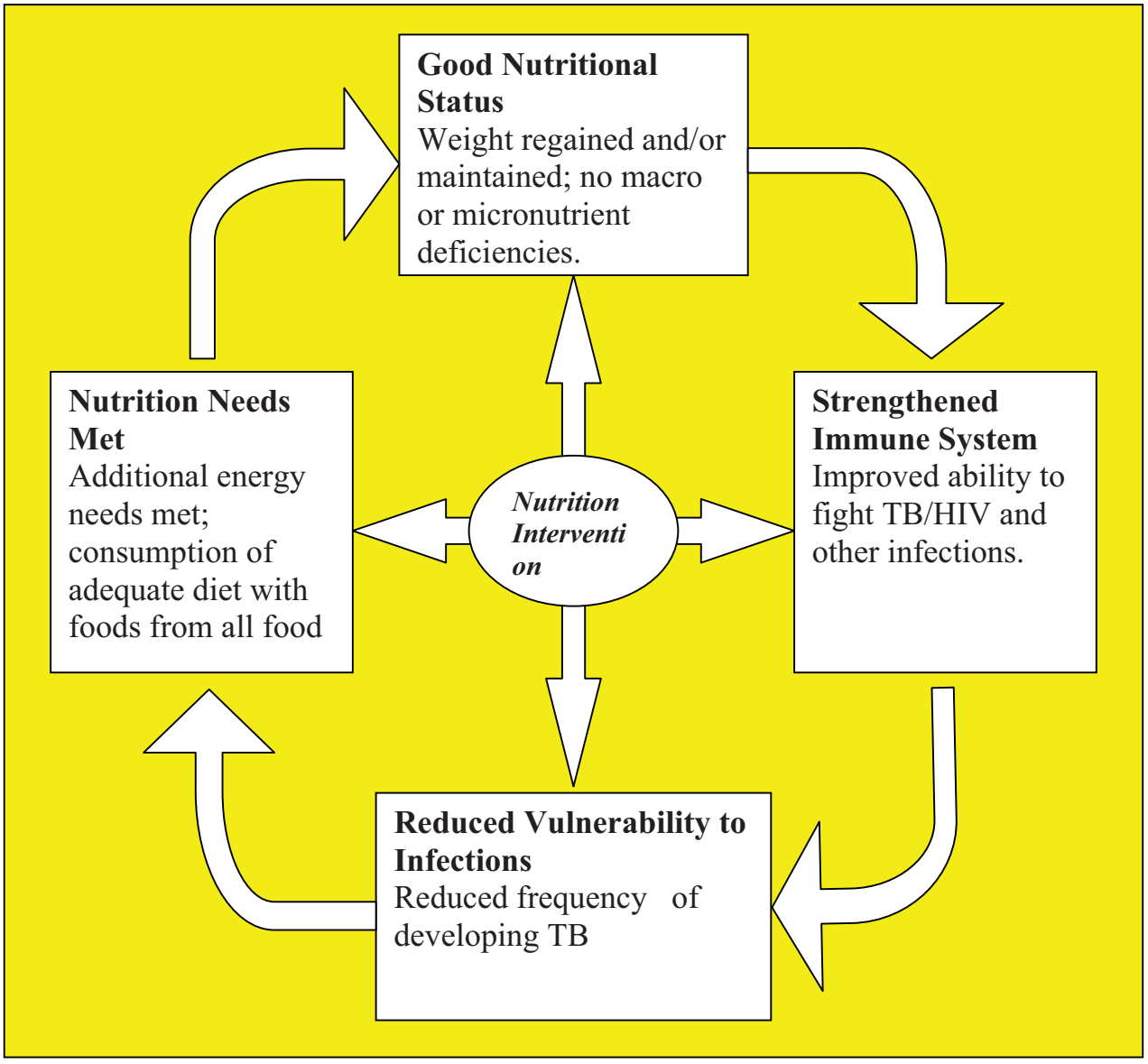

***Common signs and symptoms of TB, TB/HIV have nutritional implications as listed below***

| | |
|---|---|
| Cough lasting 2 weeks or more | An increased energy demand. |
| Fever and Night sweat | Increased Calorie requirement (10% extra calorie per every 1°c rise in body temperature and dehydration |
| Loss of appetite | Inadequate nutrient intake hence poor nutritional status. |
| Weight loss | Poor health and nutritional status predisposing the clients to frequent, prolonged and severe infections due to impaired immunity |
| Blood in the sputum | Increased energy demand and loss of blood/iron predisposing the clients to anaemia and other infections. |
| Oozing, matted lymph nodes or enlarged lymph nodes | Increased protein and micronutrients requirement for tissue repair. |
| Breathlessness and fatigue due to Pulmonary effusion, pericarditis, pulmonary oedema | Increased energy need. |

### General recommendations and qualities of food required for TB patients

- A good diet should be based on locally available foods and not expensive ones that require to be bought with a lot of money.
- Maintain a balanced diet by getting foods from every group we have discussed.
- The cost of the advised food should be affordable and not meant to hurt the house budget.
- Foods should contain all the essential Nutrients, carbohydrates proteins vitamins and minerals.
- The food should look nice and this increases appetite, is easy to ingest and digest
- Warm food often provides more appetite than cold food.
- Patients should eat enough food to maintain adequate nutrition.
- Patients on TB treatment should avoid harmful substances e.g. alcohol, cigarettes.

***A diagrammatic representation of how nutritional intervention works for TB patients***



# Session 4: Prevention and control of TB

### Objective
To be able to understand the measures to be taken in prevention of TB disease

### Guidelines
1. **Ask:** What is disease prevention?

2. **Ask:** How can TB be prevented?

### Basic information

### What is disease prevention?
Disease prevention is a combination of efforts made to ensure a disease does not occur.

### How can TB be prevented?
- People who are sick with TB can prevent spreading TB to others in their family and community by:
    - Going for treatment and being cured of TB.
    - Covering their mouth and nose when coughing and sneezing.
    - Making sure that people who have spent time with them, particularly children and adults who are coughing, get tested for TB.
    - Tracing all people who have defaulted from TB treatment and returning them to treatment

- Avoiding overcrowding.
- Staying in a well-ventilated house.
- Preventing yourself from getting HIV infection.
- Immunizing young children with BCG vaccine, which is given at birth. The vaccine protects them against severe forms of TB (e.g., TB meningitis and miliary TB).
- Eating a well-balanced diet, by using locally available food.
- Understanding the "cough-to-cure pathway" so as to be able to prevent or manage defaulters at any level. This model will help the village health volunteers to understand their community health seeking behaviour and help them overcome the barriers.
- Intensified case finding to improve case detection and reduce the pool of infection from the community
- The partnership between health care providers and TB patients helps improve:
    - Case detection – by increasing awareness of symptoms and demand for services; helping improve quality of client-provider interaction; influencing laws and policies that favor seeking treatment; helping reduce stigma)
    - Case cure - improving patient knowledge about adherence; helping reduce discrimination and stigma; influencing laws and policies; implementing incentives; influencing social & family environment)

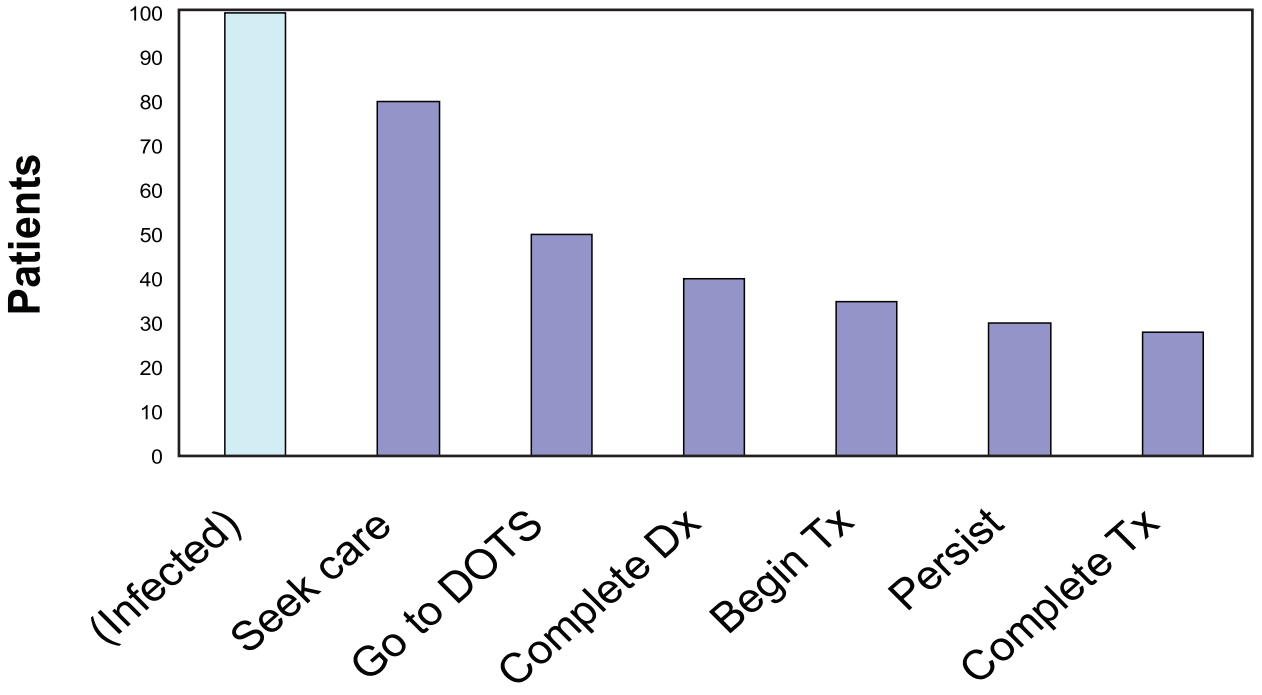
### The six steps to ideal TB treatment seeking behavior can be divided into two:

### Factors that help in improving TB Case detection whose WHO goal is 70%
1. Seek timely care
2. Go to a DOTS facility
3. Get accurate diagnosis

### Factors that help in improving TB Treatment completion whose WHO goal is 85% are:
4) Beginning treatment soon after diagnosis
5) Persisting in getting treatment after starting
6) Completing treatment as prescribed

### How to apply the cough-to-cure pathway
As explained by the graph below with an example of 100 (or 100%) TB patients
1. Identify the steps that patients are not completing
2. Examine the reasons for non-completion at the individual, group and systems levels
3. Decide which barriers to address. Need to weigh relative importance of factors

It is advisable that the choice of an intervention is based on understanding of motivating factors, and likely effectiveness and impact.




| Levels | Barriers | | | | | |
|---|---|---|---|---|---|---|
| Individual & Group | • Poor knowledge of TB symptoms<br>• Poor knowledge of TB care and cure<br>• Stigma related to Tb diagnosis<br>• Low risk perception | • Misperception of costs<br>• Preference for non-DOTS health facilities<br>• Attitude about health services<br>• Stigma<br>• Social norm | • Poor knowledge of diagnostic steps<br>• Expectations about medical services e.g. get medicines not tests | • Poor knowledge of length of treatment<br>• Stigma | • Poor knowledge of length of treatment<br>• Stigma | • Poor knowledge of length of treatment<br>• Stigma |
| **Ideal Behaviour** | **Seek care** | **Go to DOTS facility** | **Complete diagnosis** | **Begin treatment** | **Continue treatment and follow up smears** | **Complete treatment and final smears** |
| System | | • Time, costs, distance to DOTS facility<br>• Lack of linkages between DOTS and other providers (non-DOTS and HIV care) | • Providers' poor knowledge of correct procedures<br>• Providers' poor interpersonal communication<br>• Lack or resources<br>• Time, costs, distance | • Time, costs, distance to DOTS facility<br>• Poor quality of services<br>• Health providers fail to give adequate information<br>• Lack of medications | • Time, costs, distance to DOTS facility<br>• Poor quality of services<br>• Health provides fail to give adequate information<br>• Lack of medications | • Time, costs, distance to DOTS facility<br>• Poor quality of services<br>• Health providers fail to give adequate information<br>• Lack of medications |

# Session 5: Intensified Case Finding

Although Southern Sudan TB disease burden is huge the cases notified to the UNDP through the NTP every year may represent only about 76% of the incident cases that occur. This TB case detection, though above the WHO target of 70%, implies that a large number of people in Southern Sudan (about 24%) die from this curable disease undetected. All these deaths are preventable. Additionally low case detection is a major reason for the perpetuation of the TB epidemic. Due to the poor infrastructure Southern Sudan has largely used passive case finding that now appears to not adequately get everybody from the community. This implies that a significantly high proportion of incident infectious cases of TB remain undetected and do not receive treatment to render them non-infectious leading to transmission of TB to a large number of contacts. The need to improve TB case detection is therefore obvious and measures aimed at Intensified Case Finding (ICF) are urgently required to not only improve TB case detection overall but also reduce delays in TB diagnosis. The emergence of MDR TB and an even more dreadful XDR TB globally is more the impetus for this Intensified Case Finding intervention. This should have a significant impact on TB transmission and TB morbidity and mortality.

## The TB-HIV link: the rationale for focusing on PLWHA

TB rates are higher in HIV infected populations than in the general population. TB is often the first opportunistic infection in PLWHA. It is the leading killer of HIV infected individuals in Sub –Saharan Africa. TB may also accelerate progression of HIV infection to full blown AIDS. For these reasons TB–ICF among PLWHA is an essential intervention required to reduce the burden of TB in HIV infected individuals. Ideally TB-ICF should be carried out at all HIV testing and/ or treatment sites including Outpatient Departments where Provider Initiated HIV Testing and Counseling (PITC) for all persons presenting with any HIV defining illness should be encouraged, VCT, PMTCT,CCC and Hospital wards caring for medical and pediatric patients . TB – ICF is intended to identify persons with TB who may benefit from early treatment to increase chances of survival, quality of life and reduce transmission of TB in the community. TB-ICF may be coupled with TB Preventive Therapy (usually Isoniazid Preventive Therapy (IPT) by identifying HIV infected persons who are suitable candidates for this intervention.

**Intensified Case Finding at Health Care Settings (Out Patient Departments, Hospital Medical and Pediatric Wards, prison set up, companies)**

There is data that suggests that health care providers contribute significantly to TB diagnostic delays, often a lot longer than patient related diagnostic delays. Therefore, there is need to develop ICF approaches aimed at reducing provider related TB diagnostic delays when persons who may have TB present at health care providing sites. The proposed approach is to promote HIV testing for all persons presenting at outpatients departments with HIV defining illness and also in hospital medical and pediatric wards and to include TB screening, (using the symptom questionnaire below) as part of the medical evaluation of all those patients who are also HIV infected. With the use of rapid HIV tests it should be possible to rapidly identify HIV infected sick persons who must then be screened appropriately to exclude active TB.

## Intensified Case Finding at congregate settings (Prisons, army barracks, cattle camps and training institutions)

Those who are confined to jails, camps, remands and other similar settings have a higher incidence of TB. It is important that HCWs, CHWs and village health volunteers supplements the Health Ministry and NGO's effort at TB-ICF within these settings. The approaches

here should include:

- All new inmates should be screened for TB using the developed TB screening tools.
- Those diagnosed with TB should be offered PITC and placed on TB treatment as soon as possible. The result of HIV testing also need be managed accordingly.

### Intensified Case Finding approaches at pharmacies and drug stores

There is some data that suggests that a significant proportion of TB patients will have self medicated for a long period with pharmaceutical products obtained from pharmacies and drug shops prior to the TB diagnosis. Targeting pharmacies and drug shops for TB-ICF is likely to result in early TB case detection and may improve TB CDR.

- Attendants of Pharmacy outlets should use TB screening tool to screen all coughers and those suspected to have TB referred to the nearest health facility for diagnosis

### Intensified Case Finding at Community Level

TB patients come from the communities (in the broader sense of this word) that we all come from. Therefore well informed and empowered communities are essential for TB care and prevention. The approaches should include:

- Mass media,
- Magnet theatre,
- Community/religious leaders' sensitization,
- School health programs and
- TB HIV programs at worksites.
- TB outreaches complete with TB testing

### Intensified Case Finding at HIV testing or Care sites: The screening tools

TB-ICF may take all manner of complexity depending on the site of HIV testing (integrated vs. stand alone), skills of health care personnel and the availability of various screening tools and tests. However, the screening tool that can be made available to all is the screening questionnaire.

- This basic screening tool should be available at all HIV testing and or Care sites.
- The questionnaire is designed to identify symptomatic HIV infected persons who are TB suspects.

### Intensified Case Finding by contact tracing and contact invitation among sputum smear positives

This was previously an effective public health approach before the illogical shift to passive case finding as the only viable and cost effective means of TB diagnosis. Contacts of smear positive TB cases should be screened using the screening tool.

- They should all be traced and clinically screened and where possible referred for TB examination.
- This process is also likely to yield the index case and source of infection.

Following all the branches of this referral tree, the pool of infectious TB is bound to be eliminated from the community.

**TB-*ICF:* Symptom Questionnaire in Adult People Living With HIV/AIDS (PLWHA)***

| Symptom | YES | NO |
|---|---|---|
| 1. Cough (of any duration)? | | |
| 2. Blood stained sputum? | | |
| 3. Night sweats >2 weeks | | |
| 4. Fever ? | | |
| 5. Weight loss? | | |
| 6. Chest pain? | | |
| 7. Breathlessness? | | |
| 8. Fatigue? | | |
| 9. History of previous TB treatment? | | |
| 10. History of close contact with a person confirmed to have TB? | | |
| 11. Swellings in the neck, armpits or elsewhere? | | |
| 12: Diarrhea for more than two weeks? | | |
| **TB SUSPECT?** | | |
| **ACTION TAKEN/COMMENT** | | |

**** Modified from Mohammed et al. IJTLD. 2004***

**TB-*ICF at HIV testing or Care sites*: the symptom questionnaire for children living with HIV***

| Symptom | YES | NO |
|---|---|---|
| 1. Cough: (of any duration)? | | |
| 2. Blood stained sputum? | | |
| 3. Night sweats >2 weeks | | |
| 4. Fever? Of any duration? | | |
| 5. Weight loss? | | |
| 6. Chest pain? | | |
| 7. Fast Breathing? | | |
| 8. Fatigue? | | |
| 9. History of previous TB treatment? | | |
| 10. History of close contact with a person confirmed to have TB? | | |
| 11. Swellings in the neck, armpits or elsewhere? | | |
| 12: Diarrhea for more than two weeks? | | |
| 13. Failure to thrive? | | |
| **TB SUSPECT?** | | |
| **ACTION TAKEN/COMMENT** | | |

**** Modified from Mohammed et al. IJTLD. 2004***

**TB – ICF through contact tracing/invitation (a sample questionnaire for all SMP)**

Name of contact---------- Relationship----------

Disease status:
[ ] New smear positive [ ] Smear positive relapse [ ] MDR-TB [ ] XDR-TB

Duration of ailment/cough---------- Date diagnosis done----------

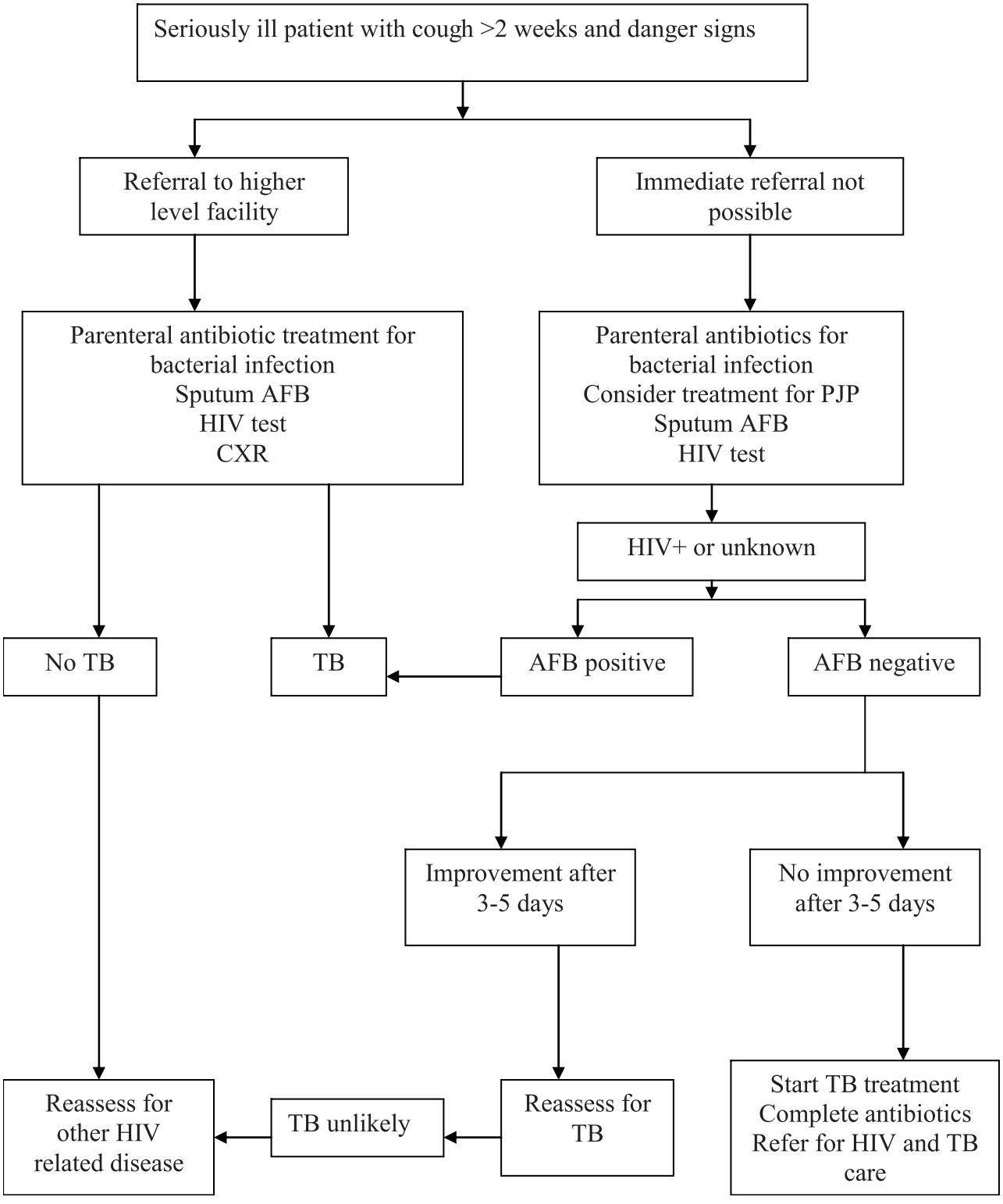
**Information on contacts (place tick in appropriate column)**

| **Duration of contact** | **Under 5 year** | | **More than 60 years** | | **Known HIV positive** | | **Known cancer/diabetic patient etc** | | **Age 6-59 years** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **M** | **F** | **M** | **F** | **M** | **F** | **M** | **F** | **M** | **F** |
| Number of people with similar ailment in same homestead | | | | | | | | | | |
| Number of people with similar ailment under same roof | | | | | | | | | | |
| Number of people staying with patient in same homestead in last 1 month | | | | | | | | | | |
| Number of people staying with in same homestead in previous 2-3months | | | | | | | | | | |
| Number people staying with in same homestead in previous 4-6 months | | | | | | | | | | |
| Number of people staying in same homestead 7months to 1 year | | | | | | | | | | |
| Number of people who have been interacting closely with the patient but not staying in same homestead in last 1week-6months | | | | | | | | | | |

Note:

- If **"Yes"** to question one: Do sputum test and carry out clinical evaluation of the patient using the algorithm of diagnosing PTB below.
- If **"No"** to question 1 and **"Yes"** to any other question; continue investigating for TB according to clinical signs. Refer when necessary.
- If **"No"** to all questions: Stop investigation for TB and repeat intensive detection during the next medical visit.

**Fig 2. Algorithm for the diagnosis of TB in seriously ill HIV positive patient**




Explain to every TB patient the frequent association of TB with HIV and the advantages of undergoing HIV testing. Systematically propose testing and carry it out (except if the patient refuses). The result is confidential.

### *Intensified Case Finding at HIV testing or Care sites*: Sputum Smear Microscopy

For TB screening, clinicians in HIV testing or Care sites will use the above questionnaire to screen all HIV positive patients. Those found with symptoms suggestive of TB will be referred to the laboratory for AFB examination using AFB laboratory request forms. Three sputum samples (at least 2 as currently recommended by WHO) will be collected and examined using the Spot-Morning-Spot approach, as per the guidelines. When sputum smear microscopy is not available on site the HIV testing and or care site should collect the sputum samples from the client / patient and transport the samples to a smear microscopy site nearby. This may be better than Referring the client to the smear microscopy site – to avoid patient losses. Sputum smear positive patients will be referred to the TB clinic using the Facility Patient Referral form for registration and initiation of TB treatment. Sputum smear negative patients will be referred to the TB clinic for further evaluation as per NTP guidelines.

If **NO** to all questions in the questionnaire, talk to patient about signs and symptoms of TB and repeat screening at the subsequent visits.

### *Intensified Case Finding at HIV testing and care sites*: the use of chest x-ray

It is necessary that all PLWHA who have a cough and negative sputum smears should have a chest x-ray where this is available. Similarly patients with a positive symptom screen but who do not have a cough (fever, weight loss, chronic diarrhea) should be provided with a chest x-ray. The challenge to this is interpretation.

### *Intensified Case Finding at HIV testing and care sites*: Monitoring and Evaluation

**Recording and Reporting of TB-Intensified Case Finding**

**All community oriented health care providers e.g. CHWs and village health workers shall give reports using a community-based designed forms. These shall be delivered monthly to the TB office.**

### Indicators for TB-Intensified Case Finding at HIV Testing and/or care sites

The indicators to be reported are similar to those outlined in the WHO and GoSS documents on monitoring and evaluation of TB/HIV collaborative activities and should include:

- Proportion of HIV infected persons screened for TB
- Proportion of TB patients screened for HIV
- Proportion of HIV infected persons screened for TB found to have active TB
- Proportion of HIV infected persons screened for TB and started on anti TB treatment
- Proportion of dually infected and on CPT
- Proportion dually infected and on ARVs

# Session 6: Understanding TB care in special groups

## Objective

The main learning objective for this section is to understand special considerations for persons who need special care during TB treatment.

## Guidelines

1. **Ask:** Which people can be considered as special groups in TB treatment?
   Ensure the following are mentioned through probing: (1) pregnant mothers, (2) children, (3) the elderly, (4) people living with HIV/AIDS, and (5) malnourished people.

2. **Ask**: What advice would you give to a pregnant woman to ensure that she stays healthy and has a healthy baby?
   Write participants' responses on the flipchart. Possible responses include going for prenatal visits, eating healthy foods, avoiding certain medications, etc.

3. **Ask**: If a pregnant woman has TB, is there anything she should or should not do? What about breastfeeding?

Allow participants to discuss. Emphasize the following:

- Not being treated for TB is much more dangerous to a pregnant woman and her foetus than taking medications for TB.
- Pregnant women should go for diagnosis as soon as TB is suspected.
- HIV-infected pregnant women who are suspected of having TB should be treated without delay.
- It is safe for women with TB to breastfeed their infants.
- Rifampicin, isoniazid, pyrazinamide, and ethambutol are safe for use by pregnant women.
- Streptomycin should *not* be given to pregnant women because it may cause deafness in the baby.
- If the mother has smear-negative pulmonary TB or EPTB at the time of birth, the infant should be vaccinated as normal with BCG (unless the infant has HIV-related illness).
- If the mother is sputum smear-positive at the time of birth and the infant is well, he or she should be given preventive therapy (isoniazid 5mg/kg in a single daily dose for 6 months) but not BCG. Give a tuberculin test to the infant after three months of isoniazid. If the test is negative, stop the isoniazid and give BCG. If the skin test is positive, continue isoniazid for another three months, then stop isoniazid and vaccinate with BCG.
- If the infant is unwell with TB symptoms, give full TB treatment.

**4. Ask**: What advice would you give to a pregnant woman who has had a productive cough for two weeks? What advice would you give to a breastfeeding woman who has had a productive cough for three weeks?

## Basic information

- Special groups that need special care in TB treatment include **pregnant mothers, children, the elderly, people living with HIV and AIDS (PLWHAs) and malnourished people**.
- Not being treated for TB is much more dangerous to a pregnant woman and her foetus than taking the medications for TB.
- Pregnant women, like anybody else, should go for evaluation as soon as TB is suspected.
- HIV-infected pregnant women who are suspected of having TB should be treated without delay.
- It is safe for women with TB to breastfeed their infants.
- Children's dosages are based on their weight. A clinic card could help determine weight.
- Dosage for the very old may need to be adjusted.
- Because people living with HIV/AIDS may be on antiretroviral drugs, it is important to find this out to avoid potential drug interactions. They may also need special encouragement to continue treatment because of pill burden. The two conditions must be managed together with continual counselling.
- Malnutrition can lead to TB, and TB due to poor feeding (loss of appetite) can also lead to malnutrition.

# Session 7: HIV/AIDS

### Objectives
- To increase participants' understanding of transmission of HIV/AIDS.
- To equip participants with knowledge on the transmission and signs of HIV/AIDS.
- To provide the information about Provider Initiated Testing and Counseling (PITC) in relation to TB/HIV control.
- To ensure participants understand the management of patients with HIV/AIDS

### Transmission of HIV/AIDS
- Sexual intercourse (80%).
- Transfusion with infected blood (<1%).
- Mother-to-infant transmission during delivery.
- Infection with contaminated needles and syringes.
- Use of non-sterile piercing instruments.
- Breastfeeding.

### HIV is not transmitted through:
- Everyday contact.
- Hugging and normal kissing.
- Sharing food or drink.
- Bites of mosquitoes, bed bugs, or other insects.
- Shaking hands.
- Crying, sneezing, and coughing.
- Sitting next to an HIV-positive person.
- Sharing combs, sheets, towels, or clothes.
- Sharing toilets or latrines.

### Testing for HIV
### Voluntary counseling and testing (VCT)
- Encourages individuals to know their status.
- Enables individuals to change risky behavior.
- Allows clients found to be HIV positive to be screened for TB and benefit from TB services.
- Provided through government-created VCT centers in provincial, district, and missionary hospital facilities.

### The HIV test
- A quick blood test for HIV will reveal a person's status.
- If the test is positive, it means you are infected with the HIV virus.
- If the test is negative, it suggests one is not infected with the HIV virus. However, because there is a possibility that one is still in "window period.**"** There is need to be tested in three months' time to confirm the results and thereafter at three monthly interval.

### Who should get tested?
- Those who intend to get married.
- Those who intend to have a baby.
- Those who wish to know their status.
- Tissue, organ, blood, and blood product donors.
- Those who suspect they might have HIV or been exposed to HIV.

### The process of HIV testing
- A small amount of blood is taken.
- The result is given immediately.
- The process and results are private (confidential).
- A counselor helps the person cope with the results and encourages those who test positive to live positively.
- Prevention measures are offered to all.

### Signs and symptoms of AIDS
### Major
- Weight loss greater than 10% of body weight.
- Chronic diarrhea (more than a month).
- Prolonged fever (more than a month).

### Minor
- Persistent cough (more than a month).
- Generalized pruritic dermatitis.
- History of herpes zoster.
- Severe or pharyngeal candidiasis.
- Chronic progressive or disseminated herpes simplex infection.
- Persistent generalized lymphadenopathy.

### Management of HIV/AIDS
- Maintain good general health.
- Keep good attitude.
- Receive good nutrition.
- Prevent/treat complicating infections such as TB.
- Use drugs that work against HIV virus to prolong life.

Although TB is a common cause of death among people with HIV, TB can be treated successfully in people with HIV (cure rates are the same as in people without HIV).

# TB/HIV dual infection

### Objectives

- ***To increase participants' understanding of the relationship between TB and HIV/AIDS.***
- ***To equip participants with knowledge on the prevention and control measures of both diseases.***

***To ensure participants understand the difference in management of patients with only TB and of dually infected patients.***

### Basic facts

- HIV is the most important single factor that makes dormant TB progress to active TB disease.
- The magnitude of TB/HIV co-infection is not well known in Southern Sudan because the majority of TB patients have not been tested for HIV.
- Estimates suggest that about 15-20% of the tested TB patients in Southern Sudan are also infected with HIV.
- In HIV-negative people, the lifetime risk of developing clinical TB is 5% to 10%.
- In HIV-positive people, the lifetime risk of developing clinical TB is approximately 50%.
- PITC enables TB patients who are HIV positive to access comprehensive care.
- To control the spread of TB, we must control the spread of HIV infection and vice versa.

### Provider Initiated HIV testing and counseling (PITC) in relation with TB/HIV control Principles of PITC

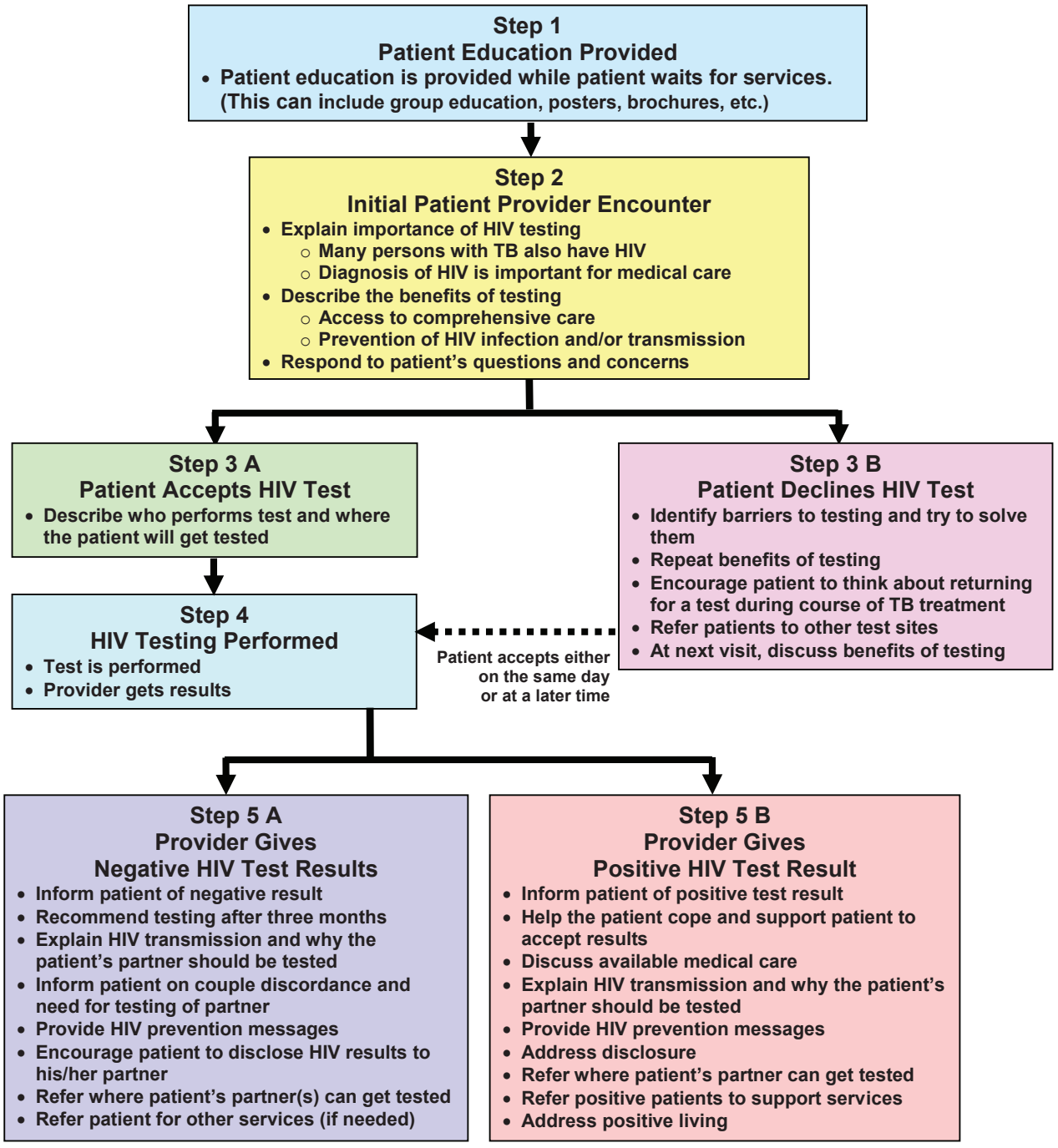
In order to implement effective PITC in Southern Sudan, the SSTLBCP recommends that the following principles will be observed by all partners in implementation of TB/HIV collaborative activities in Southern Sudan:

- All TB patients should receive information about the basics of HIV/AIDS, HIV testing, post-test counseling and follow-up services, availability of HIV treatment, care and support and safer sex practices.
- All patients should be informed that they have the right to opt-out.
- Presentation with symptoms of TB disease to a health care facility implies consent for testing including HIV test.
- All patients must be informed that the test is being done and have the right to decline HIV testing (opt out).
- Testing of minors may need written consent or documentation of verbal consent from parent or guardian.
- All patients testing positive for HIV need further counseling
- Maintain confidentiality, ensure consent from the patient and link the testing to disease prevention and support services

### The HIV testing protocol

The testing protocol for PITC should include ensuring that the patient fully understands the importance of HIV testing; many persons with TB also have HIV infection and that diagnosis of HIV is important for medical care of the patient. In addition, the benefits of testing include access to comprehensive care and prevention of HIV infection and/or transmission.

## Summary of Recommended Provider Initiated HIV Testing and Counseling (PITC) in TB Care Settings - Protocol and Script



### Partner disclosure of HIV Status

For TB patients who test positive for HIV while on treatment for tuberculosis, the SSTLBCP urges that these patients must be encouraged to disclose their HIV status to their partners. Partner disclosure often facilitates:

- Partner testing
- Prevention of HIV transmission to the partner(s)
- Linkages to partner, family and community support

### Location of HIV test

PITC can be perform in the chest clinic by the clinician, a room "next door" by a trained health worker (counselor), in the laboratory by a laboratory technician or in the voluntary counseling and testing (VCT) site by a counselor.

### TB HIV Collaborative activities

### The Impact of HIV on TB

HIV pandemic presents massive challenge to the control of TB at all levels. In fact, HIV fuels the tuberculosis epidemic in several ways;

- **HIV increases the TB burden.**
    - HIV promotes progression to active TB disease both in people with recently acquired and latent ***M. tuberculosis*** infections.
    - HIV infected people are more susceptible to TB infected when they are exposed to ***M. tuberculosis.***

TB and HIV are overlapping epidemics. HIV is the greatest risk factor for TB. An HIV positive person has a 50% chance of developing TB in lifetime (5-15% chance per year). TB is preventable, treatable and curable. While HIV is preventable and manageable, it has no cure yet. TB, although curable, is one of the most common causes of HIV-related illness and death. Some generalized studies have shown that 70% of TB patients in Sub-Saharan Africa are HIV positive. Likewise trends in Southern Sudan indicate that about 15-20% of TB patients also have HIV. Studies have also shown that HIV increases the risk of recurrent TB.

- HIV increases the rate of recurrent TB in PLWHA, which may be due to either reactivation of old treated TB (true relapse) or re-infection. Increasing TB cases in PLWHA enhance the risk of TB transmission in the general community.

- **HIV increase mortality in TB patients**

- **HIV positive TB patients also suffer from increased morbidity from other HIV related diseases.** Hence, national TB control programs in countries that have high HIV burden are experiencing increasing case-fatality rates of up to 25% in smear positive patients and 40-50% in smear negative patients.

- **Dual stigma.** Many people believe that once one has TB then one certainly has AIDS. This often results in increased stigma for TB patients in communities with high HIV burden. Hence, many people fear to seek TB treatment because they are afraid of being labeled as having AIDS.

- **Program Credibility.** TB is a curable disease. However, the credibility of any TB control program depends on, among other factors, its treatment success rates. HIV positive TB patients suffer increased morbidity and mortality from other HIV-related diseases. TB programs risk losing credibility as communities notice the increasing mortality and HIV-related complications in TB patients. This can lead to low treatment uptake.
- Other impacts of HIV on TB may include low staff morale due to conditions of service, anxiety and sense of powerlessness.

### Impact of TB on HIV

TB impacts HIV in the following ways:

- TB is one of the most common opportunistic infection among PLWHA in high TB burden countries.

- TB is the leading cause of HIV-related morbidity.

- TB is also one of the leading causes of mortality: one-third of all AIDS related deaths are due to TB.

- TB accelerates the progression immuno-suppression of HIV.

***Some activities from both the TB and HIV programs are necessary to address burden***

- **Ask** what are some measures that can be taken to address the dual Epidemic
- **Record** answers on the flip chart

In order to address the dual epidemic of TB and HIV, there is a need to:

- To establish mechanisms for collaboration between TB and HIV programs.
- To decrease the burden of tuberculosis among PLWHA.

To decrease the burden of HIV among TB patients.

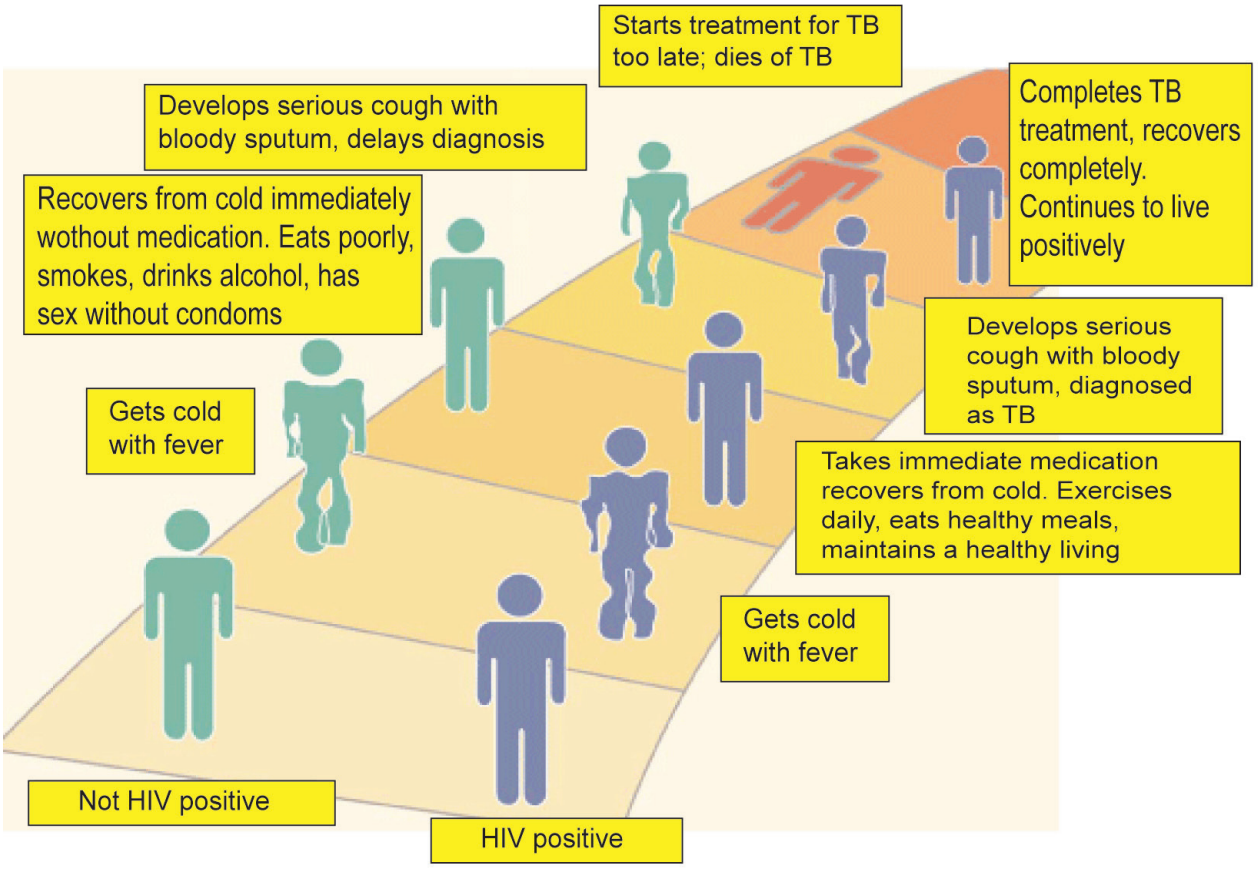
**These goals and the necessary activities to achieving them are summarized below.**

| **1. Establish the mechanisms for collaboration** |
|---|
| 1.1 Set a coordinating body for TB/HIV activities effective at all levels<br>1.2 Conduct surveillance of HIV prevalence among tuberculosis patients<br>1.3 Carry out joint planning<br>1.4 Conduct monitoring and evaluation |
| **2. Decrease the burden of tuberculosis in people living with HIV/AIDS** |
| 2.1 Establish intensive tuberculosis case-finding<br>2.2 Introduce isoniazid preventive therapy<br>2.3 Ensure tuberculosis infection control in health care and congregate settings |
| **3. Decrease the burden of HIV in tuberculosis patients** |
| 3.1 Provide HIV testing and counseling<br>3.2 Introduce HIV prevention methods<br>3.3 Introduce cotrimoxazole preventive therapy<br>3.4 Ensure HIV/AIDS care and support<br>3.5 Introduce antiretroviral therapy |

### Game: The TB/HIV Walk

**Instructions:** Use a volunteer to role-play a person who is not HIV positive, and play an HIV-positive person yourself. Using this illustration as a guide, show how important early diagnosis and adherence to TB treatment are. At the end, bring the person who died of TB "back to life" and ask participants what he or she could have done differently. **Ask** the following questions:

- What should he or she have done after first developing a cough?
- What should he or she have done after having a cough for one week? Three weeks?
- What should he or she have done after being diagnosed with TB?



# Session 8: Stigma, discrimination and how to reduce them

## Objective

To reduce stigma among people with TB, TB/HIV, HIV and AIDS.

*Guidelines*

1. **Ask:** What is stigma?
2. **Ask:** What is discrimination?
3. **Ask:** What are some indicators of stigma and discrimination?
4. **Ask:** What are some causes of stigma and discrimination?
5. **Ask:** What are some effects of stigma and discrimination?
6. **Ask:** How can you help to fight stigma and discrimination?

## Basic information

### What is stigma?

Stigma is an undesirable or discrediting attribute that a person or group possesses leading to reduction of that person or group's status in the eyes of the society. Stigma can result from a physical characteristic, such as the visible symptoms of disease, or from negative attitudes towards the behavior of a group such as people living with AIDS.

### What is discrimination?

Discrimination is stigma in action. Stigma often leads to discrimination, which happens when distinction is made against a person that results in him or her being treated unfairly or unjustly on the basis of his or her health condition or a perception that he or she belongs to a particular group. Stigma related to TB, HIV, and AIDS is intimately linked to discrimination.

Stigma and discrimination associated with TB are among the greatest barriers to preventing further infections and providing adequate care, support, and treatment. TB-related stigma and discrimination are universal, occurring in every country and region of the world. Stigma is harmful because it can lead to feelings of shame, guilt, and isolation of people living with TB. Also, negative thoughts may lead individuals to do harmful things to people with TB or fail to do helpful things. This may include denying services or entitlements to TB patients.

To stigmatize is to think badly about people or treat them badly because of a condition they have. Stigma has many forms: thoughts, comments, gossip, name-calling, actions, and exclusion. It causes people to feel rejected, isolated, alone, guilty, or ashamed. Stigma can be obvious or subtle. We are all involved in stigmatizing, even if we do not realize it. Stigma can hurt people with TB and people with HIV and AIDS, the families of people with HIV or TB, or even people who are suspected of having these illnesses. Stigma is harmful to us, our families, and communities. We can make a difference by changing our own thinking and actions. Stigma around TB is caused by fears about death and disease and not having correct information.

### The different types of stigma

- Internal/Self Stigma – This occurs as a reaction to not disclosing status but one imagines people know. One feels pity for self.
- External Stigma – This is stigma by other people as a reaction to one's status being known by others. Other people shun the infected person.
- Dual Stigma – This occurs when one is diagnosed with both TB and HIV and feels it is too much to

bear.

### These types of stigma can occur in the following forms:

- Physical and social isolation from family, friends, and community.
- Gossip, name calling, and judging.
- Loss of rights and decision-making power.

### How to know stigmatization and discrimination is taking place

You are possibly discriminating against those affected and infected by TB–HIV when you:

- Call them "names."
- Fear sharing materials with them.
- Deny them services (e.g., treatment).

### Some signs of stigma and discrimination are:

- Self-denial among those infected by TB–HIV.
- Those affected and infected by TB–HIV not opening up about their status.

### Causes of stigma and discrimination

- Ignorance of the facts regarding TB–HIV.
- Irrational fears and beliefs about the causes of TB–HIV.
- Negative attitudes of leaders towards those living with TB–HIV.
- A lack of a working policy on TB–HIV.

### The effects of stigma on TB–HIV/AIDS

- TB and HIV/AIDS-related stigma is the single greatest challenge to slowing the spread of the disease and seeking early care. This is because people with HIV and TB are stigmatized, shunned, discredited, rejected, or penalized, sometimes by strangers but often by health workers, family, and friends, it makes coping with and fighting the disease all the more challenging.
- Stigma can cause patients to become withdrawn, fearful, silent, and secretive. It can lead them to not accept their condition, and can prevent them from talking about their condition even to those who are close to them and love them.
- It can make a person delay going for early diagnosis and treatment for TB–HIV/AIDS.
- It can cause a person to discontinue TB treatment.
- Stigma can also lead to loss of jobs. This is because some employers may dismiss an employee due to their status. In addition, during the advanced stages of the disease, productivity declines due to poor health status.
- Stigma can also make people feel worthless, inferior, and ashamed of themselves. It makes them feel as though they have let their families and community down, although it is the family/community that has let them down by not offering the necessary help and support that the sick require in their time of need.

**Why is it important to address stigma in our community?**

- It is important to talk about the beliefs and attitudes community members have towards TB.
- It is also important that people have the correct information.
- There are many wrong stories and beliefs about TB that can contribute to stigma. Correcting these wrong stories and beliefs is a first step towards reducing stigma. Myths vary from community to community and may include being bewitched, having a curse, inheriting TB from your father or mother, thinking that TB is a disease of the poor, or thinking that when someone has TB he or she must also have HIV.

- It is important for people with TB to feel and know that they have the support of their family, neighbors, and community.

### How to fight stigma

- **Begin with yourself**.
  - o Examine your own attitudes, assumptions, and beliefs about TB/HIV/AIDS and people living with TB, HIV or AIDS.
- **Reach out to your family and community**.
  - o Examine the role that you can play to promote dialogue, understanding, and support for people living with TB, HIV and AIDS in your workplace, family, and community.
- **Learn and grow**
  - Stigma and discrimination are rooted in ignorance and fear. You can avoid this by following up-to-date information pertaining to TB, HIV, and AIDS.
- **Express your knowledge**.
  - Share you knowledge on TB/HIV/AIDS, especially about how TB/HIV is and is not transmitted.
  - Find creative ways and real-life stories to share information with your colleagues, TB patients, family members and community.
- **Effect change**.
  - As an individual or group, advocate to end TB/HIV/AIDS-related stigma and discrimination in your workplace, family, and the community at large, and promote improved care and support for people living with TB/HIV/AIDS.
- **Think positively.**
  - Speak out and mobilize others to speak out against TB/HIV/AIDS-related stigma and discrimination.
  - Use language that acknowledges and accepts people living with TB/HIV/AIDS as part of your family, workplace, and community.

Listen to and honour the courageous voices and experiences of people living with TB, HIV, and AIDS.

### Taking action

As a health worker, you should know your status to protect the health of you and your family. Knowing your status will also help you to understand and communicate better with your patients.

**Know your status! Visit your nearest clinic, VCT, DTC, or laboratory for HIV test!**

# Session 9: Recording and reporting

## Objectives

- ***To improve participants' knowledge, skills, and attitudes to accurately collect and store records on TB activities in their locality.***
- ***To effectively use community-based (CB) DOTS recording and reporting tools.***

## Background information

### Definitions of key words

- *Records*—permanently stored information for future reference.
- *Monitoring*—continuous assessment of progress. (Am I doing the right thing?)

## Importance of keeping TB patients' records and reports

- Helps to track disease occurrence and to identify patterns.
- Allows consistency when managing future cases of TB.
- Facilitates defaulter tracing.
- Helps CHWs to identify and track defaulters.
- Provides data that can be used during needs assessment and program adjustment.
- Facilitates planning, monitoring, and evaluation of program activities.
- Allows for assessment of CHWs' TB activity workload.
- Shows the CHWs' level of commitment to support in community-development programs.

## Types of information to be collected in the community

- TB and HIV suspected cases referred to health facility.
- TB and HIV suspected cases that turned out to be smear positive.
- TB patients enrolled in CB-DOTS.
- TB patients who have defaulted.
- TB and ARV defaulters who have been followed up.
- TB patients who complied with treatment.
- Community units/households visited for public awareness campaigns against TB.
- Information, education and communication materials received and distributed.

## Tools used by community health workers in TB data collection

### Monthly summary report form

- This is a simple notebook kept and filled by CHWs.
- It summarizes monthly activities, including:
  - Referrals made for diagnosis of TB and management of drug reactions.
  - Home visits and sensitization meetings.
  - Deaths.
  - Defaulters traced.
- The CHW should present this sheet to the TB Officer on a monthly basis.

### TB patient/client referral form

- Issued by CHW for patient referral.
- For the parts labeled "reason for referral**,"** answers such as "suspected TB**"** are allowed.
- For the parts labeled **"**referred to**,"** the name of the health facility should be written.
- The patient should present this sheet to the TB Officer on arrival to the new location.

### TB appointment card

- This card is filled at the health facility level.
- It is kept by the patient and shows clinic appointments.
- It shows how a patient is progressing with his or her drug intake.
- It helps to facilitate DOTS supervision.
- It helps detect defaulters from treatment.
- It helps to standardize dosage in which case the dosages are written clearly on the card.
- Shows patients' treatment progress.

# Session 10. The roles of community health workers

## Session objectives

- ***Define the key roles of CHWs in community-based TB management.***
- ***Develop a feasible action plan.***

## Roles of community health workers

| Roles CHWs can do without any external support | Roles that might require at least some support | Roles that must have external support |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

1. Increase level of awareness about TB disease and available services through the community sensitization activities to leaders, school children and village health volunteers.
2. Identify and refer TB suspects to health facility for diagnosis and management.
3. Facilitate directly observed therapy.
4. Help patients adhere to TB and other therapies.
5. Identify defaulters and initiate tracing.
6. Refer TB patients on treatment for follow-up sputum smears.
7. Record necessary information in relevant community TB tools.
8. Identify TB complications, including adverse drug reactions, and refer.
9. Participate in periodic review meetings organized by the TB Officer.
10. Submit monthly summary report on community TB care.

**Summary of key messages**

- TB diagnosis and treatment services are free.
- TB services are available in all government hospitals and some mission/private hospitals.
- Having TB doesn't necessarily mean you have HIV/AIDS.
- TB can affect anyone (rich, poor, old, young, etc.).
- TB is curable, and treatment results are the same in HIV positive and HIV negative people.
- TB patients cease to be infectious once they have received uninterrupted treatment for at least two weeks.
- There is a difference in managing the two diseases as shown below:

1. Management of TB alone – Anti TB drugs, counseling and testing to HIV, Nutrition, contact invitation, treatment ends after 6 months
2. Management of combination of TB and HIV/AIDS – Anti TB drugs (ends at 6 months), CPT continuous, ARVs continuous, counseling continuous, partner testing, and life-long care.

# Annex: List of field officers who contributed to the finalization of this document.

| Serial No. | Names | Position | Location |
|---|---|---|---|
| 1 | Deng Ajou Akoon | Lab Assistant | Gordhim |
| 2 | Paulino Mou Akot | Nurse Assistant | Gordhim |
| 3 | Angelo Majok Mou | Nurse | Gordhim |
| 4 | Catherine Kamwitha | TB Officer | Gorthim |
| 5 | Exodus Akok Dut | Assistant TB Officer | Gordhim |
| 6 | James Yell Kuol | Clinical Officer | Aweil |
| 7 | Achol Lual Nyang | Nurse | Aweil |
| 8 | Stephen Musoke | TB Officer | Aweil |
| 9 | William Deng Tong | Lab Assistant | Aweil |
| 10 | Daniel Atuer | Lab Technician | Aweil |
| 11 | Joseph Chol Lual | Assistant TB Officer | Nyamlell |
| 12 | Santino Lual Tong | Nurse counselor | Nyamlell |
| 13 | Martin Chol Duang | Lab Assistant | Nyamlell |
| 14 | Olivia A Juma | Counselor | Nyamlell |
| 15 | Wanjiru Nancy | Nurse/Matron | Nyamlell |
| 16 | Albino Garang Ayii | Counselor | Nyamlell |
| 17 | Luka Lual Mayom | Lab Assistant | Nyamlell |
| 18 | Nampewo Olivia | Nurse/Matron | Bunagok |
| 19 | Abraham Akuot Zhiauwut | Nurse | Bunagok |
| 20 | Janet Mwikali Muthuthike | Lab Technician | Bunagok |
| 21 | Benjamin Bol | Lab Technician/TB Officer | Yirol |
| 22 | Emmanuel Akuocjok Igai | Nurse | Yirol |
| 23 | Doris N. B. Mathiani | Lab Scientist/Program Officer | Yirol |
| 24 | Lucia Kalekye Mwema | Nurse/Matron | Yirol |
| 25 | Virginia Wangui Kamau | Nurse | Yirol |
| 26 | Gladys Pimer | Nurse | Yirol |
| 27 | Joseph Mabor Majak | Nurse | Yirol |
| 28 | Kassimu M Willington | Lab Technician/TB Officer | Adior |
| 29 | Muturi Edith Wairimu | Nurse/Matron | Adior |

# TB HIV Training Manual for Community Health Workers

First Edition, July 2009

## Trainers' Manual