NTLP

THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

END TB

TUBERCULOSIS AND LEPROSY CASE MANAGEMENT DESK GUIDE

JANUARY 2019

A Flip Chart for Frontline Health Care Providers

CONTENTS

PREFACE

This TB and Leprosy Management Desk Guide is produced by the Ministry of Health National Tuberculosis and Leprosy Programme based on current Tuberculosis and Leprosy guidelines and field implementation experiences. The flip chart is intended to support the roll out of updated guidelines and serve as a reference guide for health workers on the management and control of TB and Leprosy at both facility and community level. It has been simplified for easy understanding by the frontline health workers to offer client centred TB and Leprosy services. It covers most of the domains including screening and diagnosis, treatment, prevention; nutrition care and support and patient education on management of tuberculosis and leprosy. This will catalyse the pace towards reducing the burden of TB through finding the missing TB cases, putting them on treatment and curing them to stop the epidemic.

This flip chart should be used as a training, mentorship and reference tool. It is therefore my sincere hope that it will go along way in improving the knowledge and skills of health workers for quality TB and Leprosy care.

Thank you.

Dr. Stavia Turyahabwe

Ag. Assistant Commissioner - NTLP

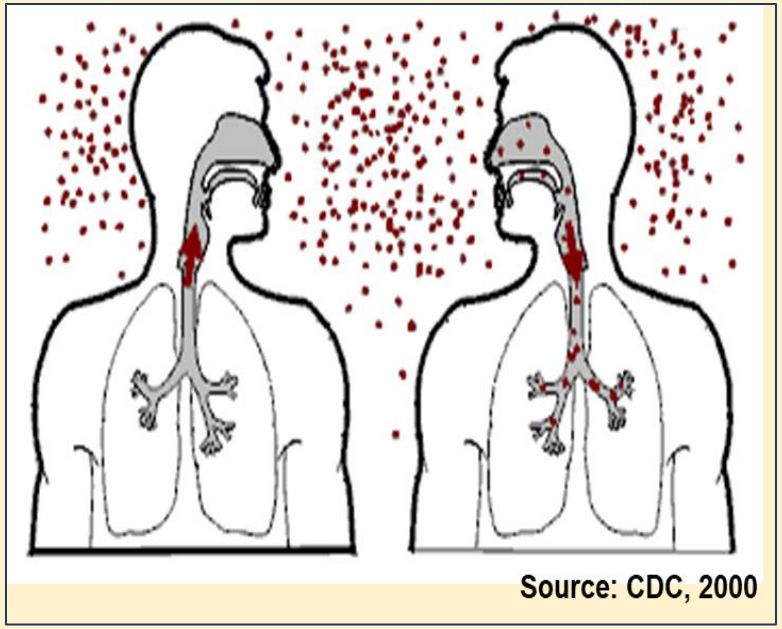
TB BASIC FACTS AND CLASSIFICATION

What is Tuberculosis?

- Tuberculosis (TB) is a disease caused by a bacterium called *Mycobacterium tuberculosis (M.tb).* Other species include: *Mycobacterium bovis, Mycobacterium africanum, Mycobacterium microti*
- *M. tuberculosis* causes infection in the lungs or other parts of the body.
- Tubercle bacilli cause lesions in tissues called tubercles.

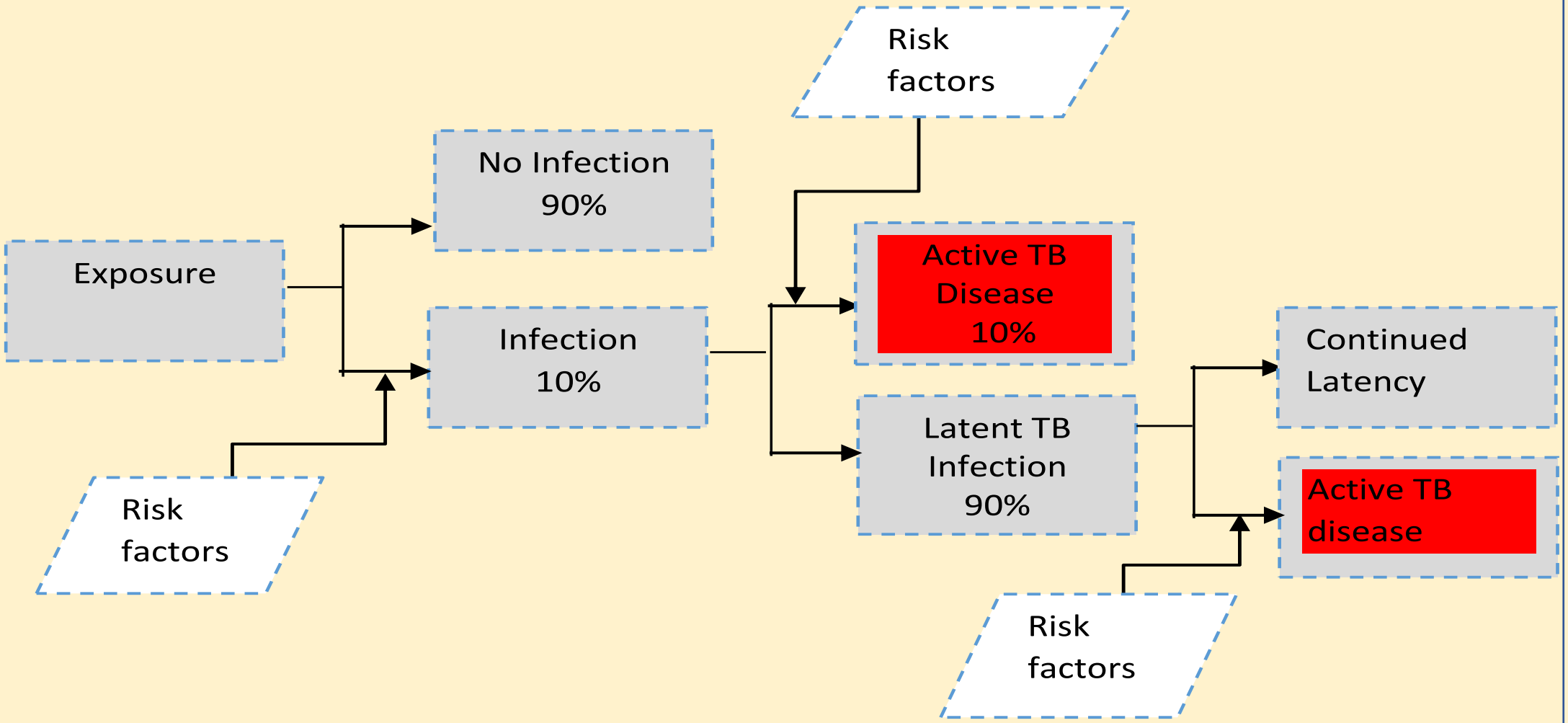
How is TB transmitted?

- It is transmitted from person to person by mucous droplets (air borne) when the person with TB of the lungs sneezes, coughs, laughs, spits, sings, talks, breathes
- The droplets are then inhaled by exposed person into the lungs and deposited into the alveoli.



Source: CDC, 2000

TB Natural History



Risk factors for TB Infection

- Contact with a person with active Pulmonary TB (PTB) especially Bacteriologically confirmed PTB and closer contacts (household and close contacts). Close contacts include schools.
- Living in countries with a high TB burden such as Uganda
- High HIV rates in the community because people living with HIV have an increased risk for TB.

Risk factors for TB Disease

- Young age (especially less than 2 years).
- Human Immune Deficiency Virus (HIV) infection
- Malnutrition
- Other Immune-suppressive conditions like post measles disease

Risk factors for Severity of Disease

- Young age (especially less than 2 years)
- HIV infection
- Lack of BCG vaccination

Standard TB Case Definitions

- **Presumptive TB patient (PTP)** - Is any patient who presents with symptoms and signs suggestive of TB (previously called a TB suspect).
- **Bacteriologically confirmed TB patient (BC)** - Is one from whom a biological specimen is positive for TB by smear microscopy, culture, Nucleic Acid Amplification Tests. E.g. GeneXpert MTB/RIF
- **Clinically diagnosed TB patient (CD)** – Is one who does not fulfil the criteria for bacteriological confirmation but has been diagnosed with active TB by a clinician (doctor, clinical officer, midwife or nurse) and has decided to give the patient a full course of TB treatment. This includes cases diagnosed on the basis of X-ray, TB-LAM, suggestive histology and extra-pulmonary (EPTB) cases without laboratory confirmation.

Classification of TB

1. **Anatomical site of the disease** - Pulmonary TB, Extra Pulmonary TB.
2. **Patient's history of previous treatment** - New patients; Previously treated TB patients (relapse, Treatment after failure patients, Treatment after loss to follow-up patients, Other previously treated patients.
3. **HIV status** - HIV-positive TB patient, HIV-negative TB patient.
4. **Drug susceptibility and resistance to anti TB medicines** -Drug Susceptible TB and Drug Resistant TB (Mono resistance, Poly drug resistance, Multidrug resistance (MDR), Extensive drug resistance (XDR), Rifampicin resistance (RR), "Pre-XDR" TB.

Classification based on resistance to anti TB medicines

- **Mono resistance**: resistance to one first-line anti-TB drug only.
- **Poly drug resistance**: resistance to more than one first-line anti-TB drug (other than both Isoniazid and Rifampicin).
- **Multidrug resistance**: resistance to at least both Isoniazid and Rifampicin.
- **Extensive drug resistance**: resistance to any fluoroquinolone and to at least one of three second-line injectable drugs (Capreomycin, Kanamycin and Amikacin), in addition to multidrug resistance.
- **Rifampicin resistance:** Resistance to Rifampicin detected using phenotypic (usual drug susceptibility testing, DST) or genotypic methods (commonly Xpert MTB/Rif), with or without resistance to other anti-TB drugs.
- **"Pre-XDR" TB**: refers to an isolate that is resistant to either a fluoroquinolone or a second-line injectable, but not both. It is a commonly used designation but not officially accepted terminology by WHO or the global TB community.

BURDEN OF TUBERCULOSIS IN UGANDA

- TB is four times more prevalent among men than women; more among urban populations than rural; more among the young and the elderly. TB hot spots exist and there is poor health seeking behaviour in the population.
- Annually, 40% of the expected new and relapse TB patients are not diagnosed and reported. Missed TB cases pose a serious threat as they continue to fuel TB transmission in the community.
- The prevalence survey found that 61% of individuals with chronic cough sought care for their cough. However, only 16% of symptomatic cases were offered appropriate TB investigations.
- TB treatment success rates remain below the national and global targets with very high lost to follow up and death rates as per NTLP reports. The high lost to follow up rates results in increasing numbers of drug-resistant TB, which is more difficult to manage.
- TB leads to loss of income during sickness and death and increases vulnerability of households.

Social Economic Impact of TB

Period of sickness

- loss of income
- Increased medical expenses
- Missing school or to care for the sick

Death period

- Funeral expenses
- Permanent loss of income

Increased vulnerability of households

- Less money for food → impact on nutrition
- Less money for health care → impact on family health
- Less money for education→ school drop outs →severe loss of future earning potential
- Loss of income → poverty

10 Point Package for Improving TB Case Finding

The following minimum interventions have been designed by MOH to be implemented at each health facility for improved quality of TB care and reduce the missed TB cases:

1. Training of all health workers irrespective of previous training in TB.
2. Establishment of a case finding team headed by the in-charge.
3. Instituting provider initiated systematic screening for TB at all service delivery points and actively link clients testing positive to care.
4. Conduct health education, display IEC materials on TB symptoms and signs at SDPs.
5. Systematic screening of all house-hold contacts and close contacts of TB patients for active TB.
6. Recruit and train community volunteers to assist in TB screening.
7. Timely quantification and ordering TB supplies and reagents at facility-level.
8. Carry out CXR for all presumptive TB patients (high risk groups).
9. Each health facility to map and train private health care providers in their catchment areas to screen and refer patients/samples for TB testing.
10. Continuously collect accurate and complete data, analyze and use it for decision making.

† Exercise: Questions for personal feedback

1. What is Tuberculosis?
2. How is TB transmitted?
3. What are the risk factors for TB infection, disease and severity of disease?
4. How is TB classified?
5. Who is a Presumptive TB patient?
6. What are the barriers to active TB case finding at this facility?

† Practical session

- Think through the NTLP 10 Point Package for Improving TB Case Finding at your facility.
- Identify the key interventions you are able to carry out immediately after this training.

TB SCREENING AND DIAGNOSIS

Symptoms suggestive of PTB among children

- Persistent cough for 2 weeks or more
- Persistent fever for 2 weeks or more
- Weight loss or poor weight gain for 1 month or more
- History of close or household TB contact
- Reduced playfulness or decreased activity in the presence of any of the above symptoms
- Older children may present with any of the following in addition to the above:- excessive night sweats, chest pain, hemoptysis
- Symptoms of TB among neonates are non specific and may include:- lethargy, poor feeding, low birth weight, non resolving pneumonia, maternal history of TB or HIV infection.

Symptoms suggestive of PTB among adolescents and adults

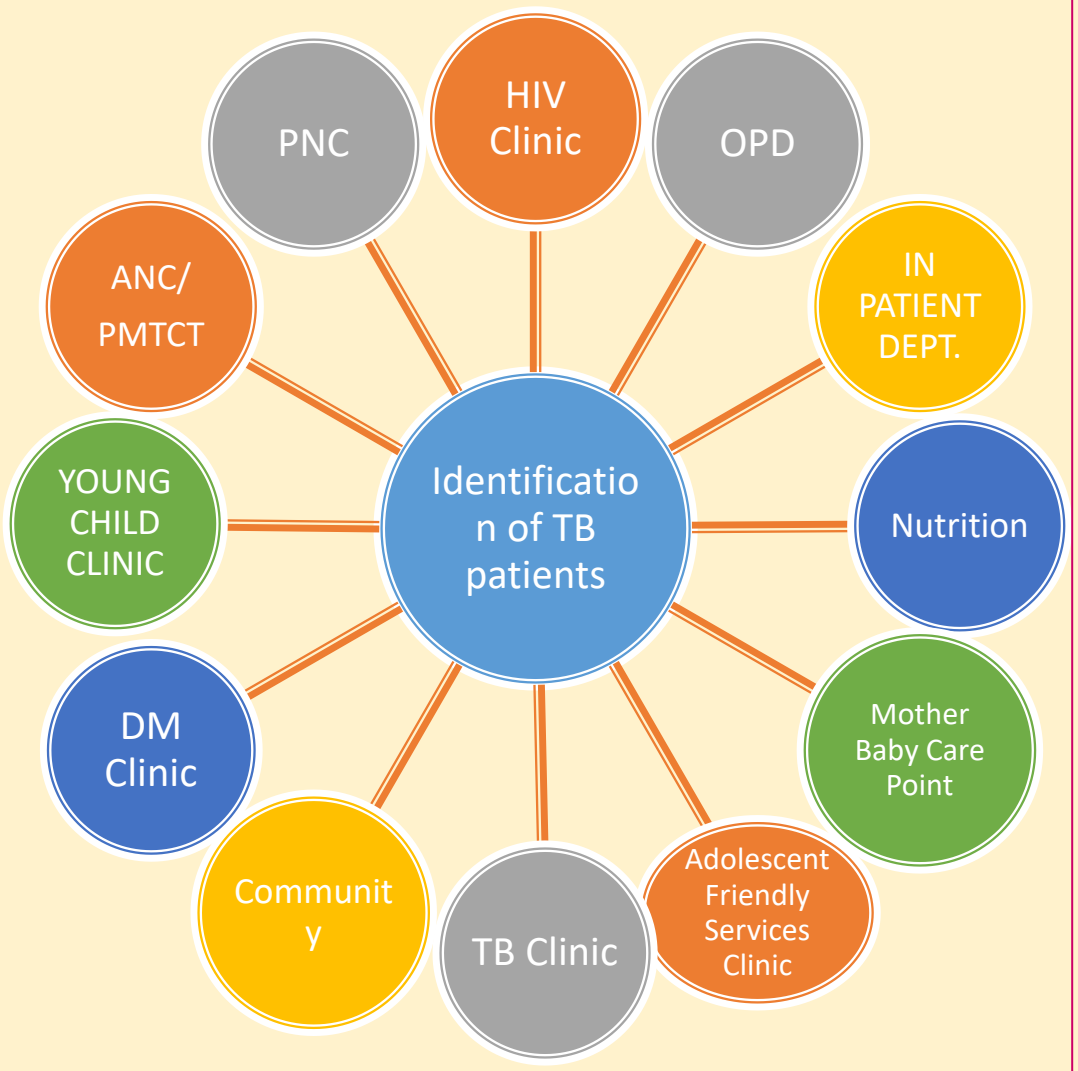
- Persistent cough for 2 weeks or more
- Persistent fever for 2 weeks or more
- Unexplained weight loss
- Excessive night sweats for 3 weeks or more
- Hemoptysis
- Chest pain

Symptoms suggestive of EPTB among children, adolescents and adults

- **TB adenitis:** Painless swellings in the neck or armpits with or without discharging sinus
- **TB meningitis:** Headache, irritability, abnormal headache, vomiting (without diarrhea), lethargy, reduced loss of consciousness, convulsions, neck stiffness, bulging fontanelle
- **Miliary TB:** Non specific symptoms such as lethargy, fever, wasting
- **Pleural TB:** Difficulty in breathing, chest pain

- **Abdominal TB:** Abdominal swelling, abdominal masses
- **TB spine:** Deformity of the spine, lower limb weakness, paralysis, inability to walk
- **Bone and joint TB:** Swelling of long bones (usually painless), difficulty in movement:
- **Pericardial TB:** Difficulty in breathing, easy fatigability, palpitations, chest pain

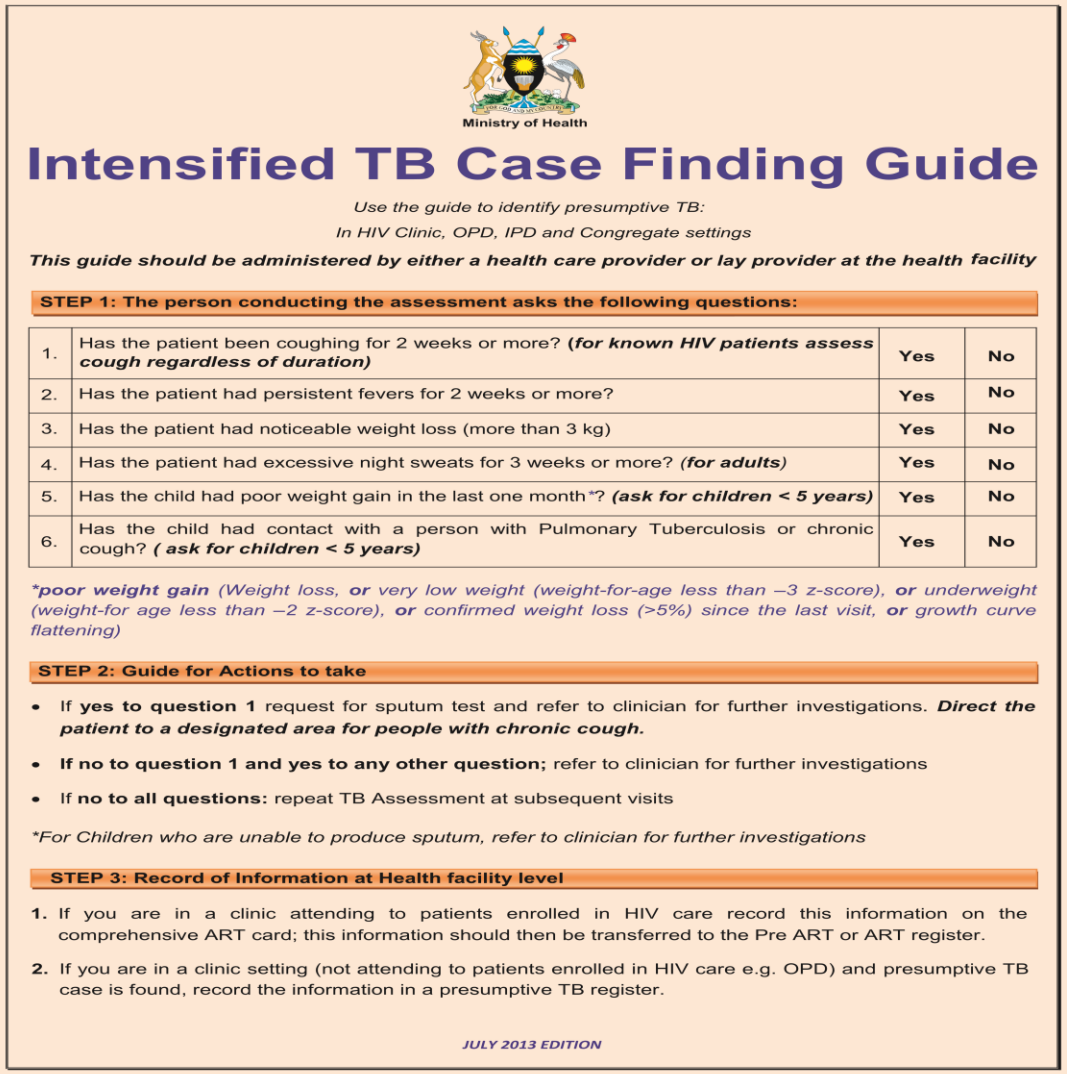
Care entry points for identification of TB patients and Indicators for assessing screening and TB case detection



Monitor Screening efforts at every entry point. Use run charts to track progress:

1. Proportion of people screened among those eligible	$= \frac{\text{Number of people screened}}{\text{Number of people eligible for screening}} * 100$ **(Target = 100%)**
2. Proportion of people with presumptive TB identified among those screened	$= \frac{\text{Number of people with presumptive TB identified}}{\text{Number ofNumber of people screened}} * 100$ **(Target = 10%)**
3. Proportion of people tested/evaluated for TB among those with presumptive TB	$= \frac{\text{Number of people tested/evaluated for TB disease}}{\text{Number of people with presumptive TB identified}} * 100$ **(Target = 100%)**
4. Proportion of people diagnosed among those screened and tested	$= \frac{\text{Number of people diagnosed with TB}}{\text{Number of people tested/evaluated for TB disease}} * 100$ **(Target = 10%)**

Screen for TB at all care entry points using the ICF Guide



Ministry of Health

Intensified TB Case Finding Guide

Use the guide to identify presumptive TB:

In HIV Clinic, OPD, IPD and Congregate settings

This guide should be administered by either a health care provider or lay provider at the health facility

STEP 1: The person conducting the assessment asks the following questions:

1.	Has the patient been coughing for 2 weeks or more? ***(for known HIV patients assess cough regardless of duration)***	Yes	No
2.	Has the patient had persistent fevers for 2 weeks or more?	Yes	No
3.	Has the patient had noticeable weight loss (more than 3 kg)	Yes	No
4.	Has the patient had excessive night sweats for 3 weeks or more? ***(for adults)***	Yes	No
5.	Has the child had poor weight gain in the last one month*? ***(ask for children < 5 years)***	Yes	No
6.	Has the child had contact with a person with Pulmonary Tuberculosis or chronic cough? ***(ask for children < 5 years)***	Yes	No

****poor weight gain*** *(Weight loss, **or** very low weight (weight-for-age less than –3 z-score), **or** underweight (weight-for age less than –2 z-score), **or** confirmed weight loss (>5%) since the last visit, **or** growth curve flattening)*

STEP 2: Guide for Actions to take

- If **yes to question 1** request for sputum test and refer to clinician for further investigations. ***Direct the patient to a designated area for people with chronic cough.***
- **If no to question 1 and yes to any other question;** refer to clinician for further investigations
- If **no to all questions:** repeat TB Assessment at subsequent visits

**For Children who are unable to produce sputum, refer to clinician for further investigations*

STEP 3: Record of Information at Health facility level

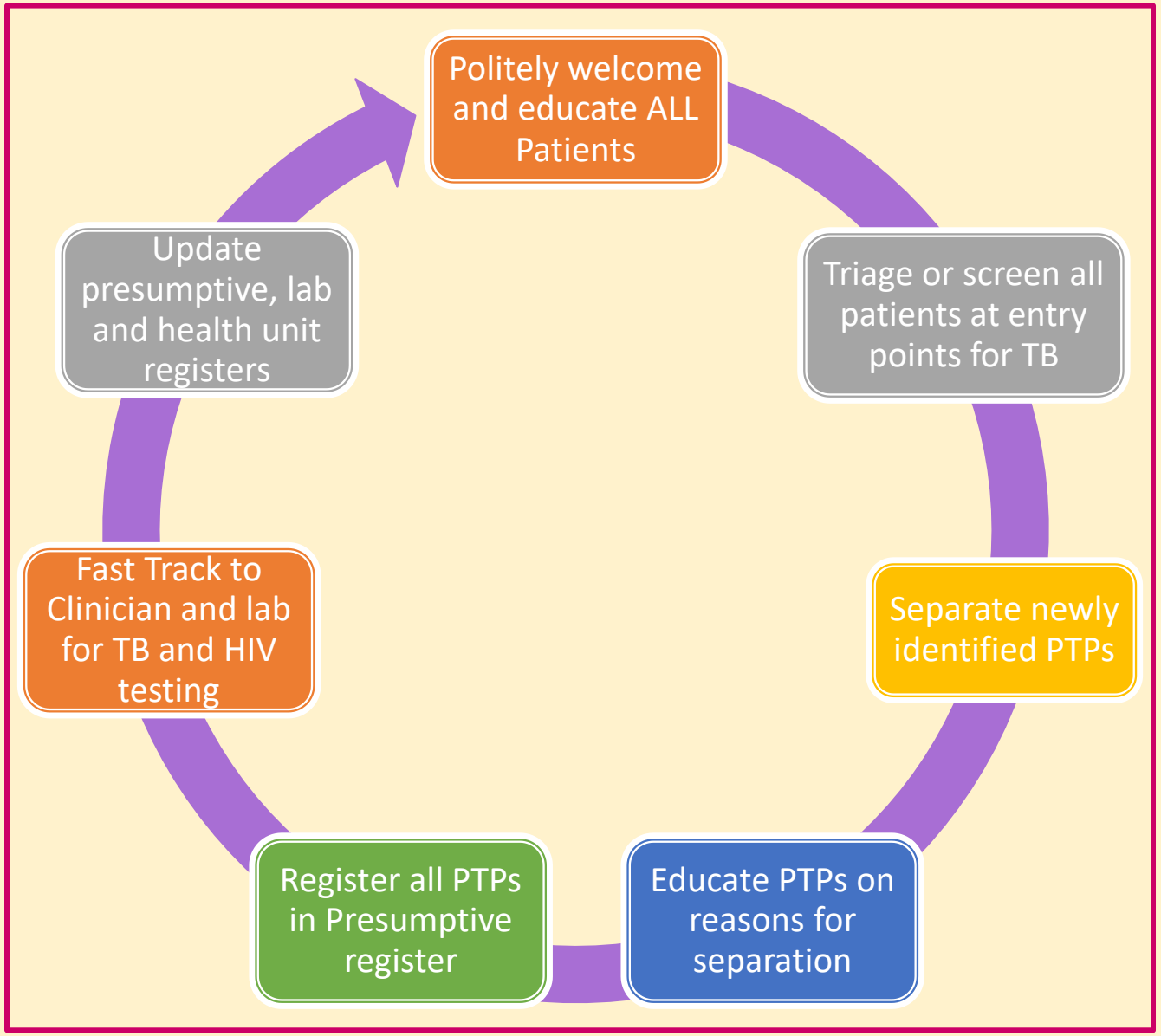
1. If you are in a clinic attending to patients enrolled in HIV care record this information on the comprehensive ART card; this information should then be transferred to the Pre ART or ART register.
2. If you are in a clinic setting (not attending to patients enrolled in HIV care e.g. OPD) and presumptive TB case is found, record the information in a presumptive TB register.

JULY 2013 EDITION

What is hindering identification of persons with TB?

- Is screening part of routine triage activities?
- Is there a designated person to identify persons with presumptive TB?
- Are you referring patients or samples to the lab?
- Are TB sample containers available at all entry points?
- Are TB samples prioritized for testing?
- Is there a system to track patient/sample movement between entry points and the lab?
- Are patients getting their test results and initiating treatment on the same day?
- Do private drug shops/clinics know they can refer samples or patients for TB screening/diagnosis?

Identifying Presumptive TB patients at Care Points

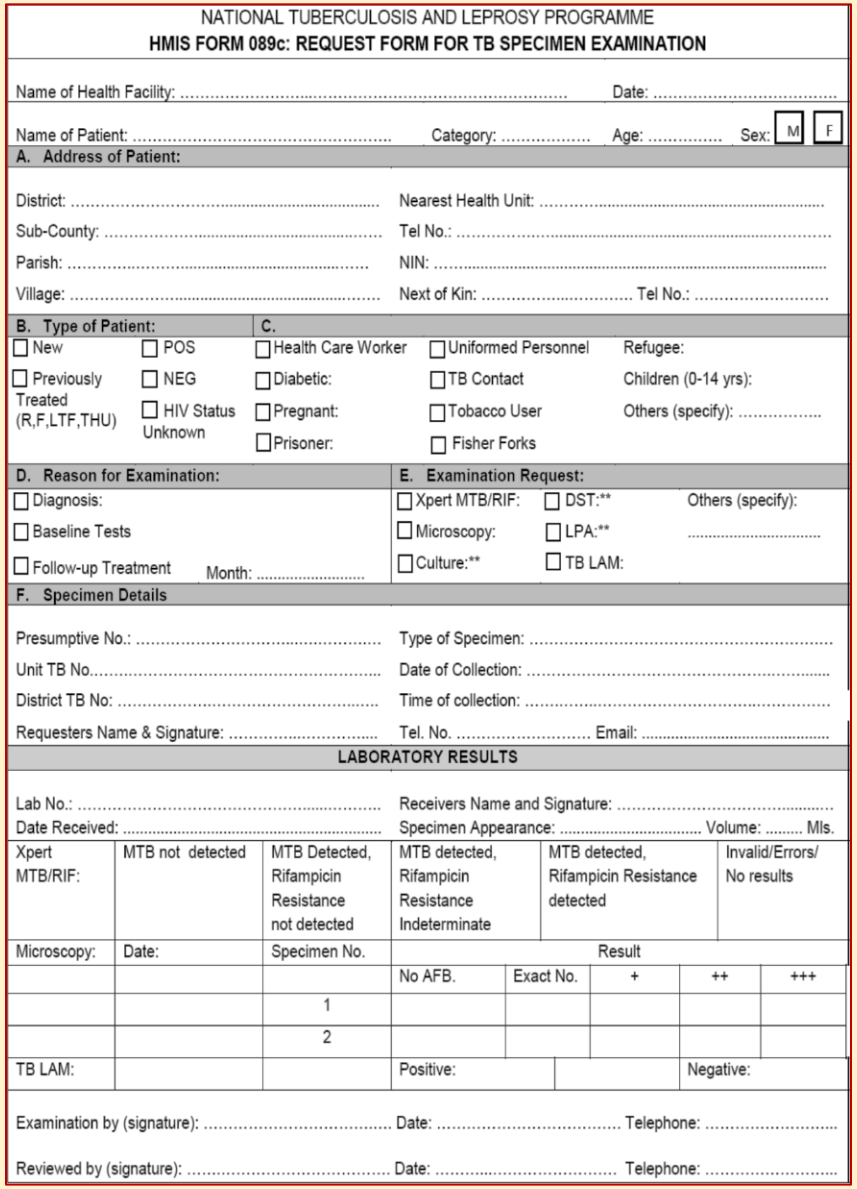


- **Fast Tracking:** Attend to every Presumptive TB Patient (PTP) quickly
- **Separate:** Identify coughers quickly and ask them to wait near an open window or in a comfortable area away from public (coughers corner)
- **Health education:** Educate all patients, PTPs, TB patients and their families about cough etiquettes
- **Collect specimen:** Send PTPs outdoors to collect sputum sample, away from other people
- **Register:** Update presumptive, OPD and other registers as required.

Laboratory Investigations

Specimen collection procedures:

- Collection must be discussed with the patient in detail. Explain to the patient the nature of the desired specimens.
- Sputum collection must done in a well ventilated area
- Collect all specimens in clean, sterile, clear, appropriate container.
- Label the container with the patient's name, lab number, date and time of collection.
- Complete all needed lab request form (**figure**) and send with specimen to the laboratory.
- Collect initial specimens before antimicrobial therapy is started.
- Collect a (minimum of 2 mls of sputum/ sufficient material for the test required.
- Do not add any fixatives or preservatives to the sample



NATIONAL TUBERCULOSIS AND LEPROSY PROGRAMME

HMIS FORM 089c: REQUEST FORM FOR TB SPECIMEN EXAMINATION

Name of Health Facility: ..... Date: .....

Name of Patient: ..... Category: ..... Age: ..... Sex: M F

A. Address of Patient:

District: ..... Nearest Health Unit: .....

Sub-County: ..... Tel No.: .....

Parish: ..... NIN: .....

Village: ..... Next of Kin: ..... Tel No.: .....

B. Type of Patient:

☐ New ☐ POS

☐ Previously Treated (R,F,LTF,THU) ☐ NEG ☐ HIV Status Unknown

C.

☐ Health Care Worker ☐ Uniformed Personnel Refugee:

☐ Diabetic: ☐ TB Contact Children (0-14 yrs):

☐ Pregnant: ☐ Tobacco User Others (specify): .....

☐ Prisoner: ☐ Fisher Forks

D. Reason for Examination:

☐ Diagnosis:

☐ Baseline Tests

☐ Follow-up Treatment Month: .....

E. Examination Request:

☐ Xpert MTB/RIF: ☐ DST:** Others (specify):

☐ Microscopy: ☐ LPA:** .....

☐ Culture:** ☐ TB LAM:

F. Specimen Details

Presumptive No.: ..... Type of Specimen: .....

Unit TB No..... Date of Collection: .....

District TB No: ..... Time of collection: .....

Requesters Name & Signature: ..... Tel. No. ..... Email: .....

LABORATORY RESULTS

Lab No.: ..... Receivers Name and Signature: .....

Date Received: ..... Specimen Appearance: ..... Volume: ..... Mls.

Xpert MTB/RIF:	MTB not detected	MTB Detected, Rifampicin Resistance not detected	MTB detected, Rifampicin Resistance Indeterminate	MTB detected, Rifampicin Resistance detected	Invalid/Errors/ No results

Microscopy:	Date:	Specimen No.	Result				
			No AFB.	Exact No.	+	++	+++
		1					
		2					

TB LAM:			Positive:		Negative:

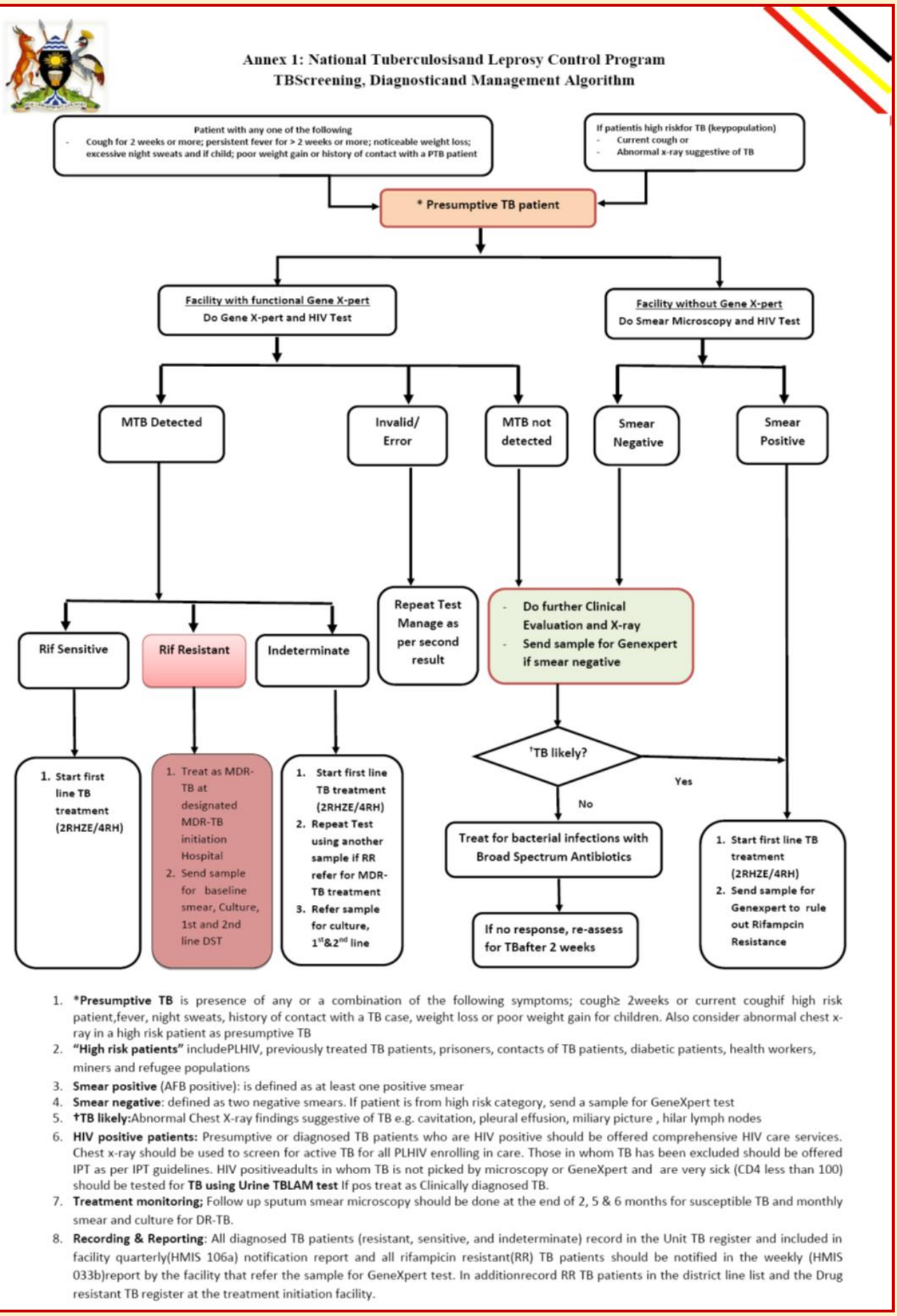
Examination by (signature): ..... Date: ..... Telephone: .....

Reviewed by (signature): ..... Date: ..... Telephone: .....

Methods used in lab diagnosis of TB

Available Tests	When used	
• Microscopy- light and fluorescent	• None availability or Non functional Xpert MTB/RIF and treatment monitoring	• Sputum, Aspirates, CSF
• X-pert MTB/Rif assay	• Initial test for ALL presumptive TB cases if available. NOT FOR FOLLOW UP	• Sputum (expectorated or induced), Aspirates (gastric, nasopharyngeal, lymph node), CSF
• Culture (MGIT and LJ media)	• Diagnosis and Treatment monitoring of DR-TB	• Sputum, Aspirates, CSF
• Line Probe Assay (LPA)	• Rapid identification of MTB for First and Second Line medicines	• AFB smear-positive sputum specimens; cultures
• Lipoarabinomannan assay (TB LAM)	• Diagnosis of active TB in PLHIV, CD4≤100. Not a confirmatory test	• Urine
• Histopathology	• TB cytology for diagnosis	• Tissue biopsy

Algorithm for diagnosis and management of TB



1. ***Presumptive TB** is presence of any or a combination of the following symptoms; cough≥ 2weeks or current coughif high risk patient,fever, night sweats, history of contact with a TB case, weight loss or poor weight gain for children. Also consider abnormal chest x-ray in a high risk patient as presumptive TB
2. **"High risk patients"** includePLHIV, previously treated TB patients, prisoners, contacts of TB patients, diabetic patients, health workers, miners and refugee populations
3. **Smear positive** (AFB positive): is defined as at least one positive smear
4. **Smear negative**: defined as two negative smears. If patient is from high risk category, send a sample for GeneXpert test
5. **†TB likely:**Abnormal Chest X-ray findings suggestive of TB e.g. cavitation, pleural effusion, miliary picture , hilar lymph nodes
6. **HIV positive patients:** Presumptive or diagnosed TB patients who are HIV positive should be offered comprehensive HIV care services. Chest x-ray should be used to screen for active TB for all PLHIV enrolling in care. Those in whom TB has been excluded should be offered IPT as per IPT guidelines. HIV positiveadults in whom TB is not picked by microscopy or GeneXpert and are very sick (CD4 less than 100) should be tested for **TB using Urine TBLAM test** If pos treat as Clinically diagnosed TB.
7. **Treatment monitoring;** Follow up sputum smear microscopy should be done at the end of 2, 5 & 6 months for susceptible TB and monthly smear and culture for DR-TB.
8. **Recording & Reporting**: All diagnosed TB patients (resistant, sensitive, and indeterminate) record in the Unit TB register and included in facility quarterly(HMIS 106a) notification report and all rifampicin resistant(RR) TB patients should be notified in the weekly (HMIS 033b)report by the facility that refer the sample for GeneXpert test. In additionrecord RR TB patients in the district line list and the Drug resistant TB register at the treatment initiation facility.

*If MTB TRACE Detected, Rifampicin Resistance Indeterminate ("trace calls"):

- Among persons with **HIV, children and extra-pulmonary specimens**, treat with first line TB treatment
- Among **HIV negative patients**, repeat testing using another specimen. The result of the second Ultra test should be used for clinical decisions and patient follow-up
- Among all patients that test **MTB TRACE Detected, Rifampicin Resistance Indeterminate** another sample should be collected and sent to NTRL (for culture and DST). Samples should be sent through the HUB system.

Clinically Diagnosed (CD) TB

- Not all TB can be confirmed in the laboratory
- A CD case is one who does not fulfil the criteria for bacteriological confirmation
- But has been diagnosed with active TB by a clinician or other medical practitioner who has decided to give the patient a full course of TB treatment.
- This definition includes cases diagnosed on the basis of X-ray abnormalities or suggestive histology, TB LAM and EPTB cases without laboratory confirmation.
- CD cases found to be bacteriologically positive before or during treatment should be re-classified as BC (Bacteriologically confirmed)

Steps to carrying a clinical TB diagnosis include:

- Identify TB signs and symptoms
- Make a physical examination
- Investigate the patient

Identify signs and symptoms of PTB

Pulmonary TB - Adult patient

- Slow onset and chronic course
- Chest symptoms
  - Cough ≥ 2 weeks
  - Blood stained sputum (some times)
  - Chest pain
- Evening fevers
- Excessive night sweats
- Noticeable weight loss

Pulmonary TB - pediatric patient

Depends on age and organ affected

In new born TB presents with following:

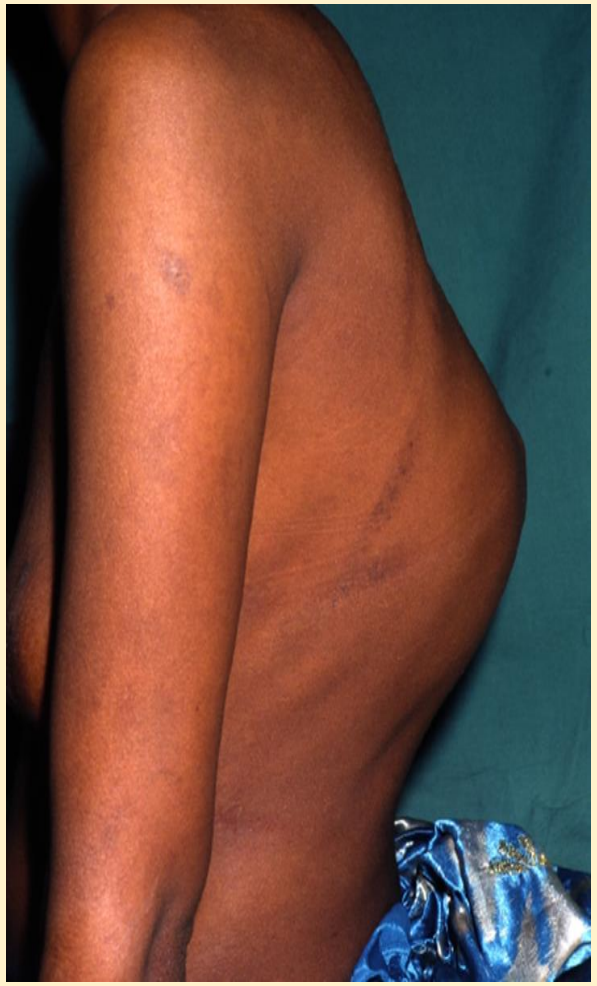
- History of maternal TB or HIV infection.
- History of un-resolving pneumonia or contact with an index TB case
- Non-specific symptoms that may include any of the following:
  - Poor feeding
  - Lethargy
  - Low birth weight
  - Poor weight gain

Symptoms of PTB in children less than 5 years

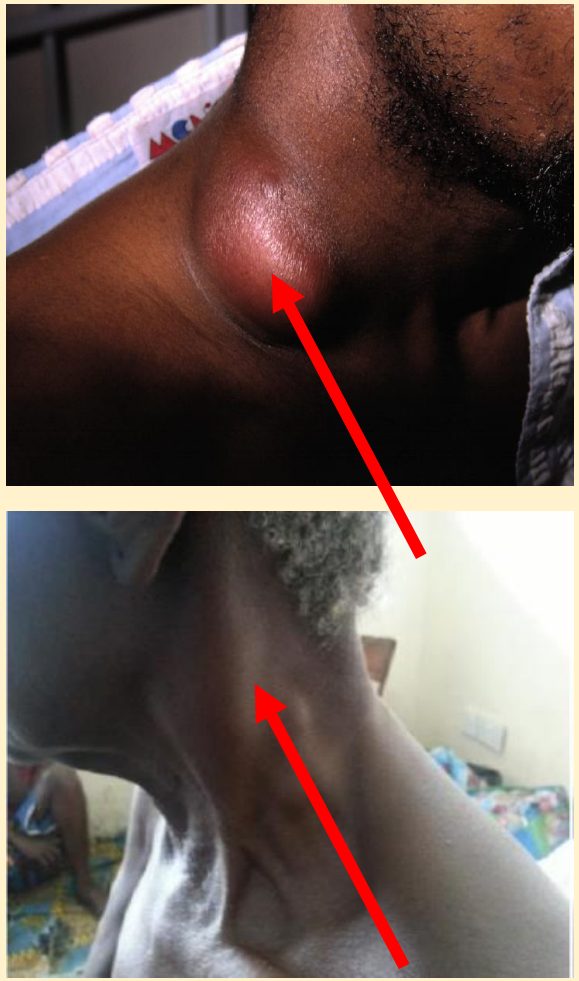
- Persistent Cough for ≥ weeks
- Persistent Fever for ≥ weeks
- Poor weight gain for ≥ 1month
- Painless swellings in the neck, armpit, or groin (lymph nodes)
- History of a close contact with a PTB case.
- Reduced physical activity

Identify signs and symptoms of EPTB

- Depends on site/organ affected:
- Signs and symptoms are normal in mild–moderate disease
- Physical examination helps to identify extra pulmonary sites of involvement.
  - TB lymphadenitis: lymph node swelling, +/- matted, +/- sinuses.
  - TB Arthritis: Joint swelling, +-effusion, pain, tenderness
  - TB Spine: bone tenderness, Gibbus - acute angulation of spine with or without neurological damage
  - TB meningitis: Apathy, headache, altered levels of consciousness, stiff neck, convulsions
  - Abdominal TB: Abdominal pain/swellings
  - TB Skin : Chronic ulcers
  - TB Otitis media - present with chronic suppurative otitis media



Gibbus
(acute angulation of spine)



Lymphadenitis in the left posterior triangle of the neck

Extra-Pulmonary TB (EPTB) forms occur in any tissue of the body

- Skin and soft tissue
- Lymph nodes
- Bones and joints
- Middle ear
- Skin

- **Intra abdominal structures**
  - Kidneys
  - Peritoneum
  - Adrenal glands
  - Lymph nodes
- **Central nervous system**
  - Tuberculoma
  - Meningitis

How to make a clinical diagnosis of TB in children (children with a negative laboratory result or children without a sputum sample)

- **Does the HIV NEGATIVE CHILD HAVE 2 OR MORE of the following?**

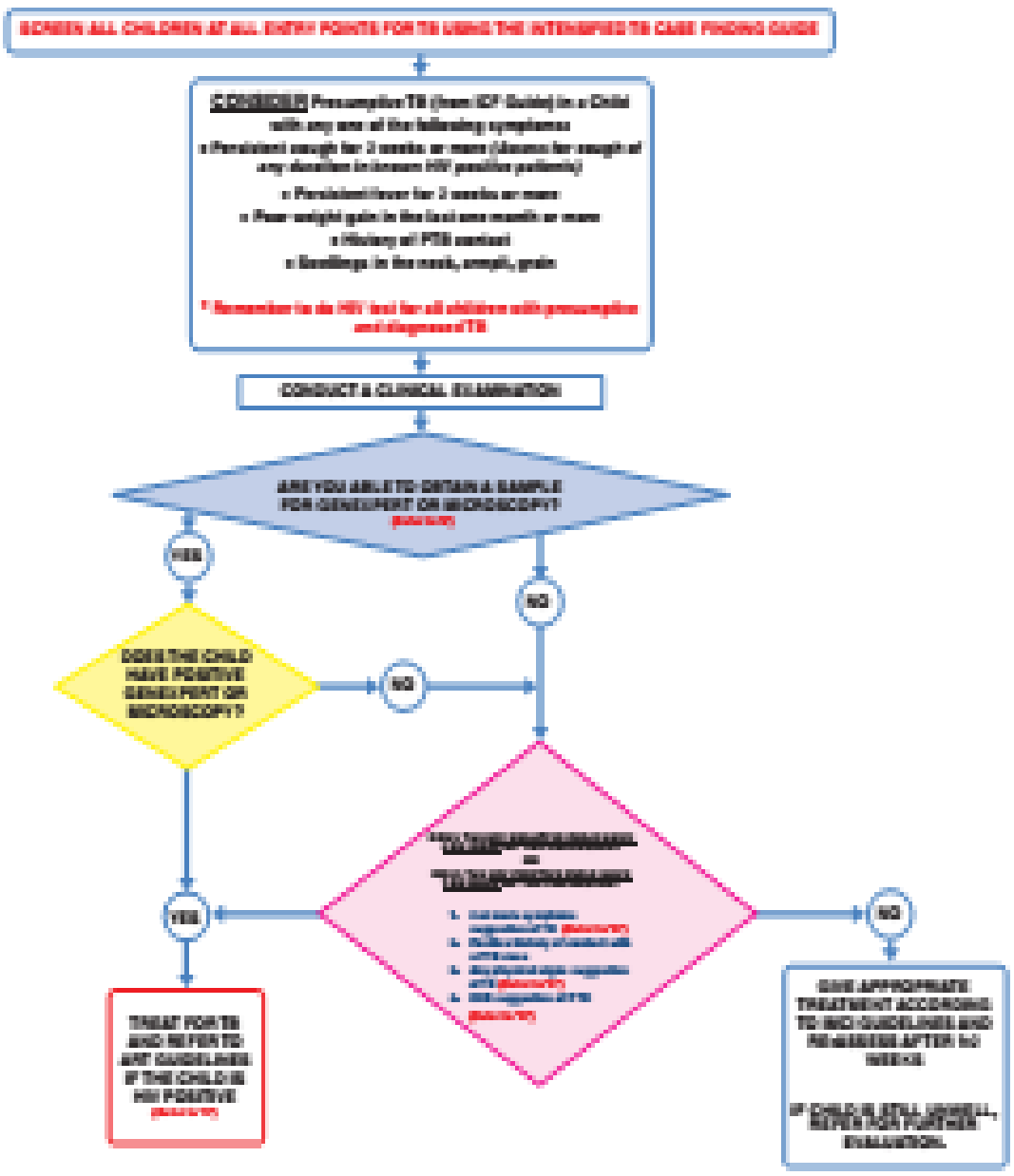
OR

- **Does the HIV POSITIVE CHILD HAVE 1 OR MORE of the following**
  a) 2 or more symptoms suggestive of TB *(Persistent cough for 2 weeks or more, Persistent fever for 2 weeks or more, Poor weight gain in the last one month or more)*
  b) Positive history of contact with a PTB case
  c) Any physical signs suggestive of *TB (Severe malnutrition, Enlarged lymph nodes around the neck or the arm pit (TB adenitis), Acute pneumonia not responding to a complete course of appropriate broad spectrum antibiotics, Recurrent pneumonias (defined as at-least 2 episodes of pneumonia in a year with at-least 1 month of clinical recovery between episodes), Persistent wheeze not responding to bronchodilators (usually asymmetrical),Presence of a swelling on the back (Gibbus),Signs of meningitis in a child with symptoms suggestive of TB)*
  d) Chest X-ray (CXR) suggestive of PTB *(Miliary picture, Hilar adenopathy, Cavitation)*

If Yes to the questions above, start TB treatment and refer to consolidated ART guidelines for TB/HIV co-infected children

If No, Give appropriate treatment according to IMCI guidelines and re-assess after 1 – 2 weeks.

ALGORITHM FOR THE DIAGNOSIS OF TB IN CHILDREN



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† Exercise: Questions for personal feedback

1. What are the symptoms suggestive of PTB/EPTB among children, adolescents, adults?
2. What are the recommended specimen collection procedures?
3. What are the major methods used in lab diagnosis of TB?
4. Who is a clinically diagnosed TB patient?

† Practical session

- Identify the steps for identifying Presumptive TB cases at the care entry points.
- Demonstrate how to use ICF guide at facility care entry points for finding Presumptive TB cases.
- Demonstrate how to fill the presumptive TB register and other registers (OPD, ART,ANC)
- Identify the steps a Presumptive TB client goes through at the health facility (TB screening, diagnosis and management). Explain the drivers for patient 'DROP OUT' during the TB patient cascade.
- Go through the algorithm for TB diagnosis and management in adults and children.
- Demonstrate how to fill the health unit laboratory request form and register.

Communication and Counseling in TB and Leprosy

Principals of effective communication:

1. Open and receptive – to the feelings and attitude of the patient.
2. Appropriate response – words that acknowledge patients feelings (empathy)
3. It is two way – from sender to receiver and feedback is made from receiver back to sender.

Communicating W.E.L.L

- **W** = Welcome your patient
- **E** = Encourage your patient to talk
- **L** = Look at your patient
- **L** = Listen to your patient

Messages for Educating TB Patients

EDUCATE TB PATIENT - at start (0) and re-enforcing key messages at 2, 5 and 6 months at each visit and at every available opportunity.

1. Explain the meaning of TB diagnosis to the patient
2. Tuberculosis is a disease affecting mainly the lungs but the spine, bone and other organs may be affected.
3. Coughing spreads the TB germs. TB is not spread through sharing utensils or clothes.
4. Cover your mouth when you cough - bury any sputum you've coughed out.
5. TB is cured by taking the full course of TB treatment (6 months for both adults and children) or as advised by the health provider. If you do not complete treatment, TB will not cure, may become resistant and cause death.
6. Follow up sputum examination will be done at 2, 5 and 6 months of treatment to monitor response to treatment.

Messages for Educating TB Patients

6. TB medicines are free of charge.
7. There is no reason to lose hope because TB is curable.
8. You should eat a balanced diet and do not drink alcohol or smoke.
9. TB cures when medicines are taken in the right doses, at the right time for the right duration.
10. TB and HIV occur commonly together. Therefore it is important that once you are found with one, you are carefully checked for the other so as to manage you better.
11. Should you be found to have HIV as well, the two diseases will be managed together by your health worker and the TB can still be cured when you take TB medicines. After TB is cured, you will continue with HIV care.

Explain the treatment to the patient

1. Show the medicines, demonstrate and explain the amount to be taken daily.
2. Explain the importance of adherence to the treatment and being observed while swallowing the medicines also known as Directly Observed Therapy (DOT).
3. Arrange and initiate DOT by engaging a suitable treatment supporter who may be a family member or another trusted and acceptable to the patient. The treatment supporter should be old enough and capable of influencing the patient and should be able to read and write.
4. Counsel the patient and educate both the patient and the treatment supporter so that they understand each other's roles.
5. Side effects to TB medicines may occur e.g. red/orange urine, nausea and vomiting, loss of appetite, yellowing of eyes, skin rashes, etc. Consult a health worker for advice.
6. Educate the patient on cough hygiene and infection control (refer to section under TB infection control).

Explain about DOT

Explain the importance of DOT to the patient, and why it is important to continue taking medicines.

1. It is important that you take your medicines every day, for six months (12 months for bone and meningeal TB) to get cured.
2. Continue taking your medicines for the full course of prescribed treatment even when you feel well.
3. If very sick, you may be admitted and health worker will observe you taking medicines. But if at home, a treatment supporter will observe you take your medicines daily throughout treatment.
4. The chosen treatment supporter will support you to take the right medicines in the right doses for the right length of time - so that you get cured.
5. You should tell your treatment supporter if there are any unwanted effects due to TB medicines. The treatment supporter can go with you to the health facility for checkup and for more health education and counseling.

Explain about DOT

6. The CHW will visit to deliver medicines (initially every 2 weeks for 2 months but later every 4 weeks) and to see that everything is going well with you until treatment is completed.
7. If the CHW does not deliver the medicines as expected, yourself or the treatment supporter should endeavor to collect these medicines without fail.
8. **Ask** the patient if s/he has any questions or concerns and address them.
9. Help the patient to decide on a suitable model of DOT by considering how easy it is to identify a treatment supporter among others.

Roles and responsibilities

Health Unit In charge or HU Management Team	• Provide leadership and commitment in increasing TB case detection and improving treatment. Ensure medicines/supplies availability
Other Health facility clinicians	• To ensure active TB detection activities are conducted systematically • Monitors daily TB case detection activities in the health facility • Provide Health education on TB; display posters on TB symptoms and other client education materials in waiting areas; ensure updated TB diagnosis and treatment flow charts; • Make diagnosis of TB. Communicate results to the patient and prepare patient for treatment initiation • Monitor patients on treatment • Initiate IPT for eligible patients • Organise for screening of contacts

Roles and responsibilities

Laboratory staffs	• Provide simple and clear instructions to the patient; supervise specimen collection to ensure quality of samples sent to the lab. • Provide adequate laboratory supplies and commodities. • Monitor equipment service and maintenance of TB diagnostic equipment. • Implement a functional laboratory quality assurance system. • Use the most current TB diagnostic algorithms. • Give same day lab test results (Microscopy and/or Xpert) to the requesting clinician. (NO test result should be given directly to any patient).
Patient	• Practice cough etiquette • Collect quality specimens and submit to laboratory • Take TB medicines in the **right amounts**, **right dosages**, **right way** and **right time.** • Return to facility to replenish medicines, treatment monitoring visit • Report any unwanted reactions to the HCWs

TREATMENT OF SUSCEPTIBLE TB

Aims of TB Treatment

- Cure the TB patient
- Prevent complications and death from TB disease
- Prevent TB relapse
- Reduce TB transmission
- Prevent development of drug-resistant TB

Principles of TB treatment

- Treatment is by combination therapy of more than 3 drugs to prevent drug resistance:
  - Use of standardized regimen and Fixed Dose Combinations (FDCs)
- Once daily administration and exact dose for optimizing efficacy
- Taking TB drugs regularly under DOT as prescribed
- Never adding one drug to a failing regimen (at least two) to prevent further development of drug resistance

Considerations before, during and after TB treatment

- Classification of TB patient: by site, previous history, HIV status, and drug-susceptibility status
- Identify TB Regimen
- Dosing (adjusted for weight)
- Treatment initiation
- Identification of treatment adherence system (treatment supporter)
- Patient health education and counselling (disease, treatment and its duration, side effects, monitoring, frequency of clinic visits)

- Identification of HIV status and TB-HIV co-management
- Identification of other co-morbidities and management
- Treatment monitoring (clinically and laboratory)
- Linkage to TB support services e.g. management of malnutrition
- Adjunct therapy
- Recording and reporting
- Determination of TB treatment outcome (interim –e.g. Sputum conversion, and Final outcomes

What are the steps in initiating TB treatment?

Steps:	Procedure
Step 1:	Determine the type of TB disease
Step 2:	Determine the drug-susceptibility status of bacteriologically confirmed TB disease. Send a sample for Xpert testing within the 1st 2 months of TB treatment for patients with smear positive TB.
Step 3:	Select the recommended TB treatment regimen for drug susceptible TB
Step 4:	Determine the dosages of the anti-TB medicines
Step 5:	Prescribe and Initiate treatment under DOT (Directly Observed Therapy). Ensure that patient understands the disease and treatment
Step 6:	Use of adjunct therapy during TB treatment
Step 7:	Assess and manage other comorbidities (HIV, Malnutrition)

Type of TB	Disease category and recommended regimen		Comment
	New patient	Previously treated patient	
Susceptible/ Drug sensitive TB irrespective of age	2RHZE/4RH	2RHZE/4RH	• Both new and previously treated TB patients receive the same regimen • **Provided rifampicin resistance has been excluded**
	2RHZE/10RH*		• TB Meningitis†, TB of the Bones & joints, Spinal TB receive this regimen • *Treatment duration may be extended depending patient's response to treatment • Steroids may be added as adjuvant therapy.

Pediatric formulations

Ethambutol is available as a separate tablet and should be administered together with RHZ FDC.

Treatment of drug resistant TB

Refer all patients with RR on GeneXpert to a DR TB treatment initiation site for further management. Patient may be returned to your facility to continue treatment under DOT. Refer to the instructions the treatment facility brings with the patients for proper patient care and support.

First-line Anti-TB drugs, their characteristics and dosage

Drug	Adult Dose	Route of admin.	Side-effects	Contraindications	Important drug interactions
Isoniazid	10 mg/kg body wt. (max.300mg)	Oral	Hepatitis, peripheral neuropathy	Active liver disease, known hypersensitivity	Phenytoin, Carbamazepine
Rifampicin	10mg/kg body wt. (max.600mg)	Oral	Flu syndrome, dermatitis, hepatitis, reddish-brown coloration of urine	Hepatic dysfunction, hypersensitivity to Rifampicin	Oral contraceptives, Nevirapine, Warfarin, Phenytoin, Glibenclamide
Pyrazinamide	30 – 40 mg/kg body wt. (max. 2500 mg)	Oral	Joint pains, hepatitis	Hepatic impairment known hypersensitivity	None
Ethambutol	15mg/kg body wt.	Oral	Impaired visual acuity and colour vision	Pre-existing optic neuritis, established kidney failure	None

Doses for adult new cases

Pre-treatment body weight(kg)	**2 months initial phase**	**4 months continuation phase given daily**
	RHZE (150+75+400+275) mg	**RH (150+75) mg**
33-39	2 tablets	**2 tablets**
40-54	3 tablets	**3 tablets**
55-70	4 tablets	**4 tablets**
>70	5 tablets	**5 tablets**
If an adult is < 33kgs, determine the dose based on patient's weight using dosage table in previous slide.		

Dosage of pediatric TB anti-TB medicines by weight band

	Intensive phase (number of tablets per day)		Continuation phase (number of tablets per day)
Weight bands	RHZ (75/ 50/150mg)	E (100mg)	RH(75/50mg)
4-7 kg	1	1	1
8-11 kg	2	2	2
12-15 kg	3	3	3
16-24 kg	4	4	4
25kg and above	Use adult dosages and formulations		

Presentation of the new pediatric TB formulations

Medicine	Formulation	Specification
RHZ (75/50/150 mg) Rifampicin 75 mg/ Isoniazid 50 mg/ Pyrazinamide 150mg	Dispersible (Dissolvable) tablet	• Uncoated tablets, plain surface on both sides. The tablet should not be divided. • Packaging: film blister pack of 28 tablets x3 blisters or strips of 6 tablets x14 strips.
RH 75/50 Rifampicin 75 mg/ Isoniazid 50 mg	Dispersible (Dissolvable) tablet	• Uncoated tablets, break-lines on both sides. The tablet should not be divided. • Packaging: film blister pack of 28 tablets x3 blisters or strips of 6 tablets x14 strips.
E 100mg Ethambutol 100mg	Non dispersible/ dissolvable Tablet • Future formulations may be dispersible	• Ethambutol – 100mg Non dispersible/dissolvable tablet • Film coated • Packaging: 10 blisters of 10 tablets

Step 1: Prepare tablet, table spoon, cup and clean safe drinking water (Make sure your hands are clean)

Step 2: Put 1 - 5 table spoons of clean safe drinking water in the cup

Step 3: Put tablet (as advised by the health worker) in the cup with clean safe drinking water

Step 4: Wait for the tablet to dissolve

Step 5: Administer the Mixture

Step 6: Clean the area

However, the single formulation Ethambutol 100mg is not dispersible. Children have to swallow this tablet. The tab let can be crushed for younger children.

Patient Monitoring Schedule during TB treatment

		Week/Month on Treatment													
		Intensive Phase				Continuation Phase									
		0	2wk	4wk	8wk	3	4	5	6	7	8	9	10	11	12
Clinical Monitoring	Symptoms	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Signs	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Side effects	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Weight	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Adherence	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Laboratory Monitoring	GeneXpert	√													
	Smear Microscopy	√			√			√	√						
	HIV	√													
Radiological Monitoring	CXR	√													

Managing Treatment Interruption of 0-2 months

Action	Decision
• Trace the patient • Re – educate the patient • Support the patient to identify solutions to the problems to avoid future interruptions • Document a treatment plan • Continue treatment and compensate for missed doses	Re-initiated on treatment

Managing Treatment Interruption of >2 months

Action	Sputum results	Decision
• Trace the patient • Re – educate the patient • Support the patient to identify solutions to the problems to avoid future interruptions • Do GeneXpert • No treatment while waiting for results	Xpert negative	Clinical decision on individual basis whether to restart or continue treatment
	Xpert positive	If RR, refer for 2nd line treatment and obtain full DST
		If RS, Restart first line treatment

Treatment outcomes for TB patients with drug susceptible TB

1. **Cured**: A pulmonary TB patient with bacteriologically confirmed TB at the beginning of treatment who was smear- or culture-negative in the last month of treatment and on at least one previous occasion.
2. **Treatment completed**: A TB patient who completed treatment without evidence of failure but with no record to show that sputum smear or culture results in the last month of treatment and on at least one previous occasion were negative, either because tests were not done or because results are unavailable.
3. **Treatment failed**: A TB patient whose sputum smear or culture is positive at month 5 or later during treatment.
4. **Died**: A TB patient who dies for any reason before starting or during the course of treatment.
5. **Lost to follow-up**: A TB patient who did not start treatment or whose treatment was interrupted for 2 consecutive months or more.
6. **Not evaluated**: A TB patient for whom no treatment outcome is assigned. This includes cases "transferred out" to another treatment unit as well as cases for whom the treatment outcome is unknown to the reporting unit.
7. **Treatment success**: The sum of cured and treatment completed

† Exercise: Questions for personal feedback

1. What are the aims and principles of TB treatment?
2. What are the steps in initiating TB treatment?
3. Explain the TB Treatment Monitoring Schedule.
4. How can you manage Treatment Interruption of 0-2 months and >2 months?
5. What are the recommended TB Treatment outcomes?

† Practical session

- Demonstrate how to communicate with and counsel a TB client and family members
- Demonstrate how to administer TB medicines to a TB patient.
- Go through the roles and responsibilities of the HU In charge, TB/HIV team, Health facility TB Focal Person; OPD or Triage Nurse; Doctors and other clinicians, laboratory staffs and the patients in TB management.
- Demonstrate how to fill the TB patient card, patient transfer and referral form and the health unit TB register.
- Explain what to do when a rifampicin resistant TB patient is identified at the facility.

ONE-STOP-SHOP MODEL FOR TB / HIV SERVICES

TB and HIV services offered to a patient at the same time and location
(patient centered care)

TB care services

TB & TB-HIV patients:

- TB RX & monitoring
- HIV Testing Services
- Cotrimoxazole Prev. Therapy
- Antiretroviral therapy (ART)
- TB IC measures
- TPT for U-5 contacts
- Screen for pregnancy
- Contact tracing & index client HIV testing
- Screening for drug resistance

HIV care services

HIV & TB-HIV patients:

- Cotrim. Prev. Therapy
- TB Preventive Therapy (TPT)
- Anti retroviral therapy (ART)
- TB IC measures
- TB screening & diagnosis
- TB Treatment & monitoring
- Screen for pregnancy
- Contact tracing & index client HIV testing
- Screening for drug resistance

RMNCAH services

TB-eMTCT & eMTCT patients:

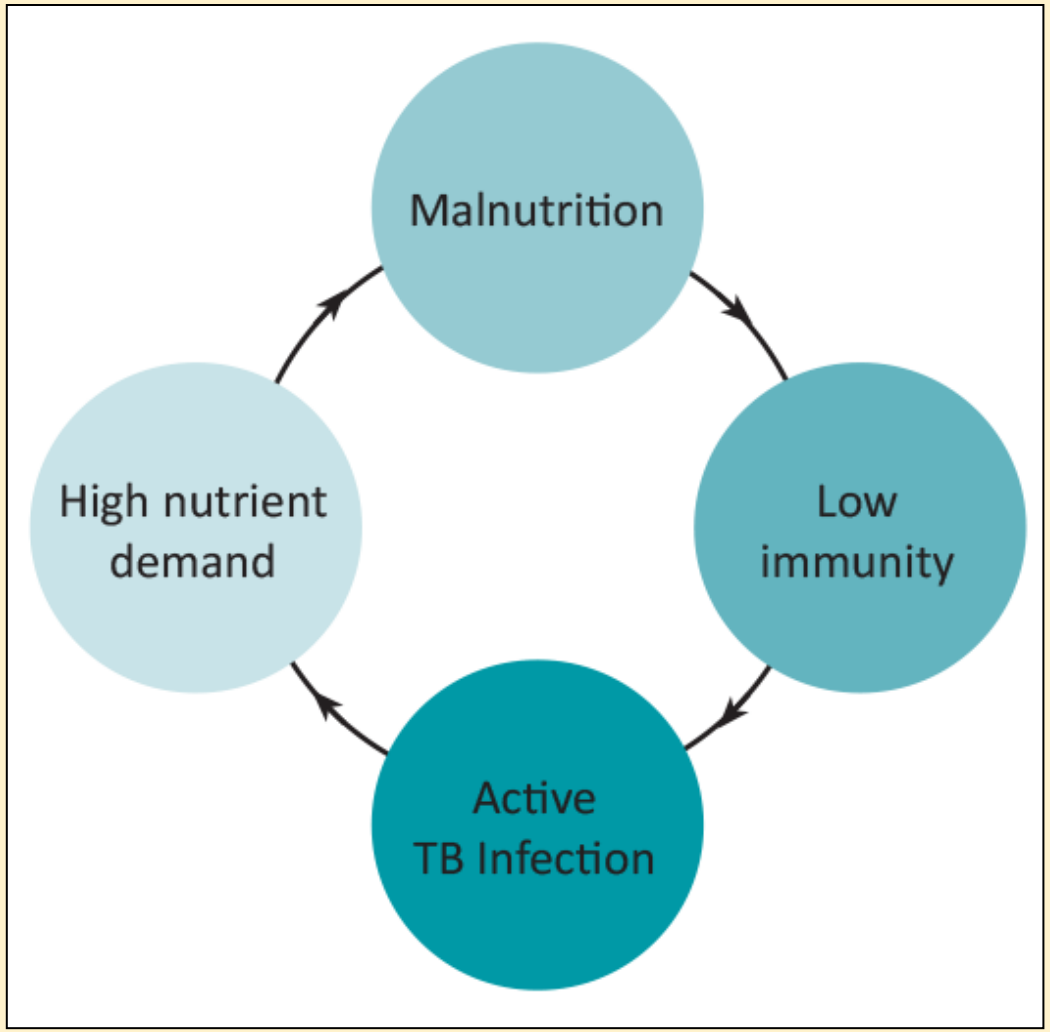
- MCH services including FP for DR-TB patients
- HIV Testing Services (HTS)
- Cotrim. Prev. Therapy (CPT)
- TB Preventive Therapy (TPT)
- Anti retroviral therapy (ART)
- TB IC measures
- TB screening & diagnosis
- TB Treatment & monitoring
- Contact tracing & index client HIV testing
- Screening for drug resistance

End of TB treatment

End of EID care

NUTRITION CARE AND SUPPORT FOR TB PATIENTS

- Under nutrition weakens the immune system thereby increasing risk of infection with TB or risk of re-activation of latent TB to active TB disease
- Under nutrition in turn can lead to malnutrition with increased risk of death and TB relapse
- Good Nutrition is therefore basic for a healthy survival.
- Refer to the guidelines on nutrition for management of TB patients with malnutrition



Cycle of under nutrition and TB infection

BCG VACCINATION

What is Bacille Calmette-Guerin (BCG) vaccine?

- BCG is a live attenuated *Mycobacterium bovis* vaccine that protects against TB
- Effective in protecting against severe forms of TB
- BCG is administered on the right upper shoulder (Check scar or child health card)
- Administered to all newborns or neonates immediately after delivery or at first contact irrespective of HIV exposure status.
- A neonate of the mother with PTB should be assessed for active TB disease before BCG vaccination.

TB PREVENTIVE THERAPY

- **What is TB preventive therapy?**
- TB preventive therapy refers to the use of anti-TB medicines to prevent the progression from TB infection to TB disease. The commonly used preventive therapy is Isoniazid preventive therapy however other regimen may be available in the future
- **Who is eligible for TB preventive therapy?**
- The following categories of patients are eligible for TB preventive therapy **UPON EXCLUSION of active TB disease**
    a) Children under the age of 5 years with a positive history of contact with an active PTB case.
    b) HIV positive children aged 12 months and above irrespective of TB exposure status
    c) HIV positive children under 12 months of age with a positive history of contact with an active PTB case
- **What is the dose and duration of Isoniazid preventive therapy?**
- Isoniazid should be given at a dose of 10mg/kg as a single daily dose for 6 months. Pyridoxine should be administered together with Isoniazid in order to prevent Isoniazid related side effects. Closely monitor patients on preventive therapy for possible side effects

INH Dosing by Weight Band

Body weight (kg)	Number of INH pills, 100mg/pill	Number of INH pills, 300mg/pill	Total dose per day in (mg)	6-month course
3 – 5.9	½ tablet		50	1 pack
6.0 – 9.9	1 tablet		100	2 packs
10 – 13.9	1 ½ tablets		150	3 packs
14 – 19.9	2 tablets		200	4 packs
20 – 24.9	2 ½ tablets		250	5 packs
≥ 25 & Adults		1 tablet	300	¼ pack

TB CONTACT INVESTIGATION

What is contact Investigation?

- Systematic screening of all house-hold contacts and close contacts of TB patients for active TB.
- Contact investigation is key in interrupting spread or transmission of TB, identifying people with TB disease and HIV and initiating them on treatment early.
- Useful in identifying persons at high risk of TB and initiating them on TB preventive therapy as well as providing education and counseling on infection on infection control.
- Contacts are persons who have spent one or more nights OR frequent or extended periods during the day with a TB **index case** patient within the **3 months prior to the diagnosis and TB treatment start.**

Steps for Contact Investigation

1. Conduct an interview with the index TB case, taking time to inform the patient about TB disease.
2. Create a contact tracing list.
3. Schedule health workers who will conduct contact tracing
4. Plan for the contact tracing activities.
5. Screen contacts for TB (Health facility-based screening or home visits).

Consider:

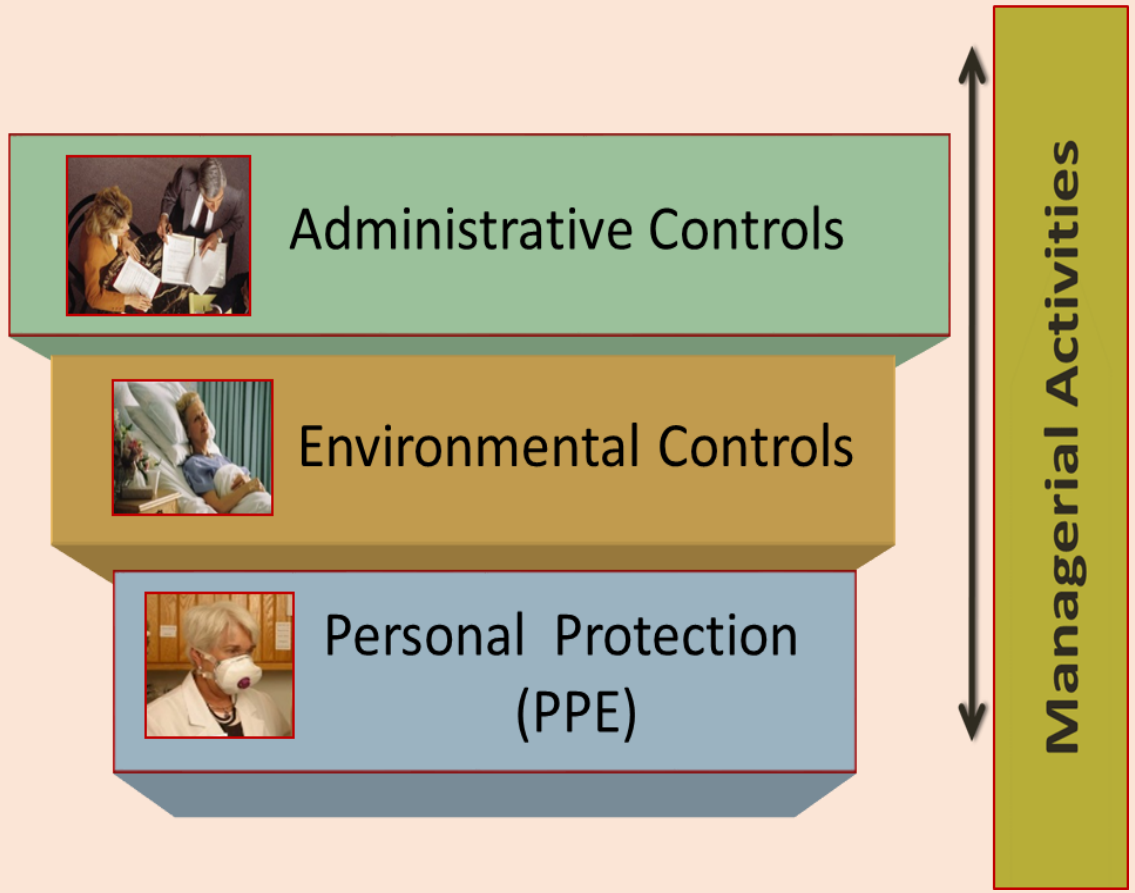
1. How to manage any presumptive TB contact.
2. Home visit safety (IDs, work in pairs, infection control)
3. Plan a follow up activity (deliver results; treatment follow up; repeat contact investigation).
4. Evaluation of contact investigation activities (use data).
5. Identify U5 contacts eligible for INH prevention

TB INFECTION CONTROL

Rationale

- Prevent HC facility transmission:
  - Well-documented outbreaks of TB, including MDR and XDR, in health-care facilities
- Protect employees, patients and public:
  - Evidence that absence of adequate IC in facilities contributes to global TB epidemic
  - HCW are vital resources in the fight against TB and must be protected

Hierarchy of TB IC Measures



Recommended TB Infection Control Measures

Managerial measures

- Set up a TB infection committee
- Conduct risk assessment of TB transmission at the facility
- Develop a TB infection plan
- Monitor and evaluate the facility TB infection plan
- Conduct surveillance of TB disease among health workers.

Administrative/Workplace Measures

- Screen people for TB symptoms (triage) at all entry points
- Separate presumptive or diagnosed TB patients
- Educate on cough habits and respiratory hygiene to control spread of TB germs
- Minimize time spent in the health care facilities
- Investigate for TB or refer
- Reduce the time taken to diagnose TB and initiate treatment.

Recommended TB Infection Control Measures

Environmental measures

- More effective when used in combination with administrative measures and include:
  - Natural ventilation (relies on open windows and doors to allow air flow)
  - Mechanical ventilation .e.g. fans

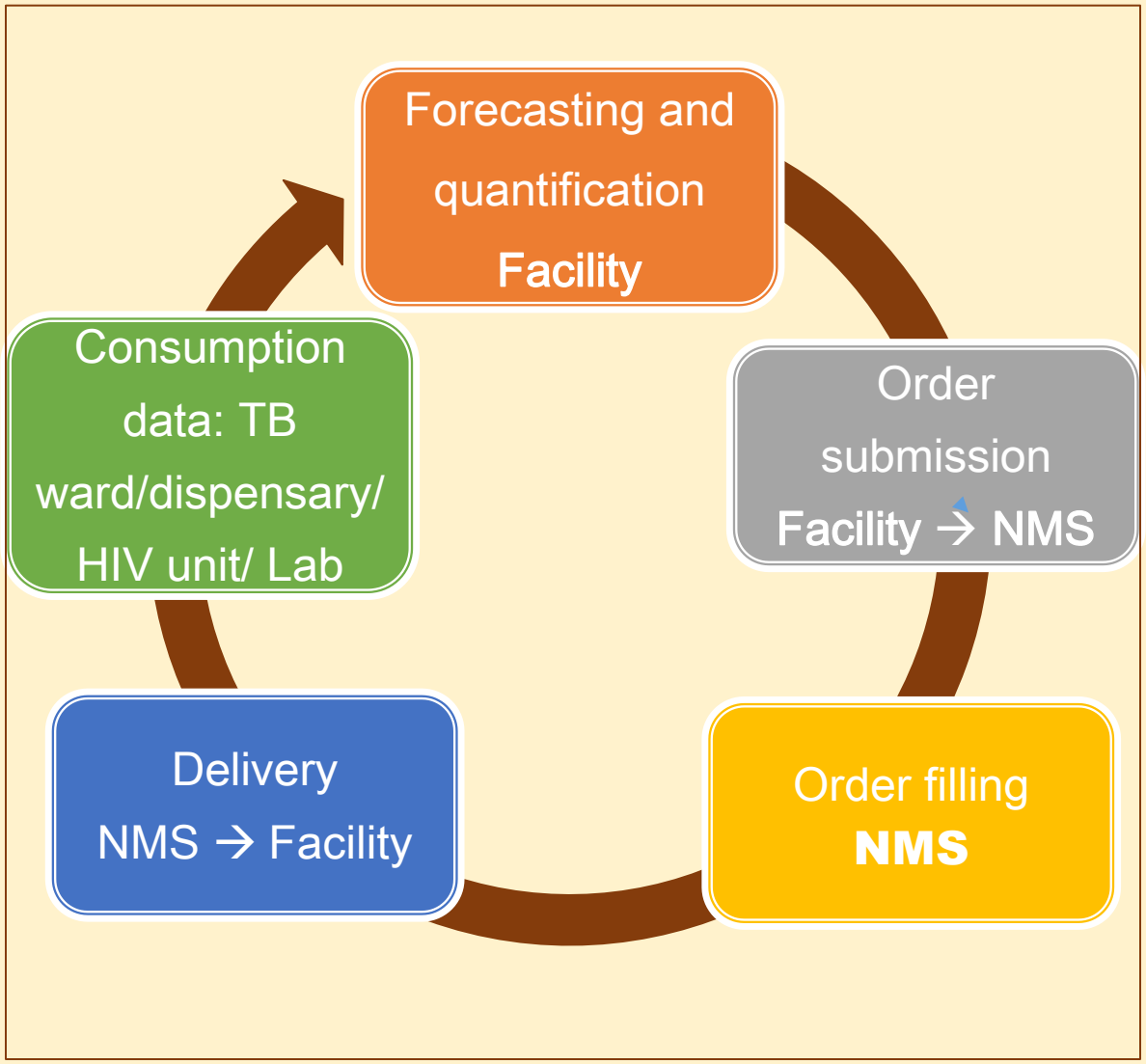
Personal Protective Equipment

- These protect health care workers from inhaling the TB germs.
- Include:
  - Surgical masks are worn by patients and are not re-usable
  - Health workers should wear N95 masks

N95 masks

Surgical masks

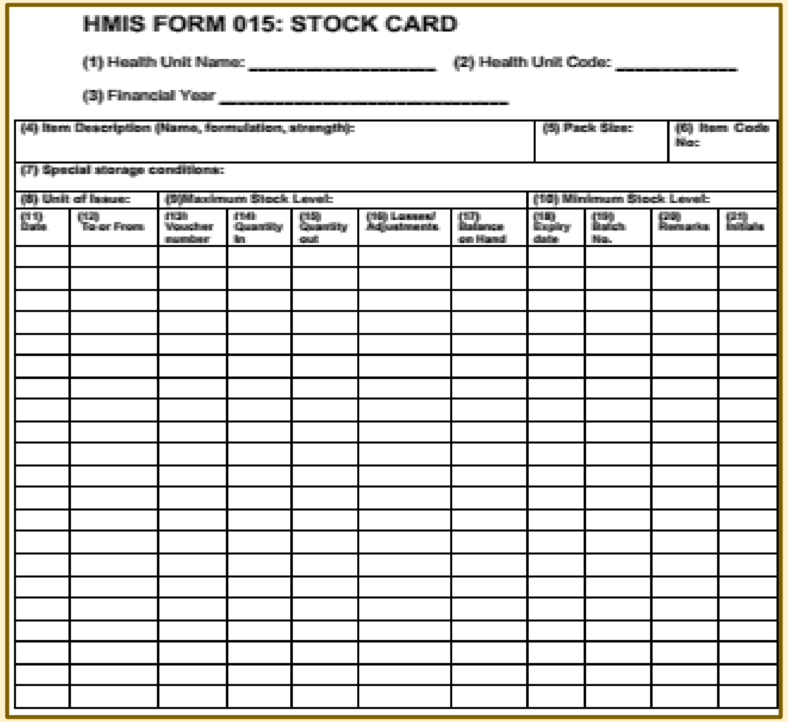
ORDERING PROCESS FOR TB COMMODITIES



- Bimonthly orders submitted to National Medical Stores following the ordering and delivery schedule. Average lead time of 1 month
- All facilities that treat TB patients
- The pharmacist/facility in-charge at the TB treatment site takes lead in ordering for medicines.
- Redistribution between sites in case of stock out at the central ware house
- Use standard MoH Commodity transfer forms

Tools used to quantify need and order of TB medicines through the national system

Stock Card	Dispensing Log	Report & Order Form
• To track movement of TB medicines to and from store during reporting cycle	• To Total amount of TB medicines dispensed over the reporting cycle	• Report on and Order TB medicines through the National System • This may be paper based or electronic

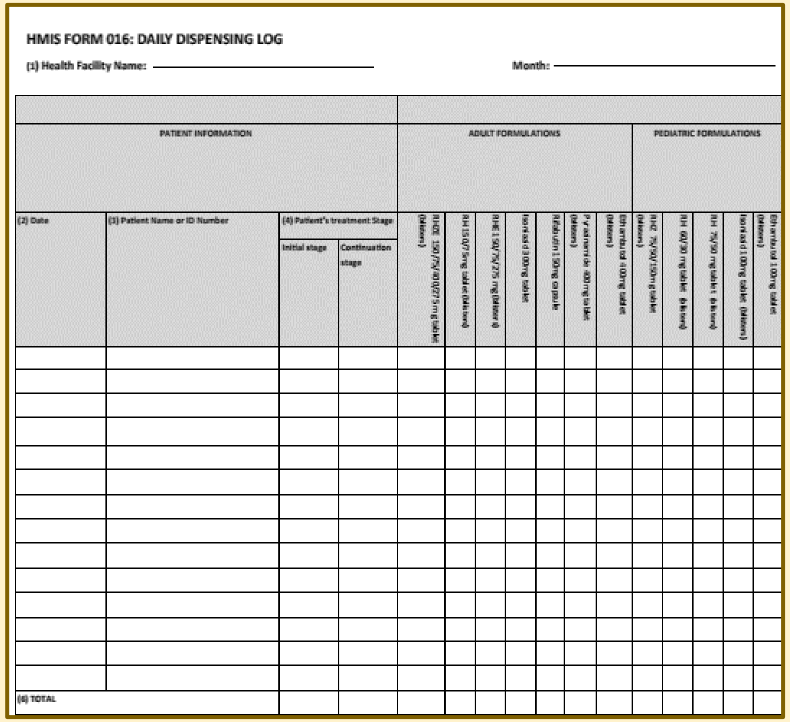


HMIS FORM 015: STOCK CARD

(1) Health Unit Name: ____________ (2) Health Unit Code: ____________

(3) Financial Year ____________

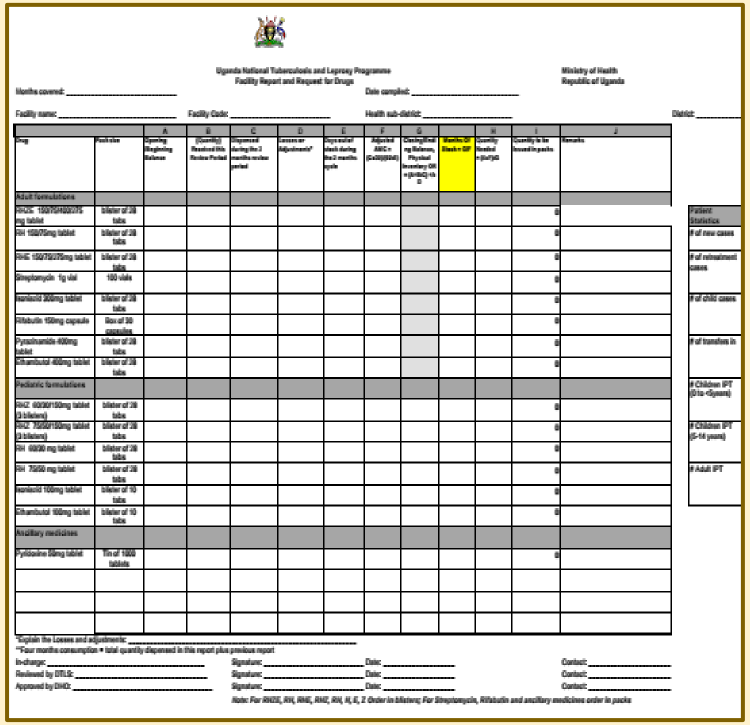
(4) Item Description (Name, formulation, strength):							(5) Pack Size:		(6) Item Code No:	
(7) Special storage conditions:										
(8) Unit of Issue:		(9)Maximum Stock Level:					(10) Minimum Stock Level:			
(11) Date	(12) To or From	(13) Voucher number	(14) Quantity In	(15) Quantity out	(16) Losses/ Adjustments	(17) Balance on Hand	(18) Expiry date	(19) Batch No.	(20) Remarks	(21) Initials



HMIS FORM 016: DAILY DISPENSING LOG

(1) Health Facility Name: ____________ Month: ____________

PATIENT INFORMATION				ADULT FORMULATIONS							PEDIATRIC FORMULATIONS				
(2) Date	(3) Patient Name or ID Number	(4) Patient's treatment Stage: Initial stage	Continuation stage	RHZE 150/75/400/275mg tablet (blisters)	RH 150/75mg tablet (blisters)	RHE 150/75/275 mg (blisters)	Isoniazid 300mg tablet	Rifabutin 150mg capsule	Pyrazinamide 400mg tablet (blisters)	Ethambutol 400mg tablet (blisters)	RHZ 75/50/150mg tablet (blisters)	RH 60/30 mg tablet (blisters)	RH 75/50 mg tablet (blisters)	Isoniazid 100mg tablet (blisters)	Ethambutol 100mg tablet (blisters)
(6) TOTAL															



Uganda National Tuberculosis and Leprosy Programme
Facility Report and Request for Drugs

Ministry of Health
Republic of Uganda

† Exercise: Questions for personal feedback

1. How is TB and HIV services offered to a patient at the same time and location (patient centered care)?
2. When should BCG vaccine be given?
3. What is TB preventive therapy? Who is eligible for INH Preventive Therapy?
4. Which are the recommended Infection Control Measures?
5. What are the tools used to quantify need and order of TB medicines?

† Practical session

- Identify the TB and HIV services provided at the facility and align service provision to the one stop model.
- Review the unit TB and nutrition registers to assess whether TB patients with malnutrition are receiving nutrition services. Identify the challenges and solutions.
- Review the steps and processes of conducting TB Contact Investigation at the facility. Identify challenges and solutions.
- Review/ Develop a TB infection control plan for the facility.
- Demonstrate how to fill HMIS Stock card, HMIS Daily dispensing log and TB medicines report and order form.

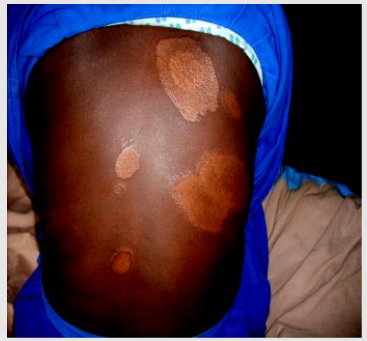
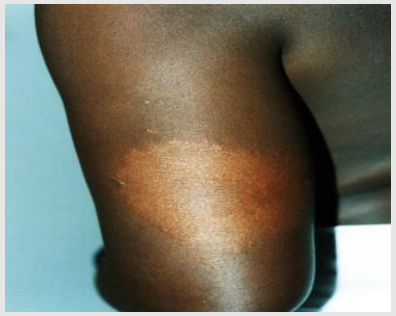
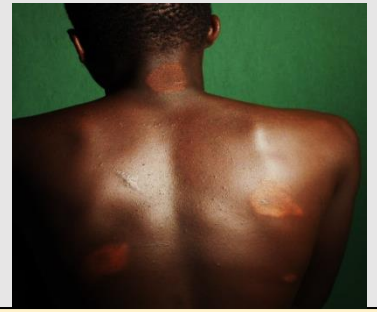
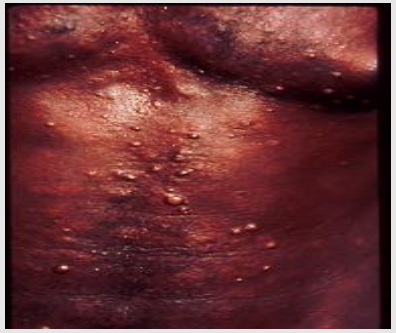
LEPROSY (HANSEN'S DISEASE)

What is Leprosy?

- Leprosy is a chronic infectious disease caused by a germ called *Mycobacterium leprae,* an acid-fast and rod-shaped bacillus. The disease mainly affects the skin, peripheral nerves, mucosa of the upper respiratory tract and also the eyes. It affects adults and children.
- Leprosy has a very long incubation period or latency most often between 3 to 5 years. It is acquired through prolonged exposure to droplets (aerosols) from a person infected with leprosy who is not on treatment.
- Leprosy is associated with disabilities resulting from delay in starting treatment and not receiving adequate treatment and care.

Symptoms and signs

- Any skin condition/patch, especially if: not painful, not itching and not going away.
- Abnormal sensations: (pins and needles especially in the hands and feet)
- Loss of feeling in the hands, feet or both
- Painless none healing wounds

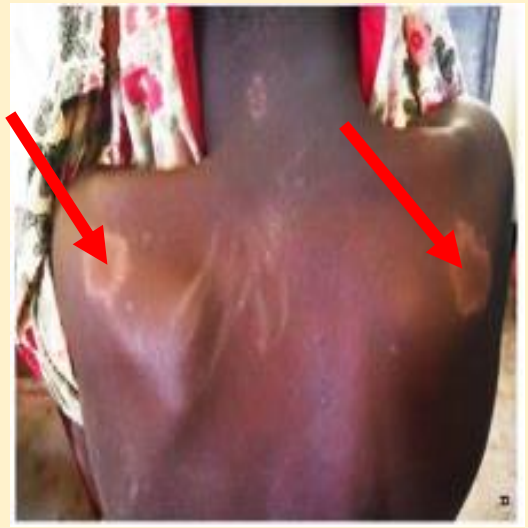
Example of Patches and Swellings

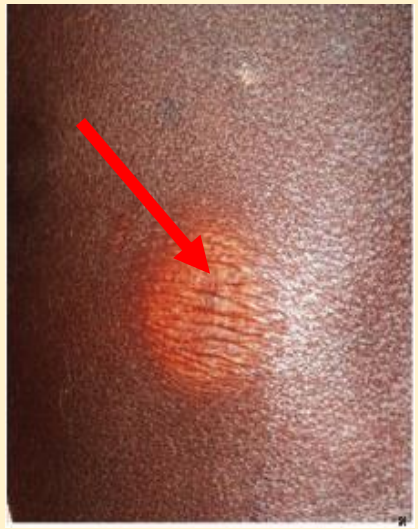
Diagnosis of Leprosy

- When leprosy is suspected, examine the skin for patches or swellings.
- Test patches for feeling.
- Cardinal signs of leprosy:
  - Copper coloured (hypo-pigmented) skin lesions with definite loss of sensation.
  - Nerve involvement evidenced by enlargement and loss of sensation in distribution.
  - Positive skin smears.
- Most leprosy cases can be diagnosed by clinical examination alone.
- A laboratory test (skin smear) – is required for diagnosis in patients with nodules or other highly suspicious cases without clear signs.

Classification of leprosy

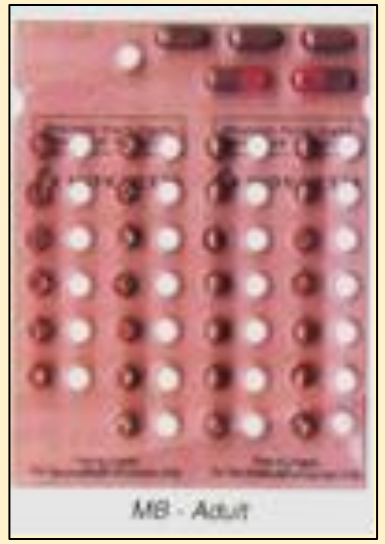
- Leprosy is classified for the purpose of treatment.
- Leprosy is classified according to the number of leprosy skin lesions:
  a) **Pauci-bacillary (PB)** are Patients with one to five leprosy skin lesions
  b) **Multi-bacillary (MB)** are patients with six or more leprosy skin lesions
- **N.B: All patients with positive skin smears are classified as multi-bacillary (MB)**

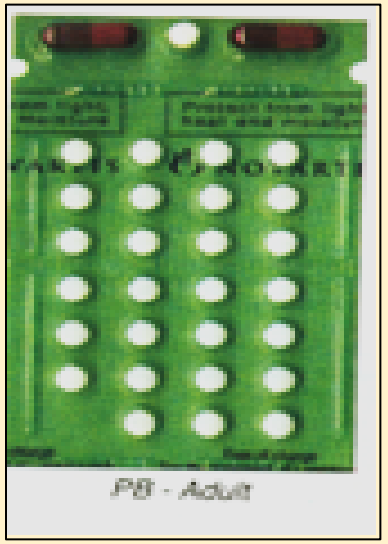


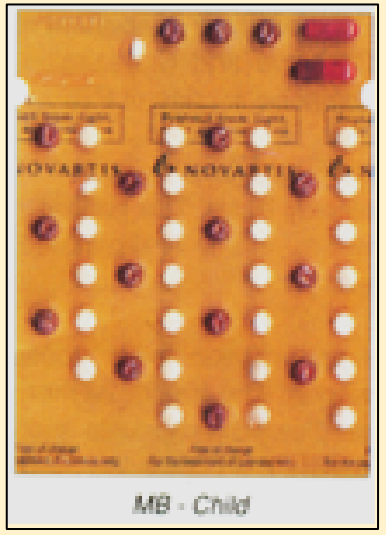


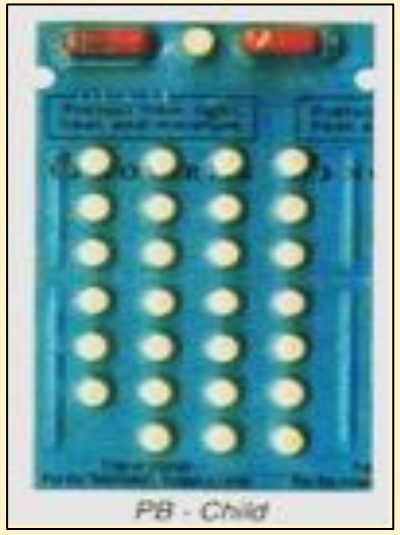
Messages for Educating Leprosy Patients

- For newly diagnosed leprosy, counsel to reduce stigma and to achieve better treatment outcomes.
- Give information about treatment:
  - Leprosy is curable
  - Leprosy is no longer infectious once treatment has begun
  - Treatment for leprosy is Multidrug Therapy (MDT). MDT medicines are safe, effective and free of charge.
  - Medicines are supplied in blister packs and are a combination of 2 or 3 medicines (Rifampicin, Clofazimine and Dapsone)
  - Each blister pack contains treatment for 4 weeks.
  - Tablets must be taken every day at home in the right combination, right dosage, regularly and for the right duration
  - The treatment lasts 6 to 12 months depending on the leprosy type


MB - Adult


PB - Adult


MB - Child

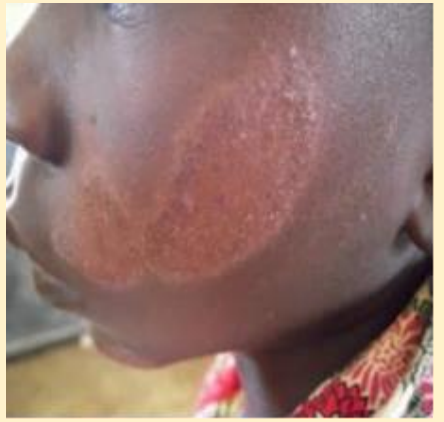

PB - Child

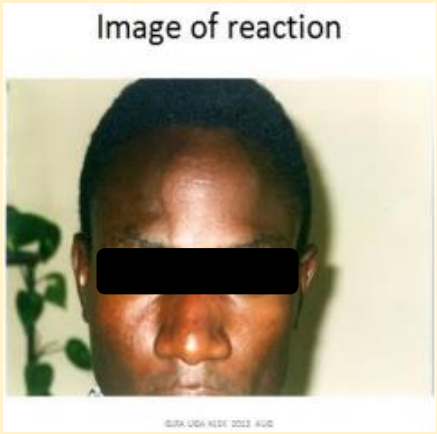
Treatment, Care and Management of leprosy

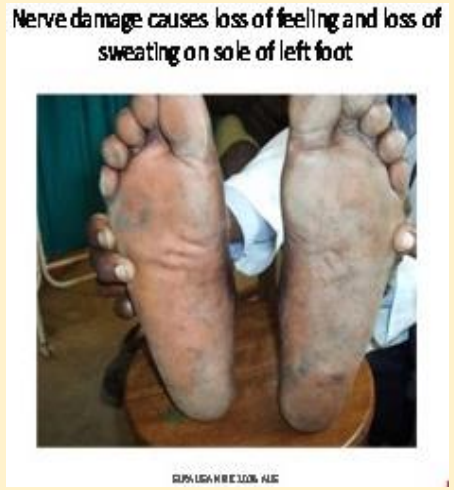
- Treatment for leprosy is Multidrug Therapy (MDT) and is only taken by mouth for 6 months for Pauci-bacillary and 12 months for multi-bacillary leprosy.
- **The directly observed dose** is taken by the patient once a month under the supervision of a health worker or treatment supporter.
- **The self-administered dose** is taken by the patient daily at home.
- Patients should be assessed for loss of sensation (Sensory Test (ST) of hands and feet) and muscle weakness (Voluntary muscular test – (VMT) for eyes, hands and feet) at every monthly visit for early identification and prevention of disabilities.
- All patients diagnosed and started on MDT should be recorded in the leprosy register and reported on a quarterly basis.
    - It is important that patients understand which medicines they have to take once a month and what to swallow daily.

Complications of Leprosy

- Complications can arise before, during and after treatment, hence the need for follow up of people infected by leprosy after completing treatment. They include;
  a) Reactions: existing patches become swollen and new disabilities might arise
  b) Pain or numbness in the limbs
  c) Weakness of hands or feet
  d) Eye complications: redness, pain, visual impairment
  e) Dryness: especially of hand and feet
  f) Ulcers: especially of hands and feet
  g) Social complications: stigma (both self stigma and by the community), rejection and discrimination







Management of complications

- Sensation Test (ST) and Voluntary Muscle Test (VMT) MUST be done monthly for those on treatment and at regular intervals for those released from treatment.
- Use Prednisolone for management of nerve complications
- Patients should be referred to a leprosy treatment facility and/or the DTLS for assessment and management of complications.
- Early diagnosis and prompt treatment prevents disabilities, ***grading*** on a scale from 0-2 guides for programmatic decisions; Grade 0 - no disability found, Grade 1 - loss of sensation has been noted in the hand or foot, and Grade 2 - visible damage or disability is noted.
- The ***EHF (Eye-Hand-Foot) score*** - is the sum of all the individual disability grades for both eyes, hands and feet. Since the disability grade can be scored as 0, 1 or 2, it follows that the EHF score ranges from 0 to 12. A score of 12 would indicate Grade 2 disability of both eyes, both hands and both feet.

Care for people with disabilities

Home based care:

- Self-care - eye inspection using a mirror to check for redness, blinking frequently to keep the eyes moist and exercise the lids,
- Wearing a hat with a large brim and/or sunglasses to prevent dust from getting into the eyes
- Use mosquito net to cover the head at night
- Daily inspection of hands and feet for signs of injury,
- Soaking the hand/foot in water for about 30 minutes every day,
- Use of a rough stone to smoothen the dead skin, applying oil or petroleum jelly while the skin is still wet to prevent dryness,
- Use of a clean cloth to cover any open wound, walking as little as possible, and walk slowly, taking frequent rests (foot care),
- Resting if foot ulcers are present,
- Use of protective foot wear (microcellular rubber or MCR sandals) all the time for insensitive feet and protective appliances (e.g. gloves) for insensitive hands.

Care for people with disabilities....

Health facility interventions:

- provide instructions on home-care activities,
- provide artificial tears/ eye ointment (not containing steroids),
- treat conjunctivitis and infected ulcers/wounds with antibiotics,
- refer more serious eye problems to specialist clinics,
- take foot maps for protective footwear,
- provide orthopedic appliances, refer to trained community-based rehabilitation (CBR) worker, physiotherapy etc. as appropriate.

Rehabilitation:

- counselling,
- income generating activities,
- social inclusion,
- education,
- provision of appliances, surgery etc.

KEY TB REPORTING AND RECORDING TOOLS

- Presumptive TB Register
- HMIS Form 031: Out Patient Register
- HMIS Form 089: Laboratory TB Register
- HMIS Form 096a: Health Unit TB Register
- Others registers (HIV, ANC, Nutrition, IPD, PNC, Leprosy registers)
- HMIS Form 033B: Health Unit Notifiable Disease Report
- HMIS Form 105: Health Unit Monthly Report

- HMIS Form 106a: Health Unit Quarterly Report
- HMIS Form 089e: Tuberculosis Treatment Card
- Patient Referral And Transfer Form
- HMIS Form 015: Stock Card
- HMIS Form 083: Stock Book
- HMIS FORM 016: Daily Dispensing Log
- Facility Report and Request for Drug

- Remember minimum package of interventions; **Continuously collect accurate and complete data, analyze and use it for decision making**.
- The data reported in the HMIS reports should be reviewed during the weekly/monthly/quarterly QI meetings to better understanding, planning, monitoring but also ensure accuracy.

TB INDICATORS

Indicator	Formula	Target
Proportion of individuals screened at the different care points	Number of individuals screened/ Number of individuals presenting to the different care points *100	100%
Proportion of individuals with presumptive TB identified among those screened	Number of individuals identified with presumptive TB identified/Number of individuals screened * 100	10%
Proportion of individuals tested/evaluated for TB among those with presumptive TB	Number of individuals tested/evaluated for TB disease/Number of individuals with presumptive TB identified * 100	100%
Proportion of individuals/patients diagnosed with TB among those screened and tested/evaluated	Number of individuals/patients diagnosed with TB/ Number of individuals tested/evaluated for TB disease * 100	10%
Proportion presumptive TB patients with documented HIV status	Number of individuals/patients with presumptive TB with documented HIV status / Number of individuals with presumptive TB identified * 100	100%
Proportion diagnosed TB patients with documented HIV status	Number of individuals/patients diagnosed with TB with documented HIV status / Number of individuals diagnosed with TB * 100	100%

TB INDICATORS

Indicator	Formula	Target
Proportion of all (new and relapse) TB patients initiated on TB treatment among those diagnosed	Number of all (new and relapse) patients initiated on treatment / Number of all (new and relapse) patients diagnosed and registered * 100	100%
Proportion of all (new and relapse) HIV positive TB patients initiated or maintained on ART	Number of all (new and relapse) HIV positive patients initiated on ART the previous quarter / Number of all (new and relapse) HIV positive TB patients registered the previous quarter * 100	100%
Proportion of bacteriologically confirmed patients initiated on 1st line drugs who are sputum smear negative at end of intensive phase	Number of bacteriologically confirmed new and relapse patients initiated on treatment (1st line) the previous quarter who are sputum smear negative at end of intensive phase / Number of all (new and relapse) bacteriologically confirmed TB patients initiated on treatment (1st line) the previous quarter * 100	85%
Proportion of bacteriologically confirmed patients cured among those initiated on treatment	Number of bacteriologically confirmed new and relapse TB patients initiated on treatment the same quarter a year ago who were cured/ Number of bacteriologically confirmed new and relapse TB patients initiated on treatment the same quarter a year ago	80%
Proportion of successfully treated among those initiated on treatment	Number of all (new and relapse) TB patients initiated on treatment the same quarter a year ago who have cured plus those who completed treatment with no evidence of cure/ Number of all (new and relapse) TB patients initiated on treatment the same quarter a year ago	85%

QUALITY IMPROVEMENT

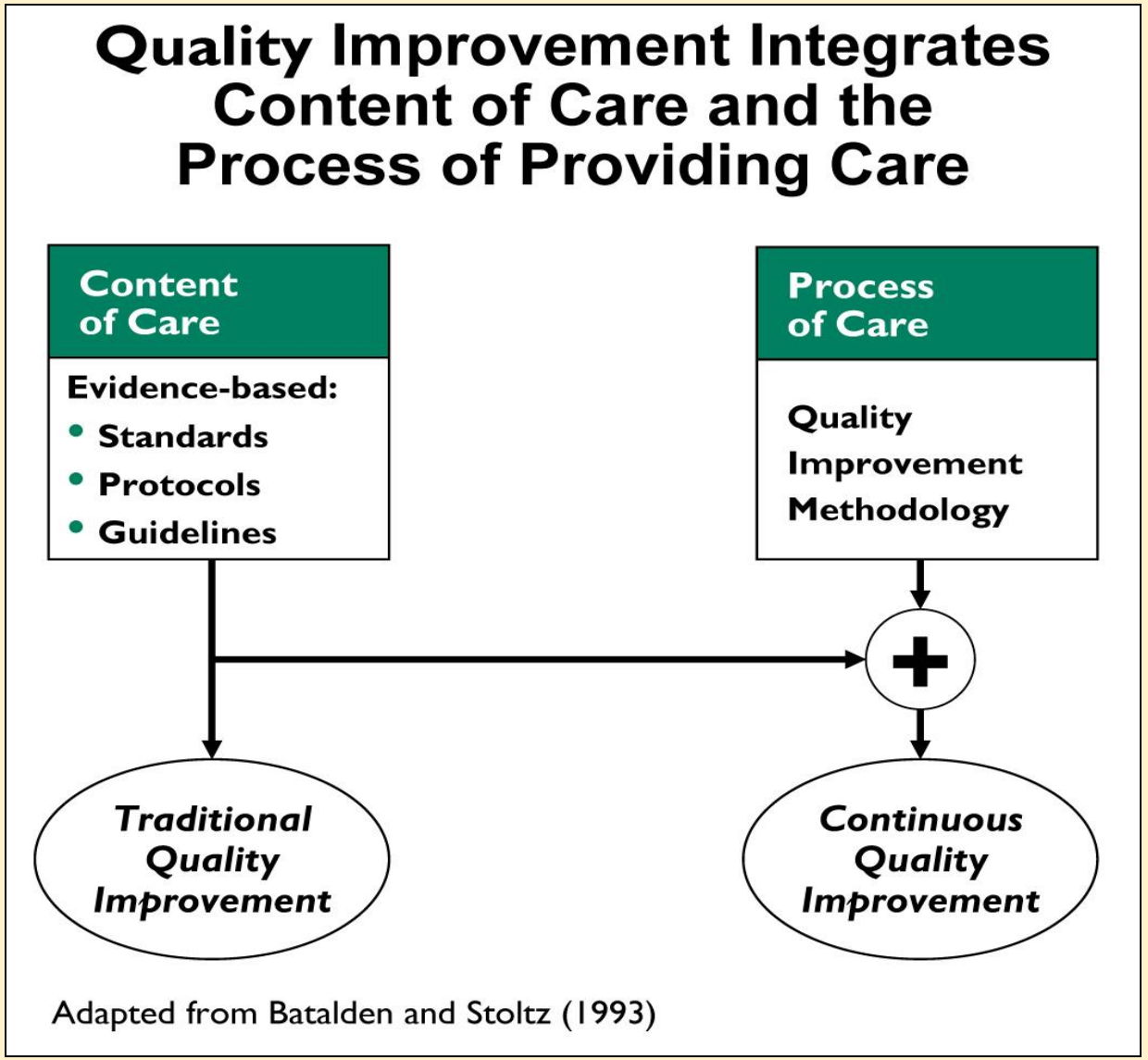
Quality Improvement

- Applying appropriate methods to close the gap between current and expected level of quality/performance as defined by standards
- It is a management science that identifies and improves where gaps exist between services actually provided and the expectations for services
- Systematically improving service quality by addressing the gaps between current practices and desired standards

Quality Improvement Initiatives

- Facility have an established QI team.
- Members oriented in CQI, know their roles and responsibilities.
- Composition of the team should include members from the TB unit.
- QI team meet regularly; Meeting minutes available and action points implemented.
- Facility implements QI projects in TB care.
- Identify and monitor TB specific indicators for improved case finding and treatment outcomes

The Framework for Health Care Quality Improvement



- Improvement can be achieved by addressing either the content to care or the processes of care.
- Content of care is 'what is done' while process of care "how it is done".
- The biggest impact however, occurs by addressing both content and processes of care at the same time.

How Can Quality Be Improved?

Traditional: norms, training, job aids, supervision, material and equipment

+

QI: team work, process analysis, monitoring of data, client focus, coaching

+

Collaborative: common problem, change package, sharing experiences, positive competition, best practices, rapid spread

What is required

- **Principles of QI:** team work; client focused; use of objective data and measurements; shared learning and communication; analyzing systems and processes.
- **Dimensions of Quality:** evidenced based (effective); maximizes on resources (efficient); accessible; patient centered (acceptable); equitable and safe.
- **Problem Analysis Tools:** Brainstorming, Flow chart; Fishbone; Why-Tree (5 Why's)
- **Steps of QI:** Identify; Analyze; Develop; Test and Implement (Plan-Do-Study-Act).
- **Monitoring Tools:** Indicators which are clear and quantifiable; Run chart, QI Journal.

† Exercise: Questions for personal feedback

- Identify the steps in compiling the HMIS 033b; 105; and 106a reports
- What are the challenges and possible solutions
- Review the flow of data from the facility to the national level (including timelines)
- Identify the quality improvement initiatives at the facility

† Practical session

- Use the facility data for the previous quarter to compile the HMIS 033b;105; and 106a reports.
- Use the facility data for the previous quarter to calculate the indicators assessing screening for active TB, TB case detection, treatment outcomes, TB/HIV collaborative activities.
- Identify the indicators that did not meet the targets.
- Identify at least one quality improvement project to implement. (open a documentation journal for the project).

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1. **MoH NTLP 2018:** Participants Manual in Integrated and Comprehensive TB and Leprosy Management and Control course.
2. **MoH NTLP 2017:** Tuberculosis and Leprosy Manual. 3rd Edition
3. **MoH NTLP 2016:** TB and Leprosy Case Management Desk Guide. 2nd Edition.
4. **MoH NTLP 2018:** A toolkit for improving the quality of TB care and increasing TB case detection and treatment outcomes in health facilities in Uganda