

# HOW TO USE THE ICAP- UTH TB SCREENING TOOL



# OUTLINE

- Background on TB in HIV-infected children
- Rationale for TB screening in HIV-infected children
- How to use the ICAP-UTH TB screening Tool
- What to do after screening
- Provision of IPT
- Monitoring and Evaluation



# BACKGROUND ON TB IN HIV-INFECTED CHILDREN

- World wide, children account for 11% of the 8 million patients with TB
- HIV-infected children are at risk of acquiring TB from family members
- Diagnosis is difficult because of overlapping symptoms and signs
  - Lack of sensitivity and specificity of commonly used tests



# WHY SHOULD WE SCREEN HIV-INFECTED CHILDREN FOR TB?

- TB is a family disease
- Rates of TB/HIV co-infection in children:
  - 5% in industrialized countries
  - 50% in high burden African settings
- Higher mortality in HIV-infected children
  - 15-38% in HIV-infected children
  - 1-3% in non-infected children



# WHY SHOULD WE SCREEN HIV-INFECTED CHILDREN FOR TB?

- Young children are more likely to develop TB disease if infected *Marias, IJTLD 2004*
- Over 50% of children with culture proven TB have a history of contact but were not treated *Starke, PIDJ 2000*
- Preventive treatment is cheap, uncomplicated and effective
  - 9 mos INH reduces risk of TB disease by 90% in children *Hsu JAMA 1984*



# IMPACT OF HIV ON TB

## DIAGNOSIS

Symptoms suggestive of TB	Lower specificity because of overlap between symptoms of HIV and TB
Clinical examination	Lower specificity because of overlapping features (malnutrition/FTT is also common in TB and HIV)
TST	Not readily available, lower sensitivity, decreased positivity with increasing immunosuppression
Bacteriological confirmation	Difficult in kids, beyond lab capabilities in most settings (children have pauci-bacillary disease, low yield of AFB smear, need gastric aspirate, need TB culture)
CXR	Lower specificity because of overlap with HIV-related disease such as LIP, Bronchiectasis



# ADVANTAGE OF SCREENING CHILDREN FOR TB

- Identify children who need IPT
  - HIV-infected children who are household contacts of TB cases
  - Asymptomatic HIV-infected children > 12 months who will benefit from IPT
- Identify HIV-infected children with TB before severe immunosuppression
  - Can start TB treatment before severe immunosuppression

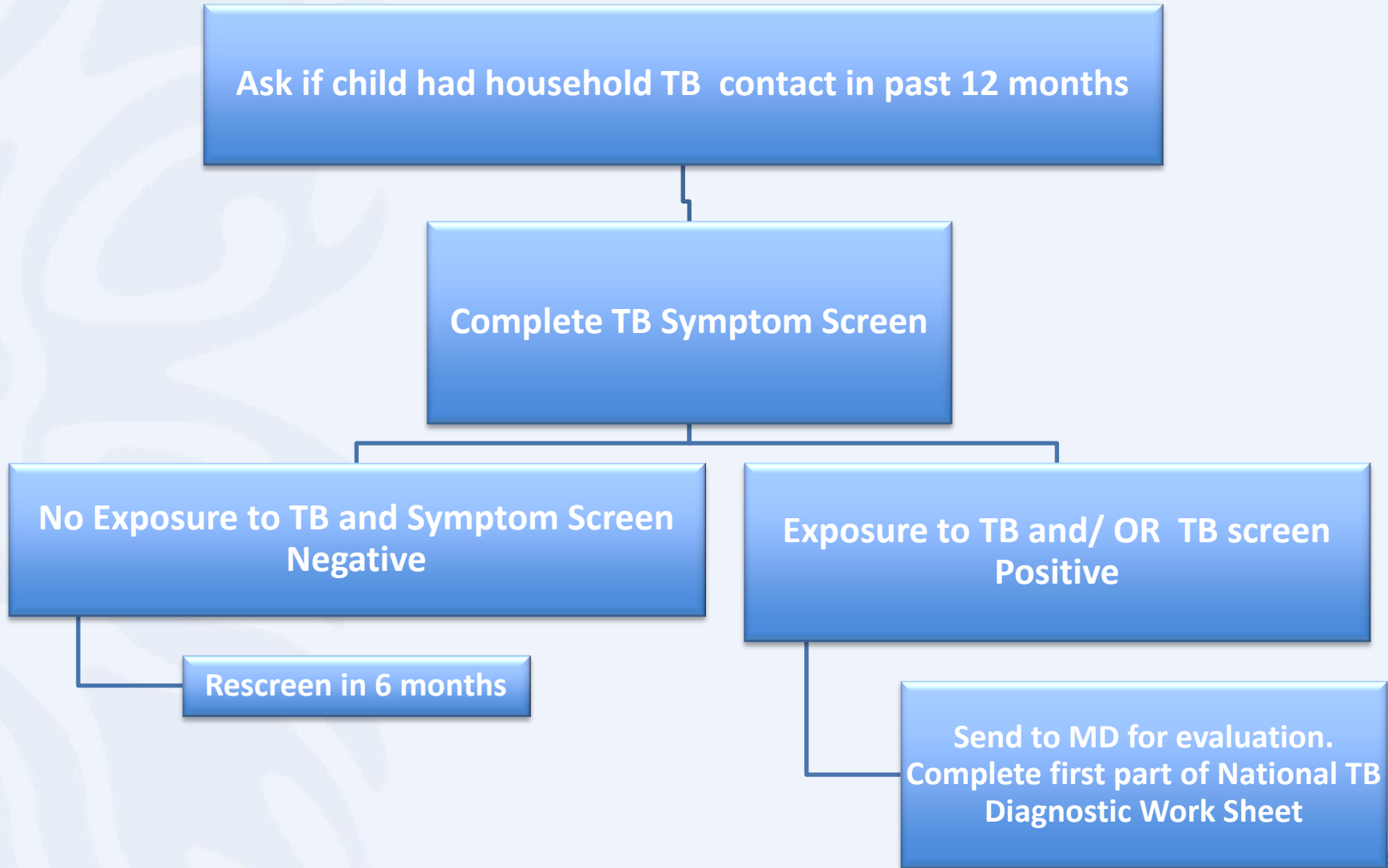


# WHO SHOULD WE SCREEN FOR TB?

- All HIV-infected infants, children and adolescents
  - Upon enrollment and regularly thereafter (every 6 months)
  - Upon ART initiation
  - If new household contact
  - If new symptoms
- All HIV–exposed infants
  - Upon enrollment and regularly there after
  - If new household contact
  - If new symptoms



# ALGORITHM FOR TB SCREENING



# HOW TO SCREEN FOR TB IN HIV- INFECTED CHILDREN

- Ask about household contact with:
  - A case of smear positive or negative TB
    - Do you know if anyone at home is sick with TB
  - Person currently on antiTB medications
    - Do you now if anyone at home is taking medicine to treat TB
- Ask about TB symptoms
  - Complete symptom screen
- Diagnostic work up by MD (including CXR and AFB smear) for children with:
  - History of exposure to TB
  - Positive TB Symptom screen



# STEPS FOR SUCCESSFUL IMPLEMENTATION OF TB SCREENING PROGRAM

- Step 1 – Enter tick mark for each child seen in clinic on TB Screening Tally Sheet
- Step 2- Complete TB Screening Questionnaire for children who require screening
- Step 3-Add National TB Diagnostic Work Sheet if indicated to medical record for MD to complete. Complete information on symptoms.
- Step4 –Child is evaluated for TB by MD
- Step 5-Document outcome of MD evaluation and results of CXR/sputum in the TB Screening Register



TB SCREENING TALLY  
Register (TB Register 1)  
MONTH \_\_\_\_\_

\_\_\_\_\_

No. positive screen  
Number of children attending  
ART clinic  
DATE  
No. negative screen  
No. children NOTeligible for  
screening  
No. children ELIGIBLE for  
screening  
No. children screened

# TB SCREENING TALLY REGISTER

TB SCREENING TALLY Register (TB Register 1)      MONTH \_\_\_\_\_

DATE	Number of children attending ART clinic	No. children NOTeligible for screening	No. children ELIGIBLE for screening	No. children screened	No. positive screen	No. negative screen



# TB SCREENING TALLY SHEET

- **Purpose:** Provides a summary of the number of children attending each clinic session, number who are eligible for screening, and number screened
- For each child seen at clinic session, enter a tick mark in one of 2 columns: “does not require screening”; “eligible for screening”
- If nurse completes the TB screening questionnaire, place a tick mark in column labeled “screened”.
- If the child had  $>1$  symptom, or TB contact, enter a tick mark in the column labeled “positive screen”
- If no symptoms and no TB contact, enter tick mark in column labeled “negative screen”



# HOW TO DETERMINE IF CHILD SHOULD RECEIVE TB SCREENING AT THIS VISIT

- Check to see if the child has been screened for TB in the past by reviewing the TB screening sheet at the back of the chart
- If Yes, is child due for next screen?
  - If yes, complete screen.
  - If no, leave screen blank. Enter tick mark in TB Tally sheet “not eligible” column
- If Child has not been screened for TB in the past
  - Complete the appropriate column on the tally sheet (add tick mark to column “eligible for screening”)
  - Put a screening questionnaire at the back of the chart
  - Complete TB screening questionnaire



# COMPLETE THE DEMOGRAPHIC INFORMATION ON THE TB SCREENING QUESTIONNAIRE

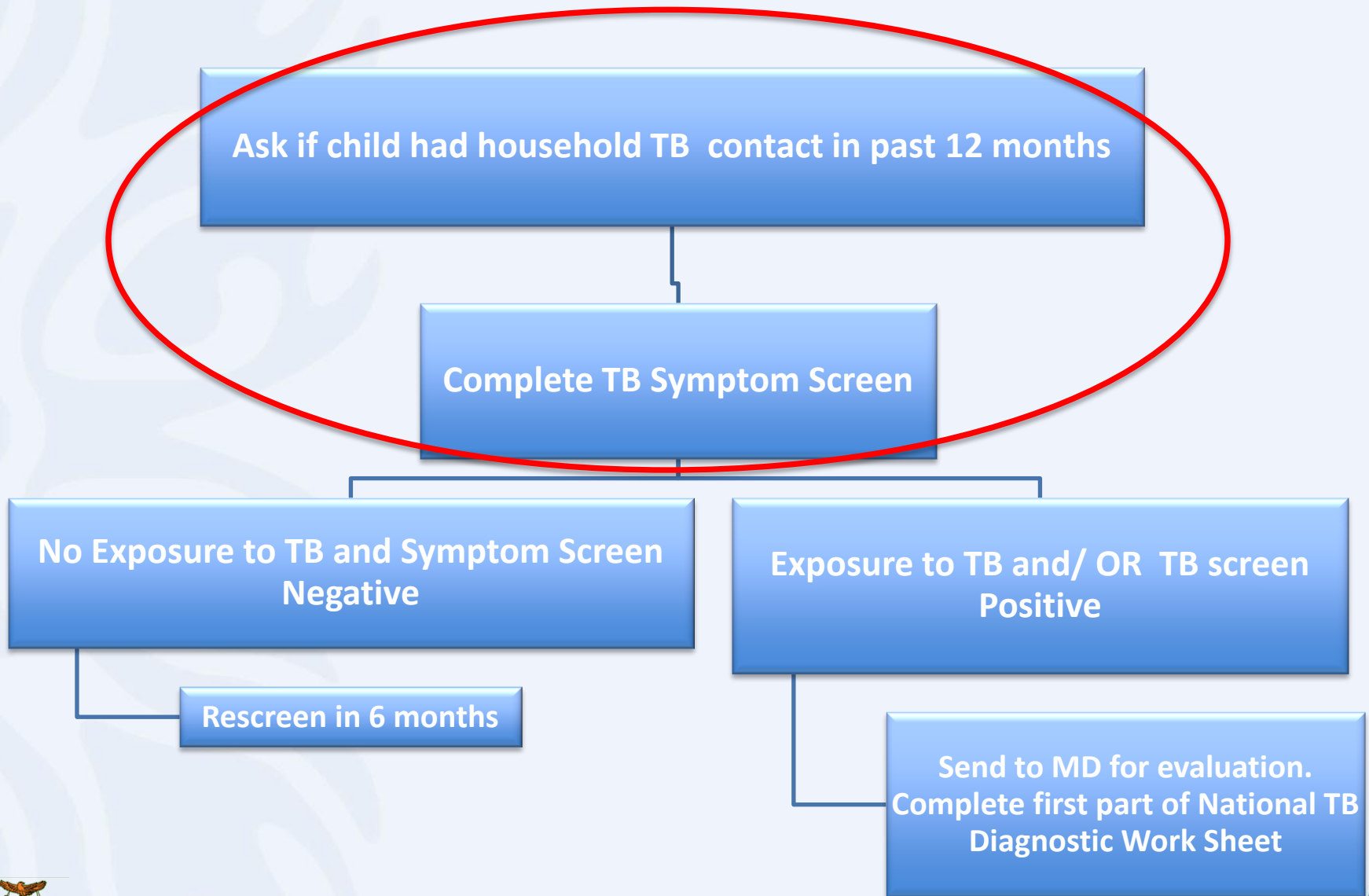
- For New Forms:
  - Record the **Patient's Name**, **ART Number**, **Gender** and **Date of Birth** at the top of the form
- For Previously Used Forms:
  - Review the notes about the previous visit screen before starting.
- Screening Date:
  - Record the day (**DD**), month (**MM**), and year (**YY**) screening was performed.
- Age:
  - Record the child's age.



# TB SCREENING QUESTIONNAIRE

Name: <u>Precious Phiri</u> ART#: _____ Gender <input type="radio"/> M <input checked="" type="radio"/> F Date of Birth <u>02/8/2001</u>				
Date of Screening	<u>12/19/2010</u>	<u>/</u>	<u>/</u>	<u>/</u>
Age	<u>9½ years</u>			
<b>1. Is child currently receiving anti TB medications? (Yes or No)</b> If Yes, STOP. Rescreen after completion of TB Treatment If No answer questions below	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Is child currently receiving Isoniazid Prophylactic Therapy (IPT)? (Yes or No)</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3. TB Exposure History:</b> Close contact with a person diagnosed with pulmonary TB in the <b>past 12 months?</b> (Yes or No)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. TB Symptom Screen:</b> Does the child <b>currently</b> have any of the following TB symptoms (Yes or No)				

# ALGORITHM FOR TB SCREENING



# TB SCREENING QUESTIONNAIRE

- 1. Is child currently receiving anti TB medications ?**  
(Yes) if yes stop screen. Rescreen after completion of antiTB treatment.  
(No) continue TB screen by asking questions below.
- 2. Is child currently on Isoniazid Prophylactic therapy (IPT)?**  
Yes  
No
- 3. TB Exposure History :** Ask the parent or caregiver if the child has been in close contact (living in the same household or in frequent contact) with any person who was diagnosed with pulmonary TB in the past 12 months. Write **(Yes)** if the child has a close contact with pulmonary TB and **(No)** if there is no history of TB contact.



# TB SCREENING QUESTIONNAIRE

Name: Precious Phiri ART#: \_\_\_\_\_ Gender  M  F Date of Birth 02/8/2001

Date of Screening	<u>12/19/2010</u>	<u>/ /</u>	<u>/ /</u>	<u>/ /</u>
Age	<u>9 1/2 years</u>			
<b>1. Is child currently receiving anti TB medications? (Yes or No)</b> If Yes, STOP. Rescreen after completion of TB Treatment If No answer questions below	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Is child currently receiving Isoniazid Prophylactic Therapy (IPT)? (Yes or No)</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3. TB Exposure History:</b> Close contact with a person diagnosed with pulmonary TB in the <b>past 12 months?</b> (Yes or No)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. TB Symptom Screen:</b> Does the child <b>currently</b> have any of the following TB symptoms (Yes or No)				

# ASK ABOUT TB SYMPTOMS

- Complete TB screening by asking the caregiver if the child **currently** has any of the TB symptoms.
  - Persistent cough for > 2 weeks?
  - Documented weight loss or failure to thrive (clear deviation from previous growth trajectory and/or documented crossing of percentile lines) during the past 3 months, not responding to nutritional rehabilitation. For growth assessment, please look at the growth chart to ascertain if there has been growth failure.
  - Persistent fever >2 weeks reported by parents
  - Night sweats (regular sweating that requires a dry set of night clothes or change of bedding).
- Write **Yes** or **No** in column to indicate presence of any symptoms.

# DOCUMENT TB SYMPTOM SCREEN RESULT

<b>3. TB Exposure History:</b> Close contact with a person diagnosed with pulmonary TB in the <b>past 12 months?</b> (Yes or No)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>4. TB Symptom Screen:</b> Does the child <b>currently</b> have any of the following TB symptoms (Yes or No)				
<b>A.</b> Persistent, non remitting cough for > 2 weeks?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>B.</b> Documented weight loss or failure to thrive during the past 3 months, not responding to nutritional rehabilitation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>C.</b> Persistent fever > 2 weeks reported by parent	Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>D.</b> Night sweats (regular sweating requiring a dry set of night clothes or change of bedding)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Screening Result</b> ( A through D above) <b>Positive</b> =Presence of one or more symptoms <b>Negative</b> =absence of all symptoms	<input type="checkbox"/> Positive <input checked="" type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative

# ALGORITHM FOR TB SCREENING

Ask if child had household TB contact in past 12 months

Complete TB Symptom Screen

No Exposure to TB and Symptom Screen  
Negative

Rescreen in 6 months

Exposure to TB and/ OR TB screen  
Positive

Send to MD for evaluation.  
Complete first part of National TB  
Diagnostic Work Sheet

# NO EXPOSURE TO TB AND SYMPTOM SCREEN IS NEGATIVE

- Rescreen the child in 6 months
  - Record the date of the next screen in the space provided.



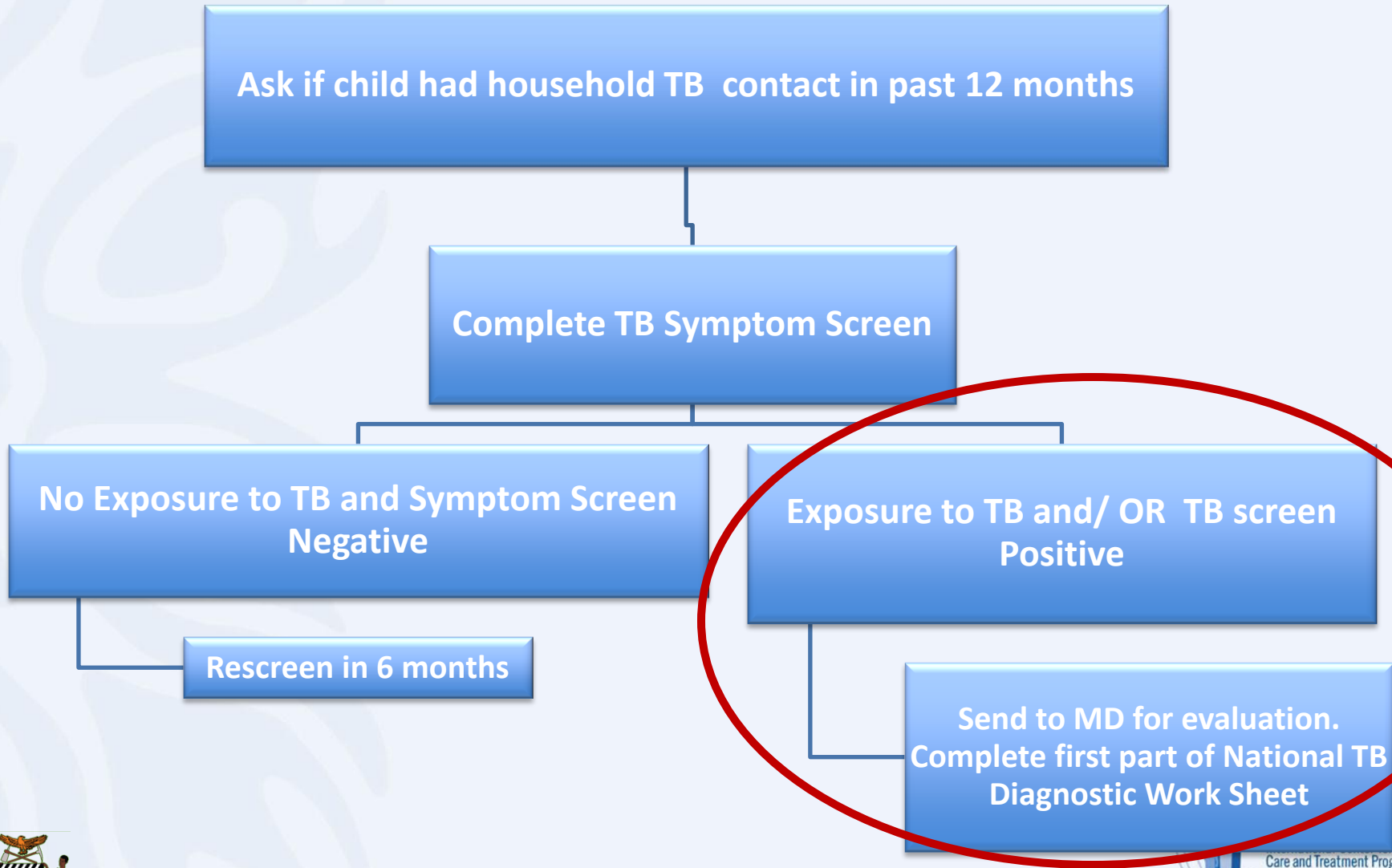
# COMPLETE FOLLOW-UP

B. Documented weight loss or failure to thrive during the past 3 months, not responding to nutritional rehabilitation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
C. Persistent fever > 2 weeks reported by parent	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
D. Night sweats (regular sweating requiring a dry set of night clothes or change of bedding)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Screening Result</b> ( A through D above) <b>Positive</b> =Presence of one or more symptoms <b>Negative</b> =absence of all symptoms	<input type="checkbox"/> Positive <input checked="" type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative
<b>5. Follow-up</b>				
<b>A. Child has No Exposure to TB and TB Screen is Negative:</b> Rescreen in 6months . Write date for next screen	06 / 05 / 11	/ /	/ /	/ /
<b>B. Child has Exposure to TB and/ or Positive Symptom</b> <b>Screen:</b> Complete first half of the National Tuberculosis Diagnostic Worksheet and send child for evaluation by MD. Indicate if child was evaluated by MD(Yes or No)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>6. Nurse Initial/Signature</b>	FM			

WHAT HAPPENS IF THE CHILD  
HAS A HISTORY OF TB  
CONTACT IN THE PAST 12  
MONTHS OR REPORTS YES TO  
ANY OF THE TB SYMPTOMS?



# ALGORITHM FOR TB SCREENING



# EXPOSURE TO TB AND OR POSITIVE TB SYMPTOM SCREEN

- Complete first half of the National Tuberculosis Diagnostic Worksheet
  - Child's name
  - Date of TB screening visit
  - Past TB history
  - Reasons for suspecting TB today.
- Send child for evaluation by MD.



# COMPLETE THE FIRST PART OF THE TB DIAGNOSTIC WORKSHEET



## TUBERCULOSIS DIAGNOSTIC WORKSHEET

Patient ID    -    -      -   
District Facility Serial no.

Facility ID (if different)    
 Clinic code

Patient Last Name \_\_\_\_\_

Patient First Name \_\_\_\_\_

**TB SCREENING VISIT** day   month   year   Current TB episode diagnosed elsewhere  Yes  No

**Past TB history:**

- None
  - Unknown
  - Yes
- If yes, # of treatments lasting > 1 mo.

**Last episode:**

- Pulmonary
- Extrapulmonary
- Unknown

Treatment started (mo/yr)  Treatment ended (mo/yr)

**Reasons for suspecting TB today:**

**Symptoms:**

- Cough > 2 weeks
- Weight loss
- Fever
- Night sweats
- Loss of appetite
- Haemoptysis
- TB meningitis / focal neuro abnormality

**Locating signs:**

- Lung
- Spinal lesion
- Ascites
- Pericardial effusion
- Skin lesion
- Lymph nodes

**Other:**

- TB contact
- Abnormal CXR
- HIV infection
- Other, specify: \_\_\_\_\_

**Comments:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**INVESTIGATIONS**

- Sputum for AFB
- Chest X-ray
- Other \_\_\_\_\_

Prescribed antibiotic  Yes  No

**Date of next visit:**

/   /    
Day Month Year

**TB FOLLOW UP VISIT** day   month   year

**Sputa results:**

- Date / /  Positive  Negative  Not done  
 Date / /  Positive  Negative  Not done  
 Date / /  Positive  Negative  Not done

**Other results:**

Date / /

**CXR results. Date: / /**

- Normal \_\_\_\_\_
- Infiltrate \_\_\_\_\_
- Pleural effusion \_\_\_\_\_
- Cavity \_\_\_\_\_
- Pericardial effusion \_\_\_\_\_

# TB DIAGNOSTIC EVALUATION BY MD

- All children with
  - History of Household contact in the past 12 months
  - Positive symptom screen (Presence of one or more TB symptoms) OR
- Should be evaluated for TB



# EVALUATION FOR TB INCLUDES.....

- Detailed History
  - Ask about nature of cough, other symptoms,
  - Ask about treatment with antibiotics
- Clinical Exam
  - Weight, temperature, respiratory rate, clubbing, crepitations, dullness etc.
- Lab tests
  - Chest X-ray
  - Sputum or gastric aspirate for AFB



# OUTCOME OF TB EVALUATION

- Exposure to TB/positive Symptom Screen and MD evaluation is negative- ***TB SUSPECT***
- No Exposure to TB/positive Symptom Screen and MD evaluation is negative
- Exposure to TB/negative Symptom Screen and MD evaluation is Negative- ***TB SUSPECT***
- Exposure to TB/negative Symptom Screen and MD evaluation is Positive – ***TB SUSPECT***
- No Exposure to TB/positive Symptom Screen and MD evaluation is Positive – ***TB SUSPECT***



# EXPOSURE TO TB / POSITIVE SYMPTOM

## SCREEN AND MD EVALUATION IS

### NEGATIVE- *TB SUSPECT*

- Send child for CXR
  - If CXR is negative
  - Provide INH for 6 months per country guidelines.
    - MD should record the day (**DD**), month (**MM**), and year (**YY**) when INH was started.
    - The child should be seen monthly during INH prophylactic therapy and course should be documented on patients medication card.
- If CXR is suggestive of TB
  - Send child for sputum AFB



# EXPOSURE TO TB /NEGATIVE SYMPTOM

## SCREEN AND MD EVALUATION IS

### NEGATIVE- *TB SUSPECT*

- Send child for CXR
  - If CXR is negative
  - Provide INH for 6 months per country guidelines.
    - MD should record the day (**DD**), month (**MM**), and year (**YY**) when INH was started.
    - The child should be seen monthly during INH prophylactic therapy and course should be documented on patients medication card.
- If CXR is suggestive of TB
  - Send child for sputum AFB



# NO EXPOSURE TO TB/**POSITIVE** **SYMPTOM SCREEN** AND MD EVALUATION IS NEGATIVE

- MD should document that evaluation was negative **IN THE COMMENTS SECTION OF THE TB DIAGNOSTIC WORKSHEET** .
- MD will evaluate for other possible causes of symptoms
- Child should be rescreened at next visit.





# TUBERCULOSIS DIAGNOSTIC WORKSHEET

Patient ID    -    -     -

District

Facility

Serial no.

Facility ID (if different)

Clinic code

Patient Last Name

Patient First Name

TB SCREENING VISIT day   month   year   Current TB episode diagnosed elsewhere  Yes  No

### Past TB history:

- None
  - Unknown
  - Yes
- If yes, # of treatments lasting > 1 mo.

### Last episode:

- Pulmonary
  - Extrapulmonary
  - Unknown
- Treatment started (mo/yr)  Treatment ended (mo/yr)

### Reasons for suspecting TB today:

- Symptoms:
- Cough > 2 weeks
  - Weight loss
  - Fever
  - Night sweats
  - Loss of appetite
  - Haemoptysis
  - TB meningitis / focal neuro abnormality
- Locating signs:
- Lung
  - Spinal lesion
  - Ascites
  - Pericardial effusion
  - Skin lesion
  - Lymph nodes
- Other:
- TB contact
  - Abnormal CXR
  - HIV infection
  - Other, specify: \_\_\_\_\_

Comments:

No further evaluation needed

### INVESTIGATIONS

- Sputum for AFB
- Chest X-ray
- Other: \_\_\_\_\_

Prescribed antibiotic  Yes  No

Date of next visit:

/   /

TB FOLLOW UP VISIT day   month   year

### Sputa results:

- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done

### Other results:

- Date / /
- Positive
  - Negative

CXR results. Date: / /

- Normal
- Infiltrate
- Pleural effusion
- Cavity
- Pericardial effusion
- Other: \_\_\_\_\_

### TB status:

- TB diagnosed by: (tick all that apply)
  - smear
  - biopsy
  - culture
  - history
  - exam
  - xray
- Diagnosis unclear\* Observe, refer, further tests
- Patient does not have TB

### Plan:

- Treat for TB. Go to TB Assessment and Plan.
- Treat with antibiotics
- Order other tests\*  sputum AFB  sputum culture  CXR  Other: \_\_\_\_\_
- Continue usual HIV care

Comments:

\*For additional follow up visits, use another TB Diagnostic Worksheet

Date of next visit:

/   /

TB ASSESSMENT AND PLAN day   month   year

Type of patient:  New  Relapsed  Failure  Resumed (treatment after default)

Type of TB:  OPTB smear positive  OPTB smear neg., culture not ordered  PTB smear neg., culture pending  EPTB

### TB treatment category and medications:

- New case: RHZE x2 mos intensive phase; EH x6 mos continuation phase
- Failure/relapsed/resumed: S(RHZE) x2 mos/(RHZE) x1 mo intensive phase; RHE x5 mos continuation phase
- Paediatric: RHZ x2 mos intensive phase; RH x4 mos continuation phase
- Paediatric TB meningitis/disseminated TB: SRHZ x2 mos intensive phase; RH x10 mos continuation phase

Comments:

Date of next visit (should be in 2 weeks)

/   /

Clerk initial

Staff ID

Staff signature

# EXPOSURE TO TB /NEGATIVE SYMPTOM

## SCREEN AND MD EVALUATION IS

### POSITIVE – *TB SUSPECT*

- Send child for CXR and Sputum for AFB
  - If CXR is negative and sputum for AFB is negative
    - Provide INH for 6 months per country guidelines.
    - MD should record the day (**DD**), month (**MM**), and year (**YY**) when INH was started.
    - The child should be seen monthly during INH prophylactic therapy and course should be documented on patients medication card.
  - If CXR is suggestive of TB – treat child for TB
  - If Sputum is positive – treat for TB





# TUBERCULOSIS DIAGNOSTIC WORKSHEET

Patient ID    -    -     -

District

Facility

Serial no.

Facility ID (if different)

Clinic code

Patient Last Name

Patient First Name

**TB SCREENING VISIT** day   month   year   Current TB episode diagnosed elsewhere  Yes  No

**Past TB history:**

- None
  - Unknown
  - Yes
- If yes, # of treatments lasting > 1 mo.

**Last episode:**

- Pulmonary
  - Extrapulmonary
  - Unknown
- Treatment started (mo/yr)  Treatment ended (mo/yr)

**Reasons for suspecting TB today:**

- Symptoms:**
- Cough > 2 weeks
  - Weight loss
  - Fever
  - Night sweats
  - Loss of appetite
  - Haemoptysis
- Locating signs:**
- Lung
  - Spinal lesion
  - Ascites
  - Pericardial effusion
  - Skin lesion
  - Lymph nodes
- Other:**
- TB contact
  - Abnormal CXR
  - HIV infection
  - Other, specify: \_\_\_\_\_

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**INVESTIGATIONS**

- Sputum for AFB
- Chest X-ray
- Other: \_\_\_\_\_

Prescribed antibiotic  Yes  No

Date of next visit:

/   /

**TB FOLLOW UP VISIT** day   month   year

**Sputa results:**

- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done

**Other results:**

- Date / /  Positive  Negative

CXR results. Date: / /

- Normal
- Infiltrate
- Pleural effusion
- Cavity
- Pericardial effusion
- Other: \_\_\_\_\_

**TB status:**

- TB diagnosed by: (tick all that apply)
  - smear  biopsy  culture
  - history  exam  xray
- Diagnosis unclear\* Observe, refer, further tests
- Patient does not have TB

**Plan:**

- Treat for TB. Go to TB Assessment and Plan.
- Treat with antibiotics
- Order other tests\*  sputum AFB  sputum culture  CXR  Other: \_\_\_\_\_
- Continue usual HIV care

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*For additional follow up visits, use another TB Diagnostic Worksheet

Date of next visit:

/   /

**TB ASSESSMENT AND PLAN** day   month   year

Type of patient:  New  Relapsed  Failure  Resumed (treatment after default)

Type of TB:  PTB smear positive  PTB smear neg., culture not ordered  PTB smear neg., culture pending  EPTB

**TB treatment category and medications:**

- New case: RHZE x2 mos intensive phase; EH x6 mos continuation phase
- Failure/relapsed/resumed: S(RHZE) x2 mos/(RHZE) x1 mo intensive phase; RHE x5 mos continuation phase
- Paediatric: RHZ x2 mos intensive phase; RH x4 mos continuation phase
- Paediatric TB meningitis/disseminated TB: SRHZ x2 mos intensive phase; RH x10 mos continuation phase

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_

Date of next visit (should be in 2 weeks)

/   /

Associated Products Ltd

Clerk initial

Staff ID

Staff signature

# WHO SHOULD *GETIPT*? ZAMBIA NATIONAL GUIDELINES 2010

- All HIV-infected infants and children *exposed to TB through household contacts*, but with no evidence of active disease.



# WHO SHOULD *GETIPT*? (WHO 2010)

- All HIV-infected infants and children *exposed to TB through household contacts*, but with no evidence of active disease. (*Strong*)
- *HIV-infected children > 12 months* (including those previously treated for TB) who are not likely to have active TB, and are not known to be exposed to TB, should receive 6 months of IPT as part of a comprehensive package of HIV care (*Strong*)



# NO EXPOSURE TO TB/ POSITIVE

## SYMPTOM SCREEN AND MD EVALUATION IS POSITIVE – TB SUSPECT

- Send child for CXR and Sputum for AFB
  - If CXR is negative and sputum for AFB is negative
    - » Provide close clinical follow-up until symptoms resolve
    - » If symptoms persist consider treatment for TB
  - If CXR is suggestive of TB – treat child for TB
  - If Sputum is positive – treat for TB





# TUBERCULOSIS DIAGNOSTIC WORKSHEET

Patient ID    -    -      -

District

Facility

Serial no.

Facility ID (if different)

Clinic code

Patient Last Name

Patient First Name

**TB SCREENING VISIT** day   month   year   Current TB episode diagnosed elsewhere  Yes  No

**Past TB history:**

- None
- Unknown
- Yes

If yes, # of treatments lasting > 1 mo.

**Last episode:**

- Pulmonary
- Extrapulmonary
- Unknown

Treatment started (mo/yr)

Treatment ended (mo/yr)

**Reasons for suspecting TB today:**

**Symptoms:**

- Cough > 2 weeks
- Weight loss
- Fever
- Night sweats
- Loss of appetite
- Haemoptysis
- TB meningitis / focal neuro abnormality

**Locating signs:**

- Lung
- Spinal lesion
- Ascites
- Pericardial effusion
- Skin lesion
- Lymph nodes

**Other:**

- TB contact
- Abnormal CXR
- HIV infection
- Other, specify: \_\_\_\_\_

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**INVESTIGATIONS**

- Sputum for AFB
- Chest X-ray
- Other: \_\_\_\_\_

Prescribed antibiotic  Yes  No

Date of next visit:

/   /

Day

Month

Year

**TB FOLLOW UP VISIT** day   month   year

**Sputa results:**

- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done
- Date / /  Positive  Negative  Not done

**Other results:**

- Date / /
- Positive  Negative

CXR results. Date: / /

- Normal
- Infiltrate
- Pleural effusion
- Cavity
- Pericardial effusion
- Other

**TB status:**

- TB diagnosed by: (tick all that apply)
- smear  biopsy  culture
  - history  exam  xray
- Diagnosis unclear\* Observe, refer, further tests
- Patient does not have TB

**Plan:**

- Treat for TB. Go to TB Assessment and Plan.
- Treat with antibiotics
- Order other tests\*  sputum AFB  sputum culture  CXR  Other: \_\_\_\_\_
- Continue usual HIV care

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*For additional follow up visits, use another TB Diagnostic Worksheet

Date of next visit:

/   /

Day

Month

Year

**TB ASSESSMENT AND PLAN** day   month   year

Type of patient:  New  Relapsed  Failure  Resumed (treatment after default)

Type of TB:  PTB smear positive  PTB smear neg., culture not ordered  PTB smear neg., culture pending  EPTB

**TB treatment category and medications:**

- New case: RHZE x2 mos intensive phase; EH x6 mos continuation phase
- Failure/relapsed/resumed: S(RHZE) x2 mos/(RHZE) x1 mo intensive phase; RHE x5 mos continuation phase
- Paediatric: RHZ x2 mos intensive phase; RH x4 mos continuation phase
- Paediatric TB meningitis/disseminated TB: SRHZ x2 mos intensive phase; RH x10 mos continuation phase

**Comments:**

\_\_\_\_\_  
\_\_\_\_\_

Date of next visit (should be in 2 weeks)

/   /

Day

Month

Year

Clerk initial

Staff ID

Staff signature

# DOCUMENT OUTCOME OF MD EVALUATION IN THE TB SCREENING REGISTER

- Each nurse is responsible for documenting whether the child received evaluation by the MD on the TB screening questionnaire.
- For each child with a positive TB Screening questionnaire (symptoms or TB contact), enter their name, date of screening visit, and outcome of the MD evaluation in the TB Screening register.
- If the MD has ordered CXR or sputum exam, the nurse should tick these columns in the TB screening register. The column for “CXR and Sputum results” should be completed after the MD has viewed the films.
- Information should be completed by the end of the day session, before charts are sent to the data room or pharmacy.
- The nurse in charge should check the register at the end of the day. If there are any incomplete parts, --such as a child referred to x-ray who has not returned with their films by the end of the day-- she should bring it to the attention of the nurse and MD.



# DOCUMENT IF CHILD WAS EVALUATED BY MD

B. Documented weight loss or failure to thrive during the past 3 months, not responding to nutritional rehabilitation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
C. Persistent fever > 2 weeks reported by parent	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
D. Night sweats (regular sweating requiring a dry set of night clothes or change of bedding)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Screening Result</b> ( A through D above) <b>Positive</b> =Presence of one or more symptoms <b>Negative</b> =absence of all symptoms	<input type="checkbox"/> Positive <input checked="" type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	<input type="checkbox"/> Positive <input type="checkbox"/> Negative
<b>5. Follow-up</b>				
<b>A. Child has No Exposure to TB and TB Screen is Negative:</b> Rescreen in 6months . Write date for next screen	/ /	/ /	/ /	/ /
<b>B. Child has Exposure to TB and/ or Positive Symptom</b> <b>Screen:</b> Complete first half of the National Tuberculosis Diagnostic Worksheet and send child for evaluation by MD. Indicate if child was evaluated by MD(Yes or No)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>6. Nurse Initial/Signature</b>	<i>FM</i>			

# DOCUMENT OUTCOME OF MD EVALUATION, REFERRAL TO CXR/LAB, AND CXR/LAB RESULTS IN THE TB SCREENING REGISTER

**TB SCREENING Register (TB Register 2)**

**MONTH** \_\_\_\_\_

DATE	Name	ART No.	TB contact (Y/N)	Evaluated by MD? (Y/N)	Referred for CXR (Y/N)	Referred for Sputa (Y/N)	obtained CXR? Sputa specimen	CXR results	Sputa results	IPT prescribed/ DATE	TB treatment initiated /DATE
2.11.10	Precious Phiri	433359	N	Y	Y	N	Y	N	Neg	N	N

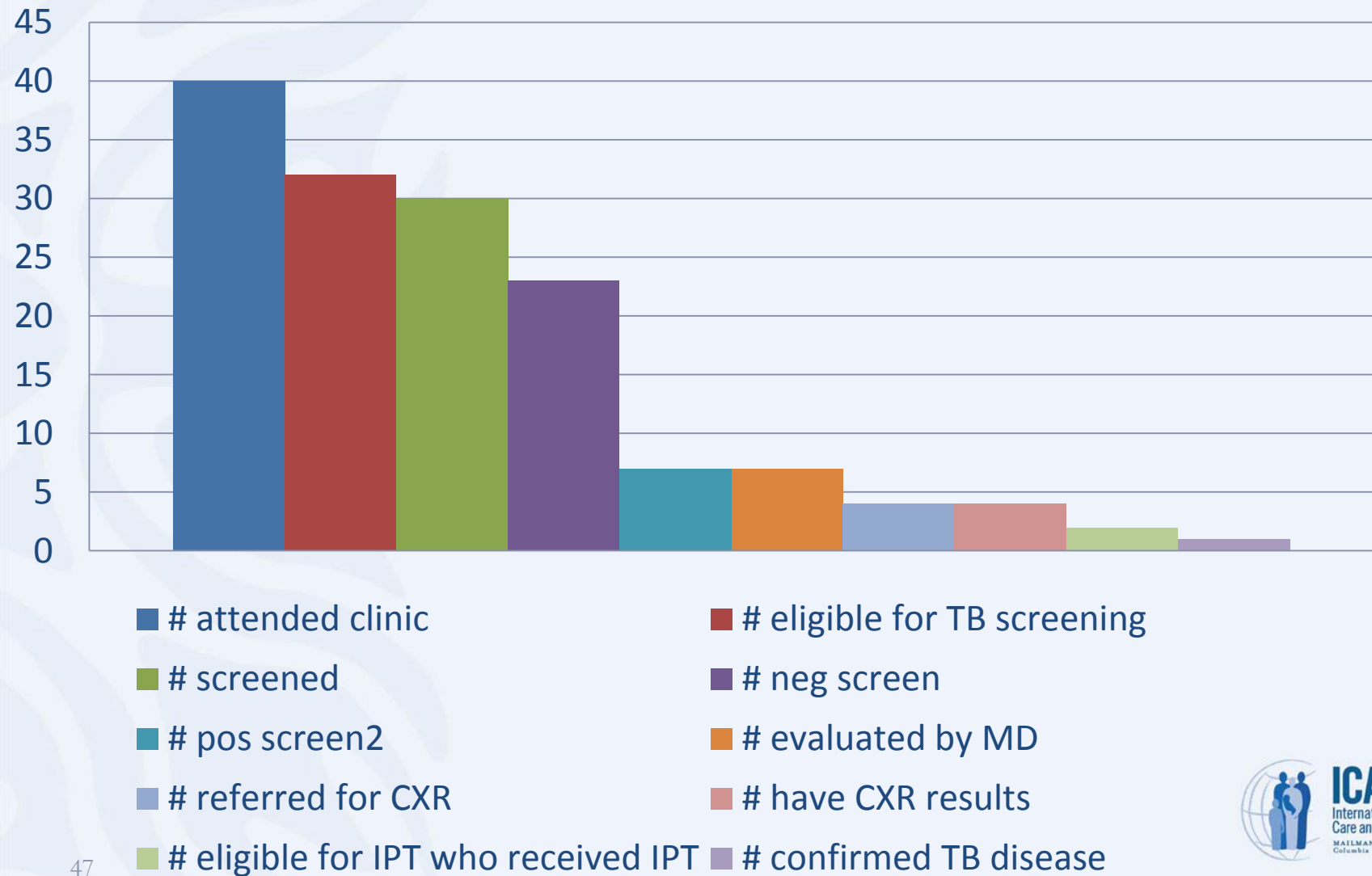


# DATA EVALUATION

- TB Screening cascade:
  - # of children seen at clinic
  - # eligible for screening
  - # screened
  - # positive screening results
  - # negative screening results
  - # evaluated by MD
  - # referred for CXR or sputum
  - # who obtained CXR and or sputum
  - # eligible for IPT who received IPT
  - #confirmed TB disease (from TB notification book).



# TB SCREENING CASCADE



# OUTCOME MEASURES

- Proportion of HIV-infected children in need of screening who are screened for TB (Target 95%)
- Proportion of eligible HIV-infected children receiving IPT
- Proportion of HIV-infected children diagnosed with TB disease
- Proportion of HIV-infected children diagnosed with TB and initiated TB treatment



# DATA CAPTURING IN THE ART CLINIC

- Nurse completes TB screening Tally sheet.
- Nurse enters MD evaluation and referral for CXR/labs for children with positive TB screen in the TB Screening Register at the ART clinic
- Charles will compare the TB Screening Register with the weekly summary provided by Chama (based on data entered from TB Screening Questionnaire and TB Diagnostic Worksheet)
- Charles will review TB notification log book and X-ray spread sheet to verify TB Screening register



# DATA MONITORING

- Data from the TB Screening Questionnaire and National TB Diagnostic Worksheet will be entered into the PCOE database at the end of the day by M&E staff.
- M&E Staff will generate a weekly summary of TB data
- M&E Staff will review the weekly summary. If there is missing information it will be brought to the attention of nurses and doctors (charts will be pulled so data is completed in the patient medical record)
- Completed charts will be sent back to the data room for supplemental information to be entered into the database



# DATA REPORTING

- Monthly summary of screening and outcome data will be done by M&E staff and shared with staff during MDT meeting
- Monthly PCOE report with chart showing data for past month to ART nurses and doctors at MDT on screening cascade



