



# ***SPECIMEN COLLECTION & REFERRAL***

Facilitator Guide (FG1)

## SUMMARY OF MODULE AT A GLANCE

Purpose of module:	To provide participants with an overview of specimen referral networks and the sample requirements for Xpert MTB/RIF (Ultra)*	
Total time of module	1 hours 45 minutes	
CONTENT OUTLINE		
Power point: TB Diagnostics Global Policies and Strategies	Aim: provide an overview of specimen referral networks and the sample requirements for Xpert MTB/RIF (Ultra)  Learning objectives: <ul style="list-style-type: none"><li>▪ Understand what principles of specimen referral networks</li><li>▪ List the TB-specific considerations for specimen collection, storage, packaging and transport</li><li>▪ Describe specimen collection, storage &amp; transport processes</li><li>▪ Tabulate quality indicators for monitoring the specimen referral network</li></ul>	1 hour
Discussion Questions	<ol style="list-style-type: none"><li>1. Describe the process of sputum collection</li><li>2. Describe the process for triple packaging a specimen</li><li>3. What are the specimen requirements for Xpert MTB/RIF(Ultra) testing?</li><li>4. What are the storage &amp; transport requirements for Xpert MTB/RIF (Ultra) samples?</li><li>5. List two quality indicators that should be collected by the referring facility</li></ol>	15 minutes
Exercise 1: Properly filling NTP requisition form	Aim: The objective of this exercise is to complete a Laboratory Request Form with the information provided	30 minutes
Handout and exercise/practicals in module	<ol style="list-style-type: none"><li>1. Worksheet (W1:M2): Properly Filling NTP Requisition Form</li></ol>	

\* Refers to either Xpert MTB/RIF and/or Xpert MTB/RIF Ultra

### Additional resources or references:

- GLI Guide to TB Specimen Referral Systems. (2017). [www.stoptb.org/wg/gli/assets/documents/GLI\\_Guide\\_specimens\\_web\\_ready.pdf](http://www.stoptb.org/wg/gli/assets/documents/GLI_Guide_specimens_web_ready.pdf)

## MODULE NOTES

Broadly, keep in mind that “specimen referrals”, “specimen transport”, “sample referrals” and “sample transport” can be used interchangeably. However, just saying “referrals” or “transport” could refer to patients or sample/specimens.

**Slide 5-6** it is important that the participants understand the difference between referring a patient and a specimen, and the benefits to the patient if you offer specimen referrals to them. Many primary-level sites do not offer transportation for specimen referrals and place the burden on the patient. It is also helpful to understand that the transport for specimen referrals happens separately from the specimen collection/packaging, which occurs at the health facility. Finally, this training module does not cover the setup of a specimen referral network - only what to do if it's available already. If a country is interested in setting up a network, there is a program module Planning and Establishing a TB Diagnostics Sample Referral Network.

**Slide 9** Customize according to in-country sputum specimen collection container specifications

**Slide 15** This slide needs to be tailored/changed to the country's request form. Participants must be shown how to correctly complete the form.

**Slide 17-18** It is important to understand that triple packaging the specimens has two main purposes - (1) to protect the quality/integrity of the specimens and (2) to protect any individuals who may come into contact with the package.

**Slide 22 & 32** these guidelines on specimen transport need to be tailored/changed to the country's protocols. SOPs should be available to guide the process. This slide discusses ideal specimen conditions in storage/transit and what exactly should be included in/with the package. If there are also any Chain of Custody/transport forms that are used in the country, please add.

**Slide 31-33** The initial quality check from the laboratory should ideally be performed when the specimen is received so that the transporter/courier has the chance to hear and relay the message of rejection - if the rejection is due to conditions in transit, then the courier/transporter should know directly - or else the laboratory can call the referring facility. Customize slide 32 according to in-country rejection criteria

**Slide 34-36** Paper results may or may not be returned but if they are, they should follow the same transport route/mechanism as specimens, just in reverse. It is good to understand the country's situation - in some countries, positive results are phoned back to the referring health facility while the paper results may or may not follow

**Slide 39-40** Customize according to in-country quality indicators

## EXERCISE: PROPERLY FILLING NTP REQUISITION FORM

<b>Purpose of exercise:</b>	The objective of this exercise is to review a completed Laboratory Request Form
<b>Preparation:</b>	<ul style="list-style-type: none"> <li>▪ All participants divide into groups (up to 5 groups are permissible)</li> <li>▪ Assign each group a number (see above)</li> <li>▪ Each group to complete the Laboratory Request Form with the information provided</li> <li>▪ Groups to present their completed Laboratory Request Form for discussion</li> </ul>
<b>Materials required:</b>	<p>Full list of materials participants need:</p> <ul style="list-style-type: none"> <li>▪ Pens</li> <li>▪ Worksheet- Properly filling NTP Requisition Form (W1:M2)</li> </ul>
<b>Total time of exercise:</b>	30 minutes
<b>Feedback expected:</b>	<p>Allow the participants to their completed NTP Requisition Form</p> <p>Give each group an opportunity to explain how the form was completed</p> <p>Ask the other groups to ask questions and make comments. Facilitate the discussions to focus on correctly completing the form and how to manage forms with incomplete information.</p>

## CONDUCTING THE EXERCISE

Read out instructions (shown above in “preparation”)	1 minutes
Break into groups, give the worksheets each group. The groups should allot roles of a presenter for end of exercise	2 minutes
Perform the exercise	10 minutes
Report back to full group	10 minutes- 2 minutes / group
Discussion questions posed to the group	7 minutes

### DEBRIEFING EXERCISE/PRACTICAL

Exercise will be wrapped up with a discussion covering the various aspects of correctly completing the NTP Requisition Form. Facilitate the discussions to focus on correctly completing the form and how to manage forms with incomplete information. Raise issues related to Xpert MTB/RIF Ultra (e.g. trace samples & patient categories) and extra-pulmonary samples to conclude the discussion.

## Worksheet (W1:M1)

### EXERCISE 1: PROPERLY FILLING NTP REQUISITION FORM

**Time: 30 minutes**

The NTP Requisition form is completed by the referring health care provider; however, the laboratory should be familiar with the requirements for completing this form:

#### Instructions:

Work in groups. Based on your assigned group, complete a TB request form (provided below) for one of the following scenarios:

- Group 1: Asha Mbaba, phone number 0653222426, 34 years old coughing one month, HIV unknown, no history of TB, GeneXpert onsite, from Nachingwea. Requestor- Kijakazi Salumu.
- Group 2: Mwana Juma, contact 0755001122, 23 years old coughing one month, on HIV treatment, no history of TB but sister has MDR TB, no GeneXpert on site, from Kibaya. Requestor- Mr Jaribu.
- Group 3: Amina Ally, 74 years fever, night sweats, cough 2 weeks, on HIV negative, treated for TB last year but did not complete treatment, GeneXpert on site, from Kiligi. Requestor- Lindi Motwa.
- Group 4: Patonya Malaga, 50 years, Mvumi mission, phone 07143333. Presents with weight loss, fever on HIV treatment, no history of TB, no GeneXpert on site. Requestor-Kijakazi Salumu
- Group 5: Maganda John, (parent is Elias Maganda), 4 months old, failure to thrive, No known exposure to HIV, mother has TB, No GeneXpert on site.

(Use country NTP Request Form)

**Request for examination of biological specimen for TB**

Treatment unit: \_\_\_\_\_ Date of request: \_\_\_\_\_

Patient name: \_\_\_\_\_

Age (years): \_\_\_\_\_ Date of birth: \_\_\_\_\_ Sex: ☐ Male ☐ Female

Patient address: \_\_\_\_\_

\_\_\_\_\_  
Telephone: \_\_\_\_\_

Reason for examination:

☐ Diagnosis. If diagnosis, presumptive RR-TB/MDR-TB?: ☐ Yes ☐ NoOR ☐ Follow-up. If follow-up, month of treatment: \_\_\_\_\_HIV infection? ☐ Yes ☐ No ☐ UnknownPreviously treated for TB? ☐ Yes ☐ No ☐ UnknownSpecimen type: ☐ Sputum ☐ Other (specify): \_\_\_\_\_Test(s) requested: ☐ Microscopy ☐ Xpert MTB/RIF  
☐ Culture ☐ Drug susceptibility ☐ Line probe assay

Requested by (Name and signature): \_\_\_\_\_

\_\_\_\_\_

**Microscopy results** (to be completed in the laboratory)

Date sample collected (filled by requestor)	Specimen type	Laboratory serial number(s)	Visual appearance (blood-stained, mucopurulent or saliva)	Result (tick one)				
				Negative (0 AFB/ 100 HPF)	1–9/100 HPF (scanty; report no. of AFB)	+	++	+++

Examined by (name and signature): \_\_\_\_\_

Date of result: \_\_\_\_\_

\_\_\_\_\_

## MODULE ANSWERS

### 1. Describe the process of sputum collection

- Wash your mouth with clean water to remove food and other particles
- Inhale deeply 2-3 times and breathe out strongly each time
- Cough deeply from your chest to produce sputum
- Place the open container close to your mouth to collect the specimen; do not get sputum on the outside of the container
- Wash your hands after collecting the sample

### 2. Describe the process for triple packaging a specimen

#### Primary packaging

Wrap the leak-proof container in cotton wool or paper towels in a sufficient quantity to absorb the entire contents in case of leaks

#### Secondary packaging

Place the wrapped container inside a secondary container, such as a self-sealing plastic bag or another container

Place secondary container in a rack to prevent leakage

#### Tertiary packaging

Place the secondary container and its contents in an approved safety cooler box or another appropriate container in an upright position

Place a biohazard sign - with markings and labelling appropriate for the specimen category - on the tertiary container

### 3. What are the specimen requirements for Xpert MTB/RIF(Ultra) testing?

Number of samples: A single sputum specimen is recommended for Xpert MTB/RIF (Ultra) testing:

An additional sputum specimen may be needed in case of an error or invalid Xpert MTB/RIF (Ultra) result

An additional sputum is required for re-testing of Xpert MTB/RIF Ultra trace results

Additional sputum specimens may be needed for microscopy, culture and DST, depending on the NTP's guidelines [Xpert MTB/RIF (Ultra) are not recommended for monitoring patient treatment]

Minimum volume: 1 ml, 2-4 ml samples are preferred



**4. What are the storage & transport requirements for Xpert MTB/RIF (Ultra) samples?**

For sputum samples being transported for Xpert MTB/RIF (Ultra) testing, viability is not an issue, but stability of nucleic acids is a consideration:

If transport is delayed by more than 1 hour, specimens should be stored at 2-8°C. If necessary, specimens may be stored at ambient temperature (maximum 35°C) for up to 3 days, then refrigerated at 2-8°C

Because viability is not required, the bacteria in the sputum specimens can be inactivated and DNA stabilized by adding 70% ethanol and then stored and transported at ambient temperature or at 2-8°C

**5. List two quality indicators that should be collected by the referring facility**

See slides 39 & 40