

Additional file 2: Health facility Audit tool**Assessing the coverage and usage of Xpert MTB/RIF & Line Probe Assay
services in Uganda, Kenya & Tanzania****1. Details of the Healthcare facility (HCF) visited**

- a. Name of the HCF
- b. Which level of the HCF.....
- c. Position in HCF of the person interviewed.....

2. Tuberculosis treatment

- a. Is TB treated at this HCF? Yes No N/A
- b. If not, where does the HCF refer Yes No N/A
patients?
- c. Is TB diagnosis free at this HCF? Yes No N/A
- d. Is TB diagnosis at this HCF cost shared Yes No N/A
or completely private?

e. Is TB treatment at this HCF free Yes No N/A

f. Is TB treatment at this HCF cost Yes No N/A
shared or completely private?

g. In your own opinion who should pay
for the treatment of TB?

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3. TB laboratory facilities

a. Does this HCF have a sputum Yes No N/A
expectoration facility separate from
the consultation room?

b. Does this HCF have a TB laboratory? Yes No N/A

What category is the TB laboratory at this

HCF?.....

- c. Does this HCF have cold storage (fridge or freezer) for its TB laboratory? Yes No N/A

State capacity.....

- d. Does this HCF perform smear microscopy? Yes No N/A

When does this HCF use smear microscopy?

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- e. Does this HCF do TB culture? Yes No N/A

- f. If yes, what culture does it do?

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- g. If not, where does it send samples for culture?

- h. How does this HCF send samples for culture or other diagnostics at referral centres?

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Yes No N/A

- i. In your own opinion are the TB laboratory facilities at this health care facility sufficient?
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4. Xpert MTB/RIF services

- a. Does this HCF have Xpert MTB/RIF machine? Yes No N/A
- b. If yes, how often is it used?.....
- c. How many specimens does this HCF process with Xpert MTB/RIF a month?
- d. Does the HCF find it easy to operate the Xpert MTB/RIF machine?

- e. What qualification is the person (s) who runs the Xpert MTB/RIF machine?
- f. Is every presumed TB patient diagnosed with Xpert MTB/RIF machine? Yes No N/A
- g. If not, under what conditions does this HCF use its Xpert MTB/RIF machine?
- h. Is the Xpert MTB/RIF machine at this HCF calibrated? Yes No N/A
- i. If yes, when was it last calibrated?
- j. Is the Xpert MTB/RIF machine in the consultation room or in a separate room?

k. Does this HCF have stable supply of Xpert MTB/RIF cartridges? Yes No N/A

l. Do the cartridge orders arrive on time? Yes No N/A

Who supplies the cartridges?

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m. Does the HCF order the cartridges itself? Yes No N/A

n. If not, who places the orders?

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o. In your opinion is the Xpert MTB/RIF machine at this HCF utilised to its full capacity?

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- p. If this HCF does not have a Xpert
MTB/RIF machine, please tell us
why?

5. Line probe assay (LPA) service

- a. Does this HCF have LPA service? Yes No N/A
- b. If yes, how often are the services
used?
- c. If you don't have LPA, have you ever
heard about it?
.....
- d. If you have LPA how many specimens
does this HCF process with LPA a
month?
- e. Does this HCF find it easy to work
with its LPA service?
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f. Who supplies this HCF with LPA Yes No N/A

consumables?

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g. Does the HCF place orders itself?

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h. If not, who places orders?

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i. Do LPA orders come on time?

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Yes No N/A

j. In your opinion is the LPA service at
this HCF utilised to its full capacity?

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k. What do you think are the limiting Yes No N/A

factors hindering this HCF to have a
LPA service?

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6. Monitoring TB treatment?

- a. Does this HCF monitor patients' response to TB treatment? Yes No N/A

If yes, which methods does this HCF use to monitor response?

If not, why not?

- b. Does this HCF use microscopy to monitor sputum status at 2, 3, 5 or 6 months? Yes No N/A

- c. Does this HCF use culture to monitor TB treatment response? Yes No N/A

If yes, at what point in treatment does it use culture?

How long does it take to get culture result?

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If this HCF refers samples for culture testing,
how long does it take to get results back?

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- d. Apart from microscopy and culture Yes No N/A
does this HCF use any other method
for monitoring treatment response?

If yes, which method is this?

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Does this HCF check MGIT (liquid culture)
contamination?

If yes, how does it check contamination?

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What percentage of samples are positive on
both MGIT and on blood agar?

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In your own opinion is the monitoring of TB treatment by this HCF sufficient?

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7. Molecular biology know how and capacity

- a. Do you know about Polymerase chain reaction (PCR) Yes No N/A
- b. Does this HCF have an in-house PCR for TB diagnosis? Yes No N/A
- c. Do you know about DNA and RNA? Yes No N/A
- d. Does this HCF have dedicated spaces for DNA and RNA extraction? Yes No N/A
- a. Does this HCF have dedicated space for PCR? Yes No N/A
- b. Does this HCF have dedicated space for post-PCR? Yes No N/A

c. Does this HCF have autoclave for biowaste? Yes No N/A

d. If not, how does this HCF decontaminate waste?
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e. How much is spent on molecular reagents and consumables laboratory per year?
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f. In your own opinion is there sufficient understanding of molecular applications like PCR at this HCF?

8. Mycobacteriology workload

a. No. of specimens processed for smear/year
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b. No. of specimens processed for culture/year
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c. Number of Mycobacteria isolated/year

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d. No. of specimens processed for susceptibility/year

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e. No. of molecular identification tests/year

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f. In your own opinion is the performance of this HCF up to standard in relation to its mycobacteriology workload?

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6. Human resource capacity

a. No. of staff trained to Certificate level working in the laboratory?

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b. No. of staff trained to Diploma level working in the laboratory?

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c. No. of staff trained to BSc. level working in the laboratory?

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d. No. of staff with medical qualifications working on TB at this HCF?

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e. No. of staff trained to MSc. level working in the laboratory?

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f. No. of clerical staff working with TB and other specimens in the laboratory

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g. No. of staff working in the laboratory per day

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h. In your own opinion is the human resource capacity of this HCF sufficient for TB diagnosis and treatment?

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7. Quality Assurance

- a. Does this HCF have SOPs for mycobacterial work? (if yes please give us copy) Yes No N/A

How often are these updated?

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- b. Is the storage of media and other lab reagents in a temperature controlled environment? Yes No N/A

- c. Is there a record of media storage temperatures? Yes No N/A

- d. Are the temperatures of fridges, incubators and freezers monitored? Yes No N/A

What is the frequency of monitoring?

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e. Is there an SOP for action if temperature values are abnormal (If yes please give a copy) Yes No N/A

f. Does this HCF use internal quality assurance samples Yes No N/A

g. Does the TB laboratory participate in an external quality assurance scheme (please circle the appropriate you use)

Regional

National

International

How often does this HCF conduct quality external assurance?

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h. Is media subject to quality control before use? Yes No N/A

i. In your own opinion are the quality control measures taken by this HCF sufficient?

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8. ImplementationYes No N/A

a. Does the TB laboratory manager at this HCF participate in choosing diagnostics to use?

b. If not who chooses the diagnostics to implement?

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c. Diagnostic A is more accurate but expensive while B is less accurate but cheap, in your opinion which of the two would you chose for your HCF?

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d. Diagnostic X takes longer e.g 2 weeks to give result but simple to perform while Y takes shorter

time e.g 4 hours to result but
hard to perform, in your opinion
which of the two would you
chose for your HCF?
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- e. Does this HCF conduct periodical
review of the new diagnostic
interventions? Yes No N/A
- f. In your opinion do you think
diagnostic interventions are
sufficiently reviewed at this
HCF?