La Pyramide de Diagnostique: accroître la capacité, la sensibilité et la précision

- Surveillance DR, Tests de Reference, supervision EQA augmenter la précision
- Depistage de résistance & surveillance
- Microscopie ID cas traitement
- Diagnostic avance: culture LJ et MIGIT, LPA HAIN+ 1<sup>st</sup> line DST; referent a SRL for 2<sup>nd</sup> line culture DST
- Reference Level
- Intermediate Level (regional & Xpert network) & iLED FM
- Peripheral Level
- Xpert screening & referral to Reference Labs
- Referrent suspects MDR TB

Source: adapted from WHO recommended tuberculosis diagnostics
Rationale for Testing with Advanced TB Diagnostic Assays (*beyond smear microscopy*)

- More rapid diagnosis of drug susceptible TB and drug-resistant TB (e.g., MDR TB)
- Increase the sensitivity of diagnosing TB, particularly among HIV-infected and children (which are often AFB smear -)
- To identify MDR TB in a more timely manner, allowing for:
  - Rapid initiation of appropriate 2\textsuperscript{nd} line TB drugs for MDR TB cases
  - Reduced community transmission (each case may infect up to 20 contacts) and morbidity associated with untreated MDR TB
Who Should Be Tested By Advanced TB Diagnostic Assays

- Patients suspected MDR TB and positive AFB smear:
  - Previously treated patients:
    - Relapse patients have previously been treated for TB, now with a recurrent episode of TB (either a true relapse or a reinfection)
    - Treatment after failure patients
    - Treatment after loss to follow-up patients
    - Other previously treated patients
  - Persistent AFB smear positive after 3 or more months of treatment with 1st line TB treatment
  - Contact of index case previously treated, persistent smear positive or known MDR TB

- High-risk groups:
  - HIV-infected in whom sputum AFB smear is negative
  - Pediatric patient suspected of TB
  - Prisoners suspected of active TB or MDR TB (see above)
Diagnostic Algorithm for MDR TB Suspects

MDR TB Suspects

* Gene Xpert Not Available

- **Culture: Solid and MGIT**
  - Negative or Contaminated
    - Request new sputum sample from facility, repeat culture
  - Positive
    - MPT64 & (Hain) MTBDR
      - Not MTB
      - MTB
        - 1st ± 2nd line DST

* Gene Xpert Available

- **Gene Xpert**
  - Positive MTB
    - Rif/s
    - Rif/r
      - Culture/Pos
  - Negative MTB

Send final report to facility lab and doctor
Laboratory Diagnosis of TB Disease among PLHIV with TB Symptoms

Smear microscopy for AFB

- AFB smear +

- AFB smear -

Chest x-ray

- TB compatible

- Negative CXR

GeneXpert

- Positive MTB

- Negative MTB

Rif/s

Rif/r

MTB Culture

Rx Response (3 month)

Not Responsive to TB Rx (3 mo)

Clinical TB Dx/Rx, plus ART

MDR suspect Algorithm

MDR Suspect Algorithm, evaluate NTM, other diseases