Adopting new LTBI diagnostics at country level: perspective from Ethiopia

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TB in Ethiopia

- LTBI prevalence in Ethiopia 31.2% (Legesse et al 2011)
- LTBI among pregnant women 33% (unpublished data)
- All forms of TB 224/100,000 (National TB prevalence 2011)
- TB among HIV+ adults 18% (Balcha et al 2014)
- MDR/RR-TB among TB cases 2.7%
National TB Programme

- Health Sector Transformation Plan aligned with End TB Strategy and SDGs
- Transforming quality of and equity in TB care including diagnostics
- Caring, respectful and compassionate health workforce
- Community engagement and solidarity (HEP, HDA)
- Financing (CBHI, SHI)
National TB Programme (2)

- TB Research Advisory Committee (16 years)
  - Set research agenda
  - Support research
  - Ensure that evidence drive policy, practice & investment
Management of LTBI in Ethiopia

- Current recommendation: treat all HIV-positive individuals (47% on preventive treatment) and <5 children household contact of bacteriologically-confirmed cases.

- Under programmatic considerations: persons in a congregate settings (prisoners, refugees), persons with heightened risk of TB (dialysis, organ transplantation).
Adopting new TB diagnostics

- Nascent capacity for R&D and local production of diagnostics
- Tests with proven accuracy and affordable cost
- WHO endorsement essential pre-requisite
- Evaluation and validation of the technology in local context a requirement
Adopting new TB diagnostics (2)

Technical review:
- Test accuracy
- Patient-level outcome
- Ease of use
- Basic cost comparison

Policy review:
- Regulatory approval
- Programmatic recommendations
Adopting new TB diagnostics (3)

Investment at scale:
- Planning level of use, population groups and investment
- Human resource, equipment and infrastructure development
- Implementation at scale
- Evaluation of population level, health systems and economic impact
Recently evaluated TB diagnostics

- Xpert MTB/RIF assay (primary hospital and proximal centres)
- Molecular LPA and MGIT (national, regional)
- Urine LAM (?insufficient performance)
- TB-LAMP is under evaluation
- LTBI diagnostics? same procedures apply!
Key steps

- High quality evidence
- WHO approval

- Tailored validation
- Regulatory approval

- Investment plan and implementation

- System-wide impact
Diagnosis of LTBI (research)

- Tuberculin skin test
- IGRAs (QFT-IT and T-SPOT.TB® assay)
Research priorities in LTBI

- Comprehensive understanding of the pathogenesis of LTBI
- Accurate prediction of the subgroup of latently infected individuals that are at highest risk of progression to disease
- Biomarkers and diagnostic tests with improved performance and predictive values
Ongoing research on LTBI at AHRI

- Cytokines, chemokines, ILs
- Evaluation of a novel microbiological test for LTBI in Ethiopia
- LTBI during pregnancy, postpartum and among children
- Role of hormones in LTBI, TB