



OPTIMAL USE OF AVAILABLE TECHNOLOGIES FOR IMPROVED TB DETECTION IN THE EAST AFRICA COMMUNITY REGION



PROBLEM STATEMENT

Sputum smear microscopy has been the cornerstone of TB diagnosis in resource constrained countries. This has contributed to reduced case detection due to low sensitivity of microscopy, resulting in increased TB transmission, delayed treatment, TB/HIV coinfection due to immunosuppression, and inability to detect MDR/TB.

POLICY MEASURES AND PAST COMMITMENTS

TB programme mandates include early diagnosis, prompt treatment and monitoring of patients' progress towards treatment success. The East Africa Public Health Laboratory Networking (EAPHLN) Project supported participating countries to undertake TB study so as to validate new diagnostics for improved patient health outcomes.

This was in line with ECSA/HMC60/R4 (2015) resolution for ECSA Member States to scale up new diagnostic technologies for TB detection, recognizing the importance of accurate and timely diagnosis to

the effective management of TB. Countries need to garner resources required to scale up quality laboratory services towards achieving universal health coverage (UHC) goals.

KEY MESSAGE

- The five East Africa Community (EAC) partner states of Burundi, Kenya, Rwanda, Uganda, and Tanzania are among the 30 high Tuberculosis (TB) and TB/HIV burden countries.
- WHO recommendations focus on early TB detection (70%) and treatment success ((85%) of TB.
- Adherence to policy on TB diagnosis and patient management is key towards achieving the TB elimination targets (WHO Report, 2017).



SUMMARY OF EVIDENCE

- GeneXpert MTB/RIF is better than Microscopy at detecting TB especially in HIV positive individuals (Tanzania, Uganda, Rwanda and Kenya).
- GeneXpert is more likely than FM microscopy to detect TB in people who are not diseased (Kenya, Rwanda and Tanzania).
- FM microscopy is better than GeneXpert in identifying people who are not infected with TB (Kenya, Rwanda and Tanzania).
- In Kenya, GeneXpert MTB/RIF produces similar results from the same sample than microscopy irrespective of the facility level.
- In Kenya, LED Fluorescent microscopy was better than GeneXpert MTB/RIF in detecting TB among previously treated patients.
- In Kenya, there is no difference in results between the spot and early morning sputum specimen when using either microscopy or GeneXpert in TB diagnosis.
- In Tanzania, frontloading using two consecutive spots sputum specimens with GeneXpert produces similar results as using spot and morning specimens.
- In Tanzania, use of stool from children in GeneXpert produces similar results as using sputum.



POLICY OPTIONS

- 1) Adopt a holistic approach to diagnosis of TB in line with 10th ECSA-HC Best Practices Forum and 26th Directors Joint Consultative Committee (2017) recommendation by integrating laboratory-based testing to ensure accurate TB diagnosis; including;
 - Continuing to use fluorescence microscopy is a valid and useful tool in the diagnosis of TB especially in lower level facilities where molecular techniques are not feasible;



- Establishing advanced technologies at higher-level facilities as strategic points for referral of specimens from patients who meet established criteria based on countries' guidelines;
- 2) Always evaluate performance of new TB diagnostics, techniques and encourage regional sharing and exchange of information to inform diagnostic algorithms for optimal performance;
 - 3) Adopt and roll out rapid and effective diagnostic technologies and techniques e.g. in Kenya, use of either spot or morning sputum alone, and in Tanzania, use of consecutive spot-spot sputum specimen;
 - 4) Strengthen capacity building programs by implementing periodic training in microscopy and molecular techniques to enhance reliability of laboratory results and performance of diagnostics;

- 5) Adopt training curriculum in operational research methodologies to strengthen facilities to conduct evidence-based studies for best practices and to inform policy.

NEXT STEPS

- Member states to adopt appropriate options in line with country context
- Refining the preferred option and possibly incorporating components of the alternative options
- Develop and execute an implementation plan including a robust M&E within six months