Kenya’s Tuberculosis (TB) Epidemic

- Kenya is one of the 22 high TB burden countries.
- According to Kenya’s National TB Program (NTP) 2011 Annual Report, 100,000 Kenyans become infected with TB each year.
- NTP registers 70% of all TB cases and successfully treats 85% of all cases.

Laboratory Challenges

- Many doctors in Kenya do not trust public laboratories’ acid-fast bacilli (AFB) TB tests because laboratories often make the following errors:
  - High false positive (HFP) = test results wrongly labeled as positive
  - High false negative (HFN) = test results wrongly labeled as negative (missed TB diagnosis)
- To address this challenge, Kenya needed an external quality assurance (EQA) strategy to evaluate and improve lab performance.

TB CARE I Addresses the Needs (October 2009)

The USAID-funded project, TB CARE I, developed an EQA system and implemented it in 279 laboratories.

- Developed and implemented EQA tools:
  - Standard operating procedures
  - Data collection and reporting forms
  - Data analysis workbook
- Trained 603 EQA implementers and 172 supervisors to use the new tools.
- Provided quarterly support for sample collection and feedback exercises.
- Visited poorly performing laboratories to provide on-site mentorship.

Results

- The percentage of TB laboratories implementing EQA increased from 28% in Quarter 1, 2009 to 86% in Quarter 3, 2012 (see Figure 1).
- Major errors dropped by 10.6% in 2010 to 2.4% in 2012 (see Figure 2).
- With fewer errors, laboratory test results’ reliability improved from 89% in 2010 to 97.6% in 2012.
- Quarterly reports show that regular visits by laboratory supervisors to provide feedback and mentorship to laboratory staff helped to motivate the staff and enhance their performance.

Conclusion

- By developing an EQA system and disseminating associated documents and tools, training staff, and providing feedback and site visits, TB CARE I significantly strengthened the quality and reliability of TB laboratory results in Kenya.
- TB CARE I recommends that the Kenyan government funds and implements the EQA system in all public laboratories nationwide to improve the quality and reliability of TB test results.

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