

FIELD EVALUATION OF POINT OF CARE CEPHEID GENEXPERT HIV QUAL FOR EARLY INFANT DIAGNOSIS

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Background:

Loss to follow-up and delayed result turn-around times has been indicated to be the main barrier to linkage to care and treatment among HIV infected children. Diagnosis of HIV infection among children is often conducted using advanced polymerase chain reaction (PCR) procedures which are only centralized to specific regions in Kenya. There are point of care (POC) early infant diagnosis (EID) technologies in the pipeline but none has been evaluated in Kenya despite the urgent need of data that can be used in policy making. The POC GeneXpert for EID offers a positive direction towards ensuring that the high morbidity and mortality rates are minimized through decentralization of testing, at the same time ensuring that same-day results are given back to patients thus facilitating prompt linkage of HIV-infected children to treatment.

Objective: We evaluated the GeneXpert HIV Qual EID POC in Homabay County against the standard of care platform using dried blood spots (DBS).

Methods: Performance of the GeneXpert HIV Qual POC was evaluated against the Roche CAP/CTM HIV-1 qualitative PCR for EID using DBS samples collected from HIV-exposed children <18 months of age. The samples were tested by both the field and conventional laboratory technicians on the two platforms.

Results: A total of 1511 mother/baby pairs were included in the study. Out of the 917 GeneXpert HIV Qual tests performed on children, 34 (3.7%) were concordantly positive using both platforms. GeneXpert yielded a sensitivity of 100% and specificity of 100% with an overall error rate of 2.1%.

Conclusion, recommendations and implications : Our findings show that the POC GeneXpert performs well when compared with the conventional CAP/CTM using DBS, therefore indicating promising results of a technology that can be adopted in the laboratory as a near POC and used in the quick diagnosis and linkage to care of children who are found to be HIV-exposed, at the same time supplementing the progress of EID in the region.