Policy adherence and clinical effect of early infant diagnosis of HIV exposed children: impact on Elimination of mother to child transmission (EMTCT)

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Background
World Health Organizations aims to eliminate mother to child transmission of HIV by 2030. Timely HIV infant diagnostics are required to save the lives of HIV-infected babies which fits into Sustainable development goal 3 (Good health and wellbeing). This study reviews early infant diagnosis (EID) practices at Komfo Anokye Teaching Hospital from January 2020 to August 2021 to assess how this aligns with national policy and its impact on infected infants.

Methods
Early Infant diagnosis tests done on KATH samples were extracted focusing on age, gender, dates sample was drawn/ PCR test was done, and results of tests. Dates were converted to days since birth. Descriptive and inferential statistics were used with statistical significance at p< 0.05

Results
A total of 400 infants had samples within study period. Test results were available for 98% (392). Data on gender was available for 37% (148) only. Positive results were 8.9% (35/392). By the time infants were sampled for storage, 24.5% (96/392) were within 6 weeks and 8.7% (34/392) were 9 months. The rest, 66.8% (262/392) deviated from protocol.
By the time PCR test was done on stored samples, 5.6% (22/392) were within 6 weeks and 3.1% (12/392) were 9 months. The rest, 91.3% (358/392) deviated from protocol. Positive PCR results for deviated protocol was 8.9% (32/358)
The median duration from birth to getting samples taken for positive EID case was 97 days compared to 52 days for negative results, p< 0.002. The median duration from birth to getting test results for positive EID case was 186 days compared to 88 days for negative results, p< 0.0002.

Conclusion
Protocol deviations from EMTCT policy due to delay in reporting contributes to positive EID results. Delay in testing affects start in treatment and negatively impacts neurodevelopment. Positive EID should be fully audited to identify risks.