



Assessing the Feasibility and Acceptability of Fingerprint Biometrics for Patient Identification and Record Linkage in Blantyre's HIV and TB Clinics: A Policy Analysis

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Abstract

Fragmented patient identification systems in Blantyre's HIV and TB clinics lead to duplicate records, loss to follow-up, and poor care coordination. Fingerprint biometrics present a potential technological solution for creating unique patient identifiers and linking health records across services. This policy analysis assessed the feasibility and acceptability of implementing a fingerprint biometric system for patient identification and record linkage in Blantyre's HIV and TB clinics from key stakeholder perspectives. A qualitative policy analysis was conducted, comprising a review of national and institutional policy documents alongside thematic analysis of in-depth interviews and focus group discussions with clinic staff, patients, and health system administrators. Clinic staff supported the concept, anticipating improved data accuracy and continuity of care. A primary theme from patients was concern over privacy and stigma, with specific fears about HIV status being linked to other government databases. Technical feasibility was constrained by unreliable electricity and internet connectivity at clinics. While fingerprint biometrics could address critical identification problems, implementation faces significant acceptability barriers concerning privacy and practical feasibility challenges related to infrastructure. Policy development must prioritise robust data protection legislation and public engagement to address stigma. A phased pilot implementation in clinics with more reliable infrastructure is advised. Policy should mandate clear governance protocols that separate health data from other state systems. biometrics, patient identification, health policy, HIV, tuberculosis, Malawi, record linkage, feasibility, acceptability This analysis provides evidence-based insights for Malawian policymakers and clinic managers considering the adoption of biometric identification systems.

Keywords: *biometric identification, health policy analysis, HIV/TB co-infection, Sub-Saharan Africa, patient record linkage, health systems strengthening, technology acceptance*

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