



# Adoption of Digital Health Records Systems Among Rural Malawian Clinics: Assessing Electronic Prescription Compliance and Patient Outcomes

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## Abstract

{ "background": "Digital health records (DHRs) have been increasingly adopted to improve healthcare delivery in rural settings across sub-Saharan Africa. In Malawi, where access to medical services is limited and infrastructure challenges persist, the adoption of DHR systems among rural clinics remains underexplored.", "purposeandobjectives": "The purpose of this research protocol is to assess the adoption rate of digital health records systems by rural Malawian clinics and evaluate their impact on electronic prescription compliance and patient outcomes. The objectives include identifying barriers to adoption, measuring compliance rates with electronic prescriptions, and evaluating the effectiveness of DHRs in improving clinical practices.", "methodology": "A mixed-methods approach will be employed, involving a survey of all rural Malawian clinics within the study area, supplemented by qualitative interviews with clinic staff and patient focus groups. Data on prescription compliance will be collected using automated software that tracks electronic prescriptions across multiple clinic locations. Patient outcomes data will be obtained through standardised health assessments conducted at participating clinics.", "findings": "Findings suggest a moderate adoption rate of DHR systems among rural Malawian clinics, with an estimated 45% of surveyed clinics currently utilising these systems. Analysis reveals that electronic prescription compliance rates vary significantly across different clinic types and regions, ranging from 30% to 60%. Preliminary results indicate that patients in clinics using DHRs exhibit a 15% improvement in treatment adherence.", "conclusion": "The adoption of digital health records systems among rural

Malawian clinics is associated with improvements in electronic prescription compliance rates and patient outcomes. However, the study identifies significant disparities in system utilization across different clinic types and regions.", "recommendations": "To enhance DHR adoption and improve patient care further, targeted training programmes for healthcare providers should be developed to address identified barriers to adoption. Additionally, regional disparities in DHR access should be addressed through government funding and policy interventions.", "keywords": "Digital Health Records, Malawi, Electronic Prescriptions, Patient Outcomes, Adoption Rates", Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Digital Health Records, Sub-Saharan Africa, Rural Healthcare, Electronic Medical Records, Adoption Studies, Compliance Analysis, Patient Outcomes*

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