



Methodological Evaluation of Urban Primary Care Networks in Uganda Using Multilevel Regression Analysis for Clinical Outcomes Assessment

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Abstract

Urban primary care networks in Uganda are underutilized for their potential to improve healthcare access and outcomes. A mixed-methods approach was employed, integrating quantitative data from network performance metrics with qualitative insights from provider interviews. Multilevel regression models were used to analyse the impact of these networks on patient care quality. Network utilization significantly improved patient satisfaction scores by 15% (95% CI: 0.12-0.18) and health literacy levels among patients, indicating a positive trend in clinical outcomes. The multilevel regression analysis provided robust evidence supporting the effectiveness of urban primary care networks in enhancing patient care quality in Uganda. Implementing standardised training programmes for primary care providers and establishing more accessible referral pathways are recommended to maximise network benefits. Primary Care Networks, Multilevel Regression, Clinical Outcomes, Patient Satisfaction, Health Literacy Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African geography, primary care, multilevel modelling, regression analysis, urbanization, outcome assessment, community health systems

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