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

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Abstract

Urban primary care networks (PCNs) are essential for delivering equitable healthcare services in urban settings. A mixed-methods approach combining quantitative and qualitative data was employed, with multilevel regression models applied to analyse network-level and individual patient-level effects on clinical outcomes. The multilevel regression analysis revealed a significant improvement in patient satisfaction scores (mean increase of 15% across PCNs) compared to baseline levels, indicating enhanced service delivery within the urban primary care systems. This study demonstrates the utility of multilevel regression analysis for assessing clinical outcomes in urban primary care networks and highlights the potential for system-wide improvements through targeted interventions. Future research should focus on replicating this approach across other urban settings to validate findings, with a particular emphasis on improving patient engagement and health literacy initiatives within PCNs. Urban Primary Care Networks, Multilevel Regression Analysis, Clinical Outcomes, Patient Satisfaction, Kenya Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, Multilevel, Regression, Primary, Care, Networks, Evaluation*

ABSTRACT-ONLY PUBLICATION

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