



Methodological Evaluation of Community Health Centre Systems in Kenya Using Multilevel Regression Analysis for Adoption Rates Assessment

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Abstract

Community health centres (CHCs) in Kenya play a crucial role in primary healthcare delivery but face challenges in adoption of evidence-based practices. A systematic literature review was conducted, employing multilevel logistic regression models with robust standard errors and uncertainty intervals for estimating adoption rates across different health centres. Analysis revealed a significant variation ($p < 0.05$) in CHC adoption rates among counties of Kenya, indicating the need for targeted interventions to improve coverage and quality of care. The multilevel regression models provided valuable insights into factors influencing CHC adoption and could inform future policy development aimed at enhancing health system efficiency and effectiveness. Future research should consider longitudinal studies and incorporate qualitative data to deepen understanding of the complex interplay between contextual and structural determinants of CHC adoption. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Africa, community-health-centres, multilevel-analysis, methodology, evidence-based-practice, systematic-review*

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