



Methodological Evaluation of Community Health Centres Systems in Kenya Using Multilevel Regression Analysis for Clinical Outcomes Assessment

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Abstract

Community health centres (CHCs) play a critical role in healthcare delivery in Kenya, particularly in underserved areas where access to specialized medical care is limited. A comprehensive search strategy was employed, including electronic databases such as PubMed and Embase. Studies were included if they utilised multilevel regression analysis to measure clinical outcomes within CHC settings. Multilevel regression models showed significant variability in the effectiveness of interventions across different levels (e.g., individual patient effects vs. community-level factors). This review highlights the importance of adopting consistent and robust multilevel regression methods for accurate clinical outcome assessment at CHCs. Standardised protocols should be developed to ensure consistency in data collection and analysis across different CHC settings in Kenya. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_p$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, community health centers, multilevel analysis, regression modelling, clinical outcomes, systematic review, intervention effectiveness*

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