



Methodological Evaluation of Community Health Centre Systems in Ethiopia Using Multilevel Regression Analysis for Risk Reduction Measurement

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Abstract

Community health centers in Ethiopia face challenges in providing effective healthcare services. A multilevel regression analysis will be employed to assess the effectiveness of current interventions and identify areas for improvement. Initial data suggests a significant 15% decline in infant mortality rates post-intervention at selected centers. Multilevel regression analysis highlighted key factors contributing to improved health outcomes, providing evidence-based recommendations. Implementing tailored interventions and strengthening community engagement can further reduce healthcare risks. Community Health Centers, Multilevel Regression Analysis, Risk Reduction, Infant Mortality Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, multilevel analysis, community health centers, regression modelling, intervention studies, risk assessment, geographical variation*

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