



Multilevel Regression Analysis of Community Health Centre Systems in Nigeria: Evaluating System Reliability and Stability

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Abstract

Community health centers in Nigeria face challenges related to reliability and stability. A multilevel regression model was employed to assess the impact of various factors on community health centers' performance across different levels of healthcare delivery. The analysis revealed that socioeconomic status significantly influenced patient satisfaction at a 95% confidence interval (CI). Multilevel regression analysis provided insights into system reliability and stability, with robust standard errors indicating the model's precision. Future research should explore interventions to enhance community health centre performance in Nigeria. community health centers, multilevel regression, system reliability, healthcare delivery, Nigeria 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, community health centers, multilevel analysis, reliability indicators, stability factors, variance components, nested data*

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