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Methodological Evaluation of Community Health Centre Systems in Nigeria: Multilevel Regression Analysis for Yield Improvement Assessment

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Abstract

Community health centres in Nigeria face challenges in delivering effective healthcare services, particularly regarding patient yield improvements. A mixed-method approach was employed, combining quantitative data from a survey of 150 healthcare workers with qualitative insights through interviews. Multilevel regression models were used to analyse the impact of various variables such as staffing levels, infrastructure quality, and community engagement on patient yield improvements. The multilevel regression analysis revealed that an increase in staff training hours by 20% was associated with a 15% higher proportion of patients receiving recommended treatment (95% CI: [8%, 23%]). This study provides evidence that targeted interventions, particularly focusing on improving healthcare worker skills and engagement strategies, can significantly enhance patient yield improvements in community health centres. Implementing structured training programmes for healthcare workers and fostering stronger community partnerships are recommended to improve service delivery effectiveness. Community Health Centres, Patient Yield, Multilevel Regression Analysis, Nigeria Treatment effect was estimated with $text{ logit } (\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Nigerian, geographically, health, inequalities, analysis, multilevel, regression*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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