



Methodological Assessment and Multilevel Regression Analysis of Rural Clinics' Clinical Outcomes in Ghana's Health System,

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Abstract

This study aims to evaluate the clinical outcomes of rural clinics in Ghana's health system. The research employs multilevel regression analysis, accounting for both clinic-level and district-level factors affecting clinical outcomes. Data from rural clinics in Ghana were analysed using statistical software. A significant proportion (35%) of patient consultations resulted in adverse health outcomes, with a higher incidence rate observed in clinics located in less affluent districts. The analysis highlights the need for targeted interventions to improve clinic performance and reduce adverse health outcomes. Investment should focus on enhancing infrastructure and training staff in less resource-rich areas to improve patient care and safety. Treatment effect was estimated with $\text{text}\{ \text{logit} \}(\pi) = \text{beta} 0 + \beta^{-1} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Spatial, Epidemiology, Randomized, Cluster, Regression*

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