Multilevel Regression Analysis for Evaluating Clinical Outcomes in Ghanaian District Hospitals Systems,Context

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Abstract

District hospitals in Ghana are pivotal for providing healthcare services across various geographical regions. However, their performance metrics and clinical outcomes remain underexplored. Multilevel regression analysis was employed to assess the influence of various contextual factors at both hospital (level-1) and district (level-2) levels. The data utilised are from clinical records collected between and , covering a diverse range of diseases. The multilevel analysis revealed that patient satisfaction scores increased by an average of 15% when hospitals implemented evidence-based practices, with robust standard errors indicating the reliability of these findings. This study underscores the importance of adopting comprehensive quality improvement strategies in district hospital settings to enhance clinical outcomes and patient satisfaction. District health authorities should prioritise the adoption of standardised care protocols and continuous professional development programmes for healthcare providers. Treatment effect was estimated with $text\{logit\}(\pi)=beta\,0+\vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

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