



# Methodological Evaluation of District Hospitals Systems in Ghana: Multilevel Regression Analysis for Measuring Adoption Rates

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## Abstract

This study focuses on evaluating the adoption rates of healthcare systems in district hospitals within Ghana's health sector. A multilevel regression model was employed to analyse the data collected from district hospitals across Ghana. The model accounts for both individual-level and organisational-level factors influencing adoption rates. Findings indicate that hospital size has a significant positive impact on adoption rates, with larger hospitals showing higher adoption of new healthcare technologies compared to smaller ones (coefficient: +0.56,  $p < 0.01$ ). The multilevel regression analysis provides insights into the factors affecting the adoption of healthcare systems in Ghanaian district hospitals. District health authorities should prioritise investment and training programmes for larger hospitals to enhance their capacity for adopting new technologies. 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:** *Sub-Saharan, African, Hospital, Systems, Evaluation, Multilevel Regression*

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