



# Cost-Effectiveness Analysis of District Hospitals in Tanzania: A Multilevel Regression Study from 2005 to 2005

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## Abstract

District hospitals in Tanzania play a crucial role in healthcare provision, yet their cost-effectiveness remains underexplored. A longitudinal study will employ multilevel regression models to analyse data collected over time, accounting for hospital-level and patient-level variations. The preliminary findings indicate that there is a significant variability in the cost-effectiveness metrics across different district hospitals, with some demonstrating better outcomes than others. Multilevel regression analysis reveals important insights into the operational efficiency of district hospitals in Tanzania, highlighting areas for improvement and best practices. Based on the findings, recommendations will be made to enhance cost-effectiveness strategies within district hospitals, particularly focusing on resource allocation and patient care quality. Treatment effect was estimated with  $\text{text}\{ \text{logit} \}(\pi) = \beta_0 + \beta^T p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, African, Hierarchical, Mixed, Modelling, Epidemiology, Geographic*

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