



# Methodological Assessment of District Hospitals Systems in Tanzania: A Panel Data Evaluation of Efficiency Enhancements,

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## Abstract

District hospitals in Tanzania play a critical role in healthcare delivery, yet their operational efficiency has not been systematically evaluated. The systematic literature review employs econometric techniques, specifically the Data Envelopment Analysis (DEA) model, to evaluate the operational performance of district hospitals from to . The study uses a fixed effects regression approach with robust standard errors to account for potential time-invariant factors. The analysis identified a significant improvement in hospital efficiency over the reviewed period, with an average increase in DEA scores attributed to enhanced resource allocation and management practices. This review underscores the importance of continuous monitoring and intervention strategies to further optimise district hospitals' operational effectiveness. Policy makers are encouraged to implement targeted interventions based on identified inefficiencies to improve service delivery and patient outcomes. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *District hospitals, Tanzania, Methodology, Efficiency, Econometrics, Panel data, Health systems*

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