



# Methodological Evaluation of District Hospitals Systems in Tanzania Using Difference-in-Differences Model for Adoption Rate Measurement

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## Abstract

In Tanzania, district hospitals play a crucial role in healthcare delivery, yet their adoption of modern medical technologies varies widely. A systematic review was conducted to identify relevant studies, assess their methodology, and apply a DiD model to measure adoption rates across different districts. The application of the DiD model revealed significant variations in technology adoption among hospitals, with some regions showing higher uptake compared to others (e.g., rural vs. urban areas). The use of the DiD model provided a robust framework for understanding and measuring technological adoption at district hospitals in Tanzania. Future research should consider longitudinal studies and include more diverse datasets to enhance the reliability and generalizability of findings. Difference-in-Differences, District Hospitals, Medical Technologies, Adoption Rates, Tanzanian Health Systems Treatment effect was estimated with  $\text{text}\{logit\}(\pi) = \beta_0 + \beta^T p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African healthcare, district hospitals, methodological evaluation, adoption rates, difference-in-differences, longitudinal studies, econometric methods*

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