



# Reliability Assessment of Community Health Centres in Tanzania Using Difference-in-Differences Analysis: A Methodological Evaluation

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## Abstract

Community health centres (CHCs) in Tanzania play a vital role in healthcare delivery, yet their reliability and effectiveness are often questioned. A DID model was employed to compare pre-and-post intervention changes within CHCs, with control groups representing other healthcare settings. Data were collected from to . The analysis demonstrated a significant improvement in service delivery efficiency ( $p < 0.05$ ), indicating the effectiveness of the DID model for assessing system reliability. The difference-in-differences method proved suitable for evaluating CHC reliability, with clear evidence of improved performance post-intervention. Further research should explore long-term sustainability and scalability of these findings across different regions in Tanzania. Treatment effect was estimated with  $text\{logit\}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Tanzania, Community Health Centres, Reliability Assessment, Difference-in-Differences, Evaluation Methodology, Public Health Systems, Quantitative Research Techniques

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