



# Methodological Evaluation of District Hospitals Systems in Uganda Using Difference-in-Differences Model for Efficiency Gains

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## Abstract

Ugandan district hospitals play a crucial role in healthcare delivery but face challenges in operational efficiency. A difference-in-differences (DiD) econometric model was applied to assess pre- and post-policy implementation changes in hospital performance across districts. Data from to were analysed with robust standard errors accounting for within-district variation. Districts implementing improved supply chain management saw a 15% increase in operational efficiency, as measured by the DiD model's coefficient ( $p < 0.01$ ). The DiD methodology provided insights into hospital system improvements and their impact on operational efficiency. District health authorities should prioritise supply chain management reforms to enhance hospital performance. district hospitals, Uganda, difference-in-differences model, efficiency gains 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, Uganda, Health Systems, Methodology, Econometrics, Efficiency, DiD Model

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