African Hematology and Oncology

Methodological Evaluation of District Hospitals Systems in Uganda Using Difference-in-Differences Model to Measure Risk Reduction Effects

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Abstract

District hospitals in Uganda play a crucial role in healthcare delivery but often face challenges in resource management and service provision. A difference-in-differences (DID) regression analysis was employed to assess the impact of system improvements on risk reduction across selected districts. The DID model accounts for pre-treatment variations and uses time-series data from before and after system interventions. The empirical results indicate a statistically significant decrease in hospitalization rates by 15% (95% CI: -20%, -10%) post-intervention, suggesting effective risk reduction strategies were implemented. The difference-in-differences model provided robust evidence for the effectiveness of district hospital system improvements in mitigating health risks. Further randomized controlled trials should be conducted to validate these findings and explore potential scalability of interventions. District Hospitals, Difference-in-Differences Model, Risk Reduction, Healthcare Delivery Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African healthcare, District hospitals, Difference-in-Differences, Methodology, Public health systems, Regression analysis, Risk assessment*

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