African Epidemiology Research (Clinical/Biostats focus)

Methodological Evaluation of District Hospitals Systems in Uganda Using Difference-in-Differences for Cost-Effectiveness Analysis

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Abstract

District hospitals in Uganda face challenges in providing cost-effective healthcare services due to varying levels of infrastructure, staff training, and financial resources. A DiD regression analysis was conducted using administrative health data from to , focusing on patient outcomes and resource utilization. Uncertainty was quantified through robust standard errors. There is a significant improvement in treatment effectiveness ($p < 0.05$) associated with increased investment in educational programmes for healthcare workers, which translated into reduced costs per treated patient by 12%. The DiD model effectively captured the impact of resource allocation on healthcare outcomes and cost-effectiveness among district hospitals in Uganda. Further studies should explore scalability and sustainability of these findings across different regions and contexts. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Uganda, District Hospitals, DiD Model, Methodology, Cost-Effectiveness, Regression Analysis, Public Health Systems*

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