



Efficiency Gains in District Hospitals Systems: A Panel Data Estimation in Uganda

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Abstract

Efficiency gains in healthcare systems are critical for improving patient outcomes and resource utilization. In Uganda, district hospitals play a pivotal role in providing essential medical services to rural populations. A panel data econometric model was employed to analyse the efficiency of district hospitals in Uganda, incorporating variables such as healthcare inputs, outputs, and contextual factors. Robust standard errors were used for inference. The estimated model revealed significant improvements in hospital performance with a coefficient on input expansion indicating an average increase of 12% in service provision per annum. This study provides empirical evidence supporting the potential for efficiency gains through targeted interventions and resource allocation strategies within district hospitals. Future research should explore longer-term impacts and scalability. Policy recommendations include focusing on capacity building, technology adoption, and community health education to enhance hospital performance and patient outcomes. district hospitals, panel data estimation, healthcare efficiency, Uganda Treatment effect was estimated with $text\{logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, District Hospitals, Efficiency Measurement, Panel Data Analysis, Resource Allocation, Healthcare Systems Reform*

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