



Methodological Evaluation of District Hospitals Systems in Uganda: Multilevel Regression Analysis for Measuring Cost-Effectiveness

Orikiira Mugenyi¹, Kabwita Mutemuwa^{1,2}, Kayihanna Oryokoyor^{1,3}, Bakali Kizza¹

¹ Makerere University Business School (MUBS)

² Gulu University

³ Department of Clinical Research, Busitema University

Published: 17 March 2006 | **Received:** 07 December 2005 | **Accepted:** 18 February 2006

Correspondence: omugenyi@outlook.com

DOI: [10.5281/zenodo.18822744](https://doi.org/10.5281/zenodo.18822744)

Author notes

Orikiira Mugenyi is affiliated with Makerere University Business School (MUBS) and focuses on Medicine research in Africa.

Kabwita Mutemuwa is affiliated with Gulu University and focuses on Medicine research in Africa.

Kayihanna Oryokoyor is affiliated with Makerere University Business School (MUBS) and focuses on Medicine research in Africa.

Bakali Kizza is affiliated with Makerere University Business School (MUBS) and focuses on Medicine research in Africa.

Abstract

This study aims to evaluate the operational efficiency of district hospitals in Uganda, focusing on their systems' performance and cost-effectiveness. Multilevel regression analysis was employed to evaluate the operational efficiency of district hospitals. The study utilised data from four districts across Uganda, considering both individual and contextual factors affecting hospital performance. The multilevel model revealed significant variation in costs and outcomes between different regions, suggesting that local context plays a crucial role in system effectiveness. This research provides insights into the cost-effectiveness of district hospitals in Uganda, emphasising the importance of contextual factors for optimal performance. Based on findings, policymakers should consider regional variations when allocating resources and implementing interventions to improve hospital efficiency. Treatment effect was estimated with $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, geographically, district-hospital, multilevel, regression, evaluation, cost-effectiveness*

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