



Methodological Evaluation of District Hospitals in Senegal: A Multilevel Regression Analysis for Cost-Effectiveness Measurement

Mamadou Wade^{1,2}, Kayode Diop^{3,4}, Aïssata Sall^{5,6}, Cheikh Ndiaye⁶

¹ Université Gaston Berger (UGB), Saint-Louis

² African Institute for Mathematical Sciences (AIMS) Senegal

³ Department of Internal Medicine, Council for the Development of Social Science Research in Africa (CODESRIA), Dakar

⁴ Department of Internal Medicine, Université Gaston Berger (UGB), Saint-Louis

⁵ Cheikh Anta Diop University (UCAD), Dakar

⁶ Council for the Development of Social Science Research in Africa (CODESRIA), Dakar

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Correspondence: mwade@outlook.com

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Author notes

Mamadou Wade is affiliated with Université Gaston Berger (UGB), Saint-Louis and focuses on Medicine research in Africa.

Kayode Diop is affiliated with Department of Internal Medicine, Council for the Development of Social Science Research in Africa (CODESRIA), Dakar and focuses on Medicine research in Africa.

Aïssata Sall is affiliated with Cheikh Anta Diop University (UCAD), Dakar and focuses on Medicine research in Africa.

Cheikh Ndiaye is affiliated with Council for the Development of Social Science Research in Africa (CODESRIA), Dakar and focuses on Medicine research in Africa.

Abstract

District hospitals in Senegal face challenges in ensuring cost-effectiveness, necessitating a methodological evaluation to identify best practices and optimise resource allocation. A comprehensive search strategy was employed using electronic databases (PubMed, Scopus) and grey literature sources. Studies were screened based on predefined inclusion criteria and analysed using multilevel regression models to assess the impact of various factors on hospital performance. The multilevel regression analysis revealed a significant positive relationship between investment in training programmes for healthcare professionals and patient outcomes ($p < 0.05$). This study underscores the importance of investing in continuous professional development to enhance the cost-effectiveness of district hospitals in Senegal. Policy-makers should prioritise funding for training initiatives alongside other interventions aimed at improving hospital efficiency and patient care quality. District Hospitals, Cost-Effectiveness, Multilevel Regression Analysis, Senegal 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, Senegalese, multilevel, regression, evaluation, outcomes, resource_allocation

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