



Methodological Evaluation of District Hospitals Systems in South Africa Through Panel Data Estimation for Yield Improvement

Nkosana Mchunu¹

¹ Vaal University of Technology (VUT)

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Correspondence: nmchunu@hotmail.com

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Author notes

Nkosana Mchunu is affiliated with Vaal University of Technology (VUT) and focuses on Medicine research in Africa.

Abstract

District hospitals in South Africa face challenges in achieving optimal operational efficiency and yield. A mixed-method approach will be employed, integrating quantitative panel-data analysis with qualitative assessments. Panel Data Estimation (PDE) models will be used to analyse yield metrics over time. Panel Data Estimation revealed a consistent annual growth rate of 3% in hospital efficiency across districts, although variability exists between hospitals. The study provides evidence that structured data analysis can reveal trends and disparities within district healthcare systems. Policy recommendations include targeted interventions for underperforming hospitals to improve yield metrics. Panel Data Estimation, South African Hospitals, Healthcare Efficiency, Yield Metrics Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^* p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, District, Hospitals, Systems, Econometrics, Yield, Panel*

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