African History of Medicine (Humanities perspective)

Methodological Evaluation of District Hospitals Systems in Kenya: Panel Data Estimation for Cost-Effectiveness Analysis,

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Abstract

This case study examines the operational efficiency of district hospitals in Kenya, focusing on their cost-effectiveness over a period from to . Panel Data Estimation was employed to analyse cost-effectiveness ratios across the various district hospitals. A Generalized Method of Moments (GMM) approach was used to account for potential endogeneity issues and heteroscedasticity in the data. The analysis revealed that costs per patient treated varied significantly between districts, with some showing a positive relationship to improved health outcomes, indicating economies of scale or efficiency gains could be realised through targeted interventions. Despite methodological challenges inherent in healthcare cost-effectiveness studies, the findings suggest potential avenues for improving resource allocation and service delivery within Kenyan district hospitals. Policy recommendations include prioritising data collection on patient outcomes alongside financial metrics to better inform investment decisions. Additionally, targeted interventions could be implemented to address identified inefficiencies. Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Kenya, District Hospitals, Panel Data, Cost-Effectiveness, Econometrics, Healthcare Management, Methodology*

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