



Methodological Evaluation of Community Health Centre Systems in Nigeria: Panel Data Estimation for Measuring Cost-Effectiveness

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Abstract

Community health centres (CHCs) in Nigeria are pivotal for healthcare delivery but face challenges related to cost-effectiveness and operational efficiency. The study utilised econometric techniques involving linear regression models to analyse the impact of various factors on healthcare outcomes. Panel data were collected from multiple CHCs across Nigeria over two years. A significant proportion (75%) of CHCs reported inefficiencies in resource allocation, with costs exceeding projected budgets by an average of 20%. The findings underscore the need for improved resource management and strategic planning to enhance cost-effectiveness within the CHC systems. Implementing targeted interventions such as automation of administrative tasks and capacity building programmes can improve operational efficiency. Community Health Centres, Cost-Effectiveness Analysis, Panel Data, Nigeria Treatment effect was estimated with $text\{logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Nigerian, geographical, econometric, panel-data, cost-effectiveness, healthcare-systems, resource-utilisation*

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