



# Methodological Assessment and Panel Data Analysis of Community Health Centre Systems in Nigeria: A Systematic Literature Review

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## Abstract

Community health centers (CHCs) in Nigeria play a critical role in healthcare delivery, particularly in underserved areas. However, their effectiveness and efficiency remain under-researched. A comprehensive search strategy was employed across multiple databases, including PubMed, Scopus, and Web of Science. Studies were screened based on predefined inclusion criteria such as publication date (-), language (English), and relevance to CHC systems in Nigeria. Data extraction focused on methodological rigor and clinical outcomes. Of the 45 studies identified, 18 met our inclusion criteria. Methodological quality varied widely among studies, with some employing robust econometric techniques for panel data analysis. The review underscores the need for consistent application of rigorous methodological standards in CHC research to enhance the validity and generalizability of clinical outcome measurements. Research efforts should prioritise transparent reporting practices and standardised methodologies to improve the reliability of future studies on Nigerian CHCs. 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, healthcare geography, panel data, econometrics, health services research, longitudinal studies, geographic information systems*



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