



Evaluating the Reliability of Community Health Centre Systems in Ghana Using Quasi-Experimental Design: A Systematic Assessment

Kofi Gyamfi^{1,2}, Efua Amankwaa^{3,4}

¹ Noguchi Memorial Institute for Medical Research

² Department of Pediatrics, University of Ghana, Legon

³ Department of Clinical Research, University of Ghana, Legon

⁴ Department of Pediatrics, Noguchi Memorial Institute for Medical Research

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Correspondence: kgyamfi@outlook.com

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Author notes

Kofi Gyamfi is affiliated with Noguchi Memorial Institute for Medical Research and focuses on Medicine research in Africa.

Efua Amankwaa is affiliated with Department of Clinical Research, University of Ghana, Legon and focuses on Medicine research in Africa.

Abstract

Community health centers (CHCs) play a critical role in healthcare delivery in Ghana, yet their reliability and effectiveness have not been systematically evaluated. A quasi-experimental design was employed to evaluate CHCs' functionality, with data collected through surveys and audits over a two-year period. Statistical models were used to analyse the data. CHC effectiveness varied significantly across regions, with a 30% variance in service delivery quality measured using standardised performance metrics. The findings suggest that while some CHCs operate effectively, there is room for improvement to ensure equitable healthcare access and outcomes. Targeted interventions should be implemented based on the identified areas of need within different regions to enhance system reliability. Community health centers, Ghana, Quasi-experimental design, System reliability, Healthcare delivery Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Sub-Saharan, geographical, reliability, validity, assessment, evaluation, intervention

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