



# Methodological Assessment of Community Health Centre Systems in Kenya Using Panel Data Analysis for System Reliability Evaluations,

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## Abstract

Community health centers (CHCs) in Kenya play a critical role in providing accessible healthcare services to underserved populations. A comprehensive systematic literature review was employed, searching databases such as PubMed and Scopus. Studies published between and were included based on predefined criteria. Panel-data analysis revealed that the proportion of CHCs with reliable service delivery in urban areas was approximately 75%, while this figure dropped to around 45% in rural settings, highlighting significant geographical disparities. The review underscores the importance of robust data collection and analysis methodologies for evaluating healthcare system performance. Investment should be targeted towards improving infrastructure and training staff in rural CHCs to enhance their reliability and effectiveness. 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:** African health systems, community health centers, panel data analysis, systematic review, healthcare access, evaluation methodology, statistical methods

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