



# Methodological Evaluation of Community Health Centre Systems in Kenya: Panel Data Estimation for Clinical Outcomes,

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Published: 02 October 2004 | Received: 30 April 2004 | Accepted: 07 August 2004

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DOI: [10.5281/zenodo.18791908](https://doi.org/10.5281/zenodo.18791908)

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## Abstract

Community health centres (CHCs) in Kenya play a critical role in providing primary healthcare services to underserved populations. However, their effectiveness and efficiency have not been thoroughly evaluated. A comprehensive search was conducted using MEDLINE, PubMed, and Google Scholar databases. Studies published between and were included if they employed panel data estimation methods to measure clinical outcomes in CHCs in Kenya. Panel data analysis revealed that the majority of studies used fixed effects models (FE) for estimating treatment efficacy, with a significant proportion reporting positive impacts on patient health outcomes. While FE models are common, there is variability in study designs and variable inclusion across different research contexts. Future evaluations should consider incorporating more robust control variables to enhance the accuracy of clinical outcome measurements. 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 geography, panel data, econometrics, healthcare systems, clinical outcomes, public health, longitudinal studies*

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