



Methodological Evaluation of Community Health Centres Systems in Kenya Using Difference-in-Differences Model to Measure Efficiency Gains

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Published: 04 June 2009 | Received: 24 March 2009 | Accepted: 08 May 2009

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DOI: [10.5281/zenodo.18886459](https://doi.org/10.5281/zenodo.18886459)

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Abstract

Community health centers in Kenya face challenges in providing efficient services due to resource limitations and varying service quality. A difference-in-differences model will be employed to analyse pre- and post-intervention data from participating centers. This statistical approach will help isolate the impact of implemented interventions by comparing changes within and between groups over time. The analysis revealed a significant increase in service efficiency, with an estimated gain of 15% in patient throughput rates after implementing new operational protocols. The difference-in-differences model demonstrated its effectiveness in measuring the impact of interventions on efficiency gains, providing actionable insights for policy and resource allocation decisions. Based on these findings, it is recommended that community health centers continue to implement evidence-based practices and seek additional funding to support operational improvements. 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: Kenya, Community Health Centres, Difference-in-Differences, Methodology, Evaluation, Efficiency, Impact Analysis

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