



# Methodological Assessment of Quasi-Experimental Design in Evaluating Community Health Centre Systems in Kenya: Implications for Cost-Effectiveness Studies

Omar Kiboi<sup>1</sup>, Moses Chepchumba<sup>2</sup>, Wamunyali Muthomi<sup>3,4</sup>, Keren Oleche<sup>5,6</sup>

<sup>1</sup> Maseno University

<sup>2</sup> Egerton University

<sup>3</sup> Department of Surgery, Maseno University

<sup>4</sup> Kenyatta University

<sup>5</sup> Department of Pediatrics, Egerton University

<sup>6</sup> Department of Internal Medicine, International Centre of Insect Physiology and Ecology (ICIPE), Nairobi

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**Correspondence:** [okiboi@aol.com](mailto:okiboi@aol.com)

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## Author notes

*Omar Kiboi is affiliated with Maseno University and focuses on Medicine research in Africa.*

*Moses Chepchumba is affiliated with Egerton University and focuses on Medicine research in Africa.*

*Wamunyali Muthomi is affiliated with Department of Surgery, Maseno University and focuses on Medicine research in Africa.*

*Keren Oleche is affiliated with Department of Pediatrics, Egerton University and focuses on Medicine research in Africa.*

## Abstract

Community health centre systems in Kenya have been evaluated through various research methodologies to assess their effectiveness in improving healthcare access and outcomes. However, the use of quasi-experimental designs has not been extensively scrutinized for cost-effectiveness studies. The analysis employs statistical inference techniques, including regression discontinuity designs, to assess the impact of QED on evaluating healthcare system performance. Robust standard errors are employed to account for measurement uncertainties. In our findings, we observed a significant positive correlation ( $r = 0.85$ ) between the implementation of QED and the reported cost-effectiveness ratios across different health outcomes. The quasi-experimental design is found to be effective in measuring the cost-effectiveness of community health centres but requires adjustments to mitigate potential biases, particularly related to selection bias. Recommendations include refining data collection protocols and employing sensitivity analyses to ensure robust results. Policymakers should consider these methodological improvements when planning future cost-effectiveness studies.

**Keywords:** *African geography, quasi-experimental design, cost-effectiveness analysis, randomized control trial, healthcare accessibility, evaluation metrics, public health systems*

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