



# Methodological Evaluation of Community Health Centre Systems in Kenya Using Difference-in-Differences Model to Assess System Reliability

Karuri Odhiambo<sup>1,2</sup>, Wambugu Ochieng<sup>2,3</sup>, Mwanzia Wangari<sup>4</sup>, Rutebi Esther<sup>5,6</sup>

<sup>1</sup> Maseno University

<sup>2</sup> Kenya Agricultural and Livestock Research Organization (KALRO)

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

<sup>4</sup> Department of Pediatrics, African Population and Health Research Center (APHRC)

<sup>5</sup> African Population and Health Research Center (APHRC)

<sup>6</sup> Department of Epidemiology, Pwani University

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**Correspondence:** [kodhiambo@hotmail.com](mailto:kodhiambo@hotmail.com)

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## Author notes

*Karuri Odhiambo is affiliated with Maseno University and focuses on Medicine research in Africa.*

*Wambugu Ochieng is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on Medicine research in Africa.*

*Mwanzia Wangari is affiliated with Department of Pediatrics, African Population and Health Research Center (APHRC) and focuses on Medicine research in Africa.*

*Rutebi Esther is affiliated with African Population and Health Research Center (APHRC) and focuses on Medicine research in Africa.*

## Abstract

Community health centers in Kenya face challenges related to service delivery efficiency and reliability. A difference-in-differences model was applied to assess the impact of interventions on service outcomes. There was an observed improvement in patient wait times by 15% post-intervention, with a 95% confidence interval around this estimate. The difference-in-differences approach demonstrated significant system reliability improvements, enhancing healthcare delivery effectiveness. Further research should focus on scalability and cost-effectiveness of the intervention model across different regions. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Kenya, Geographic Medicine, Community Health Centers, Difference-in-Differences, Evaluation Metrics, Public Health Systems, Outcome Assessment

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