



# Methodological Evaluation of Community Health Centre Systems in Ethiopia: A Randomized Field Trial for Clinical Outcomes Measurement

Mihret Abeba<sup>1</sup>, Abiy Mekdes<sup>2,3</sup>, Tadesse Desta<sup>2,3</sup>

<sup>1</sup> Department of Public Health, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

<sup>2</sup> Ethiopian Public Health Institute (EPHI)

<sup>3</sup> Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

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**Correspondence:** [mabeba@outlook.com](mailto:mabeba@outlook.com)

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## Author notes

*Mihret Abeba is affiliated with Department of Public Health, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa and focuses on Medicine research in Africa.*

*Abiy Mekdes is affiliated with Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.*

*Tadesse Desta is affiliated with Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.*

## Abstract

Community health centres (CHCs) in Ethiopia play a crucial role in primary healthcare delivery, particularly in rural areas where access to specialized medical services is limited. A mixed-methods approach combining quantitative surveys with qualitative interviews was employed to assess clinical outcomes at participating CHCs. A random allocation design ensured fair comparison between the intervention (CHC-based care) and control groups (conventional referral). Data analysis utilised an ANOVA model for comparing means of continuous variables. In a sample of 150 patients, those receiving CHC-based care showed a statistically significant improvement in adherence to treatment protocols compared to the control group, with a mean difference favouring CHCs of 23% (95% CI: 9-37%). The study highlights the potential for community health centres to enhance clinical outcomes without compromising patient satisfaction. These findings suggest that integrating CHC systems could be an effective strategy in improving healthcare delivery in Ethiopia. Policy makers should consider scaling up CHC-based care as a viable alternative or supplement to existing referral models, particularly in underserved regions where access to specialized medical services is limited. community health centres, clinical outcomes, randomized field trial, adherence to treatment protocols, patient satisfaction Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African health systems, community health centers, randomized trials, outcome measurement, evaluation methodology, primary care delivery, geographical studies*

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