



A Randomised Field Trial of Cost-Effectiveness in Ghanaian Community Health Centre Systems

A Methodological Evaluation

Ama Serwaa Adjei^{1,2}, Kwame Asante^{2,3}

¹ Department of Epidemiology, Water Research Institute (WRI)

² University for Development Studies (UDS)

³ Department of Internal Medicine, Water Research Institute (WRI)

Correspondence: aadjei@yahoo.com

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Author notes

Ama Serwaa Adjei is affiliated with Department of Epidemiology, Water Research Institute (WRI) and focuses on Medicine research in Africa.

Kwame Asante is affiliated with University for Development Studies (UDS) and focuses on Medicine research in Africa.

ABSTRACT

Background: Evaluating the cost-effectiveness of community health centre systems in low-resource settings is methodologically challenging, with a paucity of robust field trial designs that account for complex operational and economic variables.

Purpose and objectives: This case study aimed to methodologically evaluate the implementation of a randomised field trial designed to measure the cost-effectiveness of an integrated service delivery model within a Ghanaian community health centre system.

Keywords: *Cost-effectiveness analysis, Randomised controlled trial, Community health services, Sub-Saharan Africa, Health systems evaluation, Primary healthcare, Ghana*

Article Highlights

- Pragmatic cluster-randomised trial across 24 Ghanaian community health centres.
- ICER point estimate favoured intervention, but 95% CI was wide (£150–£480/DALY).
- High variability in resource utilisation critically influenced economic precision.
- Methodology feasible but identified significant operational implementation constraints.

Methodological Insight

The generalised linear mixed model revealed that cluster-level random effects (u_j) were a major source of variance, underscoring the heterogeneity between health centres.

This evaluation focuses on the methodological challenges of implementing economic trials in complex, real-world settings.

ABSTRACT-ONLY PUBLICATION

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