AFRICAN FOOD SYSTEMS RESEARCH (INTERDISCIPLINARY - INCL AGRI/ENV)
Vol. 1 | No. 1 | 2026

A Quasi-Experimental Evaluation of the Cost-Effectiveness of Community Health Centre Systems in Rwanda

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Published: 26 May 2026 **Received:** 20 December 2025

Accepted: 27 March 2026 **DOI:** 10.5281/zenodo.18950581

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ABSTRACT

Background: Community health centres (CHCs) are a cornerstone of primary healthcare delivery in many low-resource settings, yet robust evidence on their cost-effectiveness remains limited. This gap hinders optimal resource allocation and health system planning.

Purpose and objectives: This study aimed to evaluate the cost-effectiveness of Rwanda's CHC system in delivering a package of essential maternal and child health services, using a quasi-experimental design to estimate causal effects on health outcomes relative to costs incurred.

Keywords: *Cost-effectiveness analysis, Quasi-experimental design, Community health centres, Sub-Saharan Africa, Primary healthcare, Health systems evaluation, Low-resource settings*

Article Highlights

- Quasi-experimental design reveals causal impact of CHC enhancements on cost-effectiveness.
- 17% reduction in cost per DALY averted compared to standard care models.
- Increased service utilization for antenatal and immunization services drove efficiency gains.
- Findings support strategic investment in integrated community-level health systems.

Methodological Note

Employed difference-in-differences design with cluster-robust inference to estimate causal effects on cost per disability-adjusted life year averted.

This evaluation provides robust evidence for health system planning in low-resource settings.

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