



Methodological Evaluation of Community Health Centre Systems in Uganda: A Quasi-Experimental Design for Cost-Effectiveness Analysis

Amaruu Musoke^{1,2}, Oyok Serjeant^{3,4}

¹ Mbarara University of Science and Technology

² Department of Pediatrics, Uganda National Council for Science and Technology (UNCST)

³ Uganda National Council for Science and Technology (UNCST)

⁴ Department of Internal Medicine, Mbarara University of Science and Technology

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Correspondence: amusoke@gmail.com

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Author notes

Amaruu Musoke is affiliated with Mbarara University of Science and Technology and focuses on Medicine research in Africa.

Oyok Serjeant is affiliated with Uganda National Council for Science and Technology (UNCST) and focuses on Medicine research in Africa.

Abstract

Community health centres (CHCs) in Uganda play a critical role in primary healthcare delivery. However, their efficiency and effectiveness require rigorous evaluation. A quasi-experimental design with pre- and post-intervention data was employed. Statistical analysis utilised regression discontinuity design (RDD) for causal inference. CHCs showed significant reductions in patient wait times by 25% after implementing new operational protocols, though variability exists across regions. The quasi-experimental approach demonstrated the potential to measure cost-effectiveness of CHC systems efficiently and accurately. Future studies should consider larger sample sizes and longitudinal data for comprehensive evaluation. Quasi-Experimental Design, Community Health Centres, Cost-Effectiveness Analysis, Regression Discontinuity Design Treatment effect was estimated with $\text{text}\{ \text{logit} \}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, community health systems, cost-effectiveness analysis, quasi-experimental design, randomized controlled trials, outcome measurement, public health economics*

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