

A Quasi-Experimental Protocol for Assessing the Reliability of Community Health Centre Systems in Uganda

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ABSTRACT

Background: Community health centres (CHCs) are critical nodes in primary healthcare delivery, yet systematic evidence on their operational reliability in low-resource settings is scarce. Current evaluations often rely on cross-sectional surveys, which lack the temporal resolution to assess system performance under routine and stressed conditions.

Purpose and objectives: This protocol details a quasi-experimental design to quantify the reliability of CHC systems, defined as the consistency of service provision over time and across user groups. The primary objective is to estimate the system reliability index (SRI) for a network of centres. Secondary objectives include identifying key infrastructural and procedural determinants of reliability.

Keywords: *Community health centres, Uganda, Quasi-experimental design, Health systems evaluation, Operational reliability, Sub-Saharan Africa, Primary healthcare*

Article Highlights

- Proposes a quasi-experimental design to quantify health centre reliability over time.
- Defines a composite System Reliability Index (SRI) for longitudinal measurement.
- Tests a standardised support package across 20 community health centres in Uganda.
- Employs a difference-in-differences model for rigorous causal inference.

Core Methodology

A 12-month controlled before-and-after study across 20 centres, measuring monthly reliability via drug stock-outs, equipment function, and staff presence.

This article presents a study protocol; empirical results are forthcoming.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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