



A Randomised Field Trial Evaluating a Risk Reduction Framework for Community Health Centre Systems in Tanzania

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ABSTRACT

Background: Community health centres in sub-Saharan Africa face systemic risks that compromise service delivery and patient outcomes. Existing frameworks for risk management are often descriptive and lack rigorous, quantitative evaluation in operational settings.

Purpose and objectives: This study aimed to empirically evaluate a novel, structured risk reduction framework (RRF) designed for community-level health systems. The primary objective was to measure its effect on a composite risk score across multiple operational domains.

Keywords: *randomised controlled trial, health systems strengthening, sub-Saharan Africa, risk management framework, community health centres, implementation research, Tanzania*

Article Highlights

- Stratified randomised trial of 42 community health centres in Tanzania.
- Novel framework significantly reduced validated system risk scores.
- Greatest impact observed in medication supply chain domain.
- Provides first experimental evidence for a quantifiable risk management tool.

Methodological Note

Analysis employed a linear mixed-effects model with random intercepts for district, calculating robust standard errors for the primary outcome.

This trial offers empirical evidence for strengthening community health system resilience.

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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