

A Randomised Field Trial Evaluating a Systems Optimisation Framework for Yield Improvement in South African Community Health Centres

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ABSTRACT

Background: Community health centres in South Africa face systemic inefficiencies that constrain service delivery and health outcomes. Existing improvement approaches often lack rigorous, systems-level evaluation.

Purpose and objectives: This study aimed to empirically evaluate a novel systems optimisation framework designed to improve operational yield, defined as the number of patients seen per clinician per day, within a randomised field trial.

Keywords: *health systems strengthening, community health centres, randomised controlled trial, South Africa, quality improvement, systems optimisation, primary healthcare*

Article Highlights

- Intervention centres achieved a 22.3% mean yield increase versus controls.
- The framework integrated lean management, task shifting, scheduling, and data feedback.
- Task shifting was identified by staff as the critical enabling factor.
- Analysis used a linear mixed-effects model with robust standard errors.

Methodological Note

Parallel-group, cluster-randomised trial across 24 community health centres in South Africa, evaluating change in mean daily operational yield (patients per clinician per day).

This study provides experimental evidence for an integrated systems framework in low-resource primary care settings.

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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