

# Methodological Evaluation and Yield Optimisation in Senegalese District Hospital Systems

*A Randomised Field Trial Review*

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## ABSTRACT

**Background:** District hospital systems in sub-Saharan Africa face persistent challenges in operational efficiency and clinical yield, with a pressing need for robust, field-tested methodologies to evaluate and improve performance. Existing literature often relies on observational designs, limiting causal inference for intervention efficacy.

**Purpose and objectives:** This review critically appraises the methodological framework and outcomes of a randomised field trial designed to measure and optimise yield—defined as the proportion of correctly managed cases against total presentations—within the district hospital system.

**Keywords:** *District hospitals, Sub-Saharan Africa, Randomised controlled trial, Health systems research, Operational efficiency, Clinical yield, Senegal*

### Article Highlights

- Cluster-randomised design effectively controlled for intra-hospital correlation in the analysis.
- Structured clinical audit and feedback mechanism associated with significant yield improvement.
- Methodology provides a sound template for evaluating interventions in low-resource settings.
- Findings support integrating continuous audit cycles with protected feedback time.

### Core Analytical Model

Hierarchical logistic regression with cluster-robust standard errors was used to evaluate the binary yield outcome, accounting for patient-level variables and hospital-cluster random effects.

*This review appraises the methodological framework and outcomes of a field trial in Senegalese district hospitals.*

## 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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