

# A Randomised Field Trial Protocol for the Cost-Effectiveness Evaluation of Community Health Centre Systems in Senegal

Moussa Ndiaye<sup>1</sup>, Fatou Sarr<sup>1,2</sup>, Ibrahima Diallo<sup>3,4</sup>  
Aminata Diop<sup>5</sup>

Université Gaston Berger (UGB), Saint-Louis | Cheikh Anta Diop University (UCAD), Dakar | Department of Epidemiology, Université Gaston Berger (UGB), Saint-Louis | Institut Pasteur de Dakar | Department of Public Health, Cheikh Anta Diop University (UCAD), Dakar

Correspondence: [mndiaye@hotmail.com](mailto:mndiaye@hotmail.com)

Received: 27 February 2021 | Accepted: 10 April 2021 | Published: 27 April 2021 | DOI:

[10.5281/zenodo.18947569](https://doi.org/10.5281/zenodo.18947569)

## ABSTRACT

**Background:** Community health centres are a cornerstone of primary healthcare delivery in many sub-Saharan African nations, yet robust evidence on their cost-effectiveness remains limited. This gap hinders optimal resource allocation and health system strengthening.

**Purpose and objectives:** This protocol details a randomised field trial to evaluate the cost-effectiveness of two distinct community health centre system models in Senegal. The primary objective is to estimate the incremental cost-effectiveness ratio (ICER) of an enhanced service delivery model compared to the standard model, measured in cost per disability-adjusted life year (DALY) averted.

**Keywords:** *Randomised controlled trial, Cost-effectiveness analysis, Community health centres, Primary healthcare, Sub-Saharan Africa, Health systems evaluation, Senegal*

### Article Highlights

- Cluster-randomised controlled trial across 60 rural communities in Senegal.
- Evaluates cost-effectiveness of enhanced vs. standard service delivery models.
- Primary outcome: incremental cost per DALY averted from a health system perspective.
- Analysis uses generalised linear mixed models with bootstrapped confidence intervals.

### Methodological Note

A three-arm design compares a standard model against two enhanced models: one with additional preventative services, another with improved diagnostic capacity.

*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.

## **REQUEST FULL PAPER**

 **Email:** [info@parj.africa](mailto:info@parj.africa)

Request your copy of the full paper today!

## **SUBMIT YOUR RESEARCH**

**Are you a researcher in Africa? We  
welcome your submissions!**

Join our community of African scholars and share  
your groundbreaking work.

 **Submit at:** [app.parj.africa](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

### **Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global  
Knowledge