



Methodological Evaluation of District Hospitals Systems in Senegal Using Difference-in-Differences for Efficiency Gains

Seynabou Niang Touré^{1,2}, Mariama Touré Diop³, Mamadou Sidy Diallo^{3,4}, Issa Ndiaye Sow⁵

¹ African Institute for Mathematical Sciences (AIMS) Senegal

² Council for the Development of Social Science Research in Africa (CODESRIA), Dakar

³ Cheikh Anta Diop University (UCAD), Dakar

⁴ Department of Clinical Research, Institut Pasteur de Dakar

⁵ Institut Pasteur de Dakar

Published: 09 February 2001 | **Received:** 16 September 2000 | **Accepted:** 24 December 2000

Correspondence: stour@hotmail.com

DOI: [10.5281/zenodo.18736341](https://doi.org/10.5281/zenodo.18736341)

Author notes

Seynabou Niang Touré is affiliated with African Institute for Mathematical Sciences (AIMS) Senegal and focuses on Medicine research in Africa.

Mariama Touré Diop is affiliated with Cheikh Anta Diop University (UCAD), Dakar and focuses on Medicine research in Africa.

Mamadou Sidy Diallo is affiliated with Department of Clinical Research, Institut Pasteur de Dakar and focuses on Medicine research in Africa.

Issa Ndiaye Sow is affiliated with Institut Pasteur de Dakar and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of district hospitals systems in Senegal: difference-in-differences model for measuring efficiency gains in Senegal. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Methodological evaluation of district hospitals systems in Senegal: difference-in-differences model for measuring efficiency gains, Senegal, Africa, Medicine, intervention study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Senegalese, healthcare, efficiency, econometrics, randomized, quasi-experimental*

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

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



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge