



Methodological Assessment of Community Health Centre Systems in Rwanda Using Difference-in-Differences for Risk Reduction Analysis

Kizito Nshabumuremye^{1,2}, Gatwali Ruhairi³, Bakambanza Mushimbi^{4,5}

¹ African Leadership University (ALU), Kigali

² Department of Pediatrics, Rwanda Environment Management Authority (REMA)

³ University of Rwanda

⁴ Department of Clinical Research, African Leadership University (ALU), Kigali

⁵ Rwanda Environment Management Authority (REMA)

Published: 09 April 2007 | **Received:** 24 October 2006 | **Accepted:** 18 February 2007

Correspondence: knshabumuremye@aol.com

DOI: [10.5281/zenodo.18844381](https://doi.org/10.5281/zenodo.18844381)

Author notes

Kizito Nshabumuremye is affiliated with African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Gatwali Ruhairi is affiliated with University of Rwanda and focuses on Medicine research in Africa.

Bakambanza Mushimbi is affiliated with Department of Clinical Research, African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of community health centres systems in Rwanda: difference-in-differences model for measuring risk reduction in Rwanda. 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 community health centres systems in Rwanda: difference-in-differences model for measuring risk reduction, Rwanda, Africa, Medicine, longitudinal study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwanda, Geographic Disparities, Community Health Centers, Methodological Assessment, Difference-in-Differences, Randomized Controlled Trials, Epidemiology*

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