



# Methodological Evaluation of Urban Primary Care Networks in Rwanda Using Difference-in-Differences for Clinical Outcome Measurement

Kizito Byaruhanga<sup>1</sup>, Ernestine Niyonzima<sup>2</sup>, Victor Umutoni<sup>2,3</sup>, Mavis Karekezi<sup>2,3</sup>

<sup>1</sup> African Leadership University (ALU), Kigali

<sup>2</sup> Rwanda Environment Management Authority (REMA)

<sup>3</sup> University of Rwanda

**Published:** 20 June 2010 | **Received:** 22 April 2010 | **Accepted:** 28 May 2010

**Correspondence:** [kbyaruhanga@aol.com](mailto:kbyaruhanga@aol.com)

**DOI:** [10.5281/zenodo.18902294](https://doi.org/10.5281/zenodo.18902294)

## Author notes

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

*Ernestine Niyonzima is affiliated with Rwanda Environment Management Authority (REMA) and focuses on Medicine research in Africa.*

*Victor Umutoni is affiliated with University of Rwanda and focuses on Medicine research in Africa.*

*Mavis Karekezi is affiliated with University of Rwanda and focuses on Medicine research in Africa.*

## Abstract

This study evaluates urban primary care networks in Rwanda to assess their effectiveness on clinical outcomes. Urban primary care networks were evaluated across multiple sites. The DiD model was applied to measure clinical outcomes, accounting for potential confounders such as pre-existing patient conditions and socioeconomic factors. Uncertainty in findings is addressed through robust standard errors provided by the DiD analysis. In one of the networked urban areas, a significant improvement ( $p < 0.05$ ) was observed in patient recovery rates compared to non-networked regions. The DiD model effectively highlighted the positive impact of urban primary care networks on clinical outcomes, providing valuable insights for policy makers and healthcare administrators. Based on these findings, recommendations include scaling up successful models, investing in training for network staff, and integrating continuous quality improvement measures into operational protocols. Treatment effect was estimated with  $\text{text} \{ \logit \} (\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African geography, primary care systems, urbanization studies, difference-in-differences, randomized controlled trials, outcome measurement, health policy analysis*

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