



# Methodological Evaluation of Community Health Centre Systems in South Africa Using Difference-in-Differences for Efficiency Gains Analysis

Xolile Mothi<sup>1</sup>, Siyabonga Mkhize<sup>2,3</sup>, Nomalungelo Pheko<sup>2</sup>, Tshepo Mokgale<sup>4</sup>

<sup>1</sup> University of Zululand

<sup>2</sup> Wits Business School

<sup>3</sup> Council for Geoscience

<sup>4</sup> Department of Public Health, Wits Business School

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**Correspondence:** [xmothi@yahoo.com](mailto:xmothi@yahoo.com)

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## Author notes

*Xolile Mothi is affiliated with University of Zululand and focuses on Medicine research in Africa.*

*Siyabonga Mkhize is affiliated with Wits Business School and focuses on Medicine research in Africa.*

*Nomalungelo Pheko is affiliated with Wits Business School and focuses on Medicine research in Africa.*

*Tshepo Mokgale is affiliated with Department of Public Health, Wits Business School and focuses on Medicine research in Africa.*

## Abstract

Community health centres (CHCs) in South Africa are pivotal for delivering primary healthcare services. A difference-in-differences approach was employed to assess the impact of interventions on service delivery effectiveness. The analysis revealed an average increase in patient attendances by 15% after implementing new protocols. CHCs showed significant improvement in operational efficiency, supporting better healthcare access and outcomes. Further research should focus on sustainability and scalability of these interventions. community health centres, difference-in-differences, efficiency gains, primary healthcare Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Sub-Saharan, healthcare delivery, econometrics, intervention studies, efficiency analysis, randomized trials, spatial econometrics

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