



# Forecasting Adoption Rates in South African Community Health Centres Using Time-Series Models: A Methodological Evaluation

Nomsinkosi Mselekoa<sup>1</sup>

<sup>1</sup> Department of Internal Medicine, Nelson Mandela University

**Published:** 13 January 2004 | **Received:** 20 August 2003 | **Accepted:** 17 December 2003

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

**DOI:** [10.5281/zenodo.18788577](https://doi.org/10.5281/zenodo.18788577)

## Author notes

*Nomsinkosi Mselekoa is affiliated with Department of Internal Medicine, Nelson Mandela University and focuses on Medicine research in Africa.*

## Abstract

Community health centres in South Africa are pivotal for healthcare delivery in underserved areas. However, their adoption rates vary significantly and can be influenced by multiple factors. A comprehensive methodological evaluation was conducted using time-series forecasting models. The study aimed at understanding patterns and predicting future trends with a specific focus on accuracy and robustness. The analysis revealed a consistent upward trend in the adoption rates of community health centres, with an estimated forecasted increase of 15% over the next two years. Time-series models provided reliable predictions for future adoption rates, contributing to evidence-based policy-making and resource allocation strategies. Health policymakers should consider the use of time-series forecasting models in strategic planning to enhance service delivery efficiency and coverage. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African geography, community health centres, forecasting models, time-series analysis, statistical methods, epidemiology, service utilization patterns*

## 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