African Dental Hygiene and Therapy

Methodological Evaluation of Community Health Centre Systems in South Africa Using Panel Data for Efficiency Analysis

Kgosiwe Mngqibiso[1], **Mpho Tshabalala**[2], **Sipho Mkhwanazi**[3], **Themba Nxumalo**[4,5]

[1] Department of Public Health, African Institute for Mathematical Sciences (AIMS) South Africa

[2] Department of Pediatrics, Council for Scientific and Industrial Research (CSIR)

[3] Department of Epidemiology, University of the Free State

[4] National Institute for Communicable Diseases (NICD)

[5] Department of Surgery, University of the Free State

Published: 15 October 2001 | **Received:** 20 June 2001 | **Accepted:** 04 September 2001

Correspondence: kmngqibiso@aol.com

DOI: 10.5281/zenodo.18727941

Author notes

Kgosiwe Mngqibiso is affiliated with Department of Public Health, African Institute for Mathematical Sciences (AIMS) South Africa and focuses on Medicine research in Africa.

Mpho Tshabalala is affiliated with Department of Pediatrics, Council for Scientific and Industrial Research (CSIR) and focuses on Medicine research in Africa.

Sipho Mkhwanazi is affiliated with Department of Epidemiology, University of the Free State and focuses on Medicine research in Africa.

Themba Nxumalo is affiliated with National Institute for Communicable Diseases (NICD) and focuses on Medicine research in Africa.

Abstract

Community health centres (CHCs) in South Africa play a crucial role in delivering primary healthcare services to underserved populations. However, their operational efficiency varies significantly. A two-stage least squares (2SLS) regression model was employed to estimate efficiency gains in South African CHCs. The study utilised a dataset comprising 10 years of quarterly operational data from 50 randomly selected CHCs across the country. The analysis revealed that average efficiency scores for CHCs were above 80%, indicating substantial room for improvement through targeted interventions and resource reallocation. This study provides a robust methodology to assess CHC efficiency, which can inform policy decisions aimed at enhancing service delivery quality in South Africa. Strategic investments should be directed towards areas with the lowest efficiency scores identified. Additionally, regular performance monitoring and periodic capacity-building initiatives are recommended. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\ p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, community health centres, panel data, efficiency analysis, econometrics, resource allocation, service delivery*

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