African Pediatrics Research

Methodological Evaluation of Public Health Surveillance Systems in South Africa Using Difference-in-Differences for Clinical Outcome Assessment

Mphatso Nkosi[1,2], **Nomsa Dlamini**[1], **Siyanda Mkhwanzi**[3,4]

[1] University of the Free State

[2] University of the Witwatersrand

[3] University of Johannesburg

[4] Department of Epidemiology, University of the Witwatersrand

Published: 07 February 2011 | **Received:** 17 November 2010 | **Accepted:** 22 January 2011

Correspondence: mnkosi@gmail.com

DOI: 10.5281/zenodo.18917557

Author notes

Mphatso Nkosi is affiliated with University of the Free State and focuses on Medicine research in Africa.
Nomsa Dlamini is affiliated with University of the Free State and focuses on Medicine research in Africa.
Siyanda Mkhwanzi is affiliated with University of Johannesburg and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems are crucial for monitoring disease prevalence and health outcomes in South Africa. However, their effectiveness can be challenging to assess due to potential confounding factors. We employed a DiD regression analysis, accounting for temporal trends and geographical variations. The study utilised anonymized electronic health records from two provinces as our primary data source. Our findings indicate that the surveillance system in Province A showed a significant reduction of 15% in hospital admissions for respiratory infections compared to Province B over a five-year period. The DiD model provided robust evidence on the impact of public health interventions. Our study supports the use of this methodological approach for future evaluations. Future research should consider expanding the analysis to include more provinces and longer time periods to strengthen the findings' generalizability. public health surveillance, difference-in-differences, clinical outcomes, South Africa Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, epidemiology, public health, surveillance, randomized controlled trials, econometrics, outcomes measurement*

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