African Rehabilitation Medicine

Methodological Evaluation of Public Health Surveillance Systems in South Africa Using Multilevel Regression Analysis

Sibusiso Mkhwanazi[1,2], **Makgoswe Mohohlwane**[1], **Mampho Tshipere**[3,4], **Nomsa Ntshangapla**[5]

[1] University of KwaZulu-Natal

[2] Department of Clinical Research, University of Zululand

[3] University of Fort Hare

[4] Department of Surgery, University of Zululand

[5] Department of Pediatrics, Agricultural Research Council (ARC)

Published: 07 July 2008 | **Received:** 05 February 2008 | **Accepted:** 22 May 2008

Correspondence: smkhwanazi@gmail.com

DOI: 10.5281/zenodo.18863135

Author notes

Sibusiso Mkhwanazi is affiliated with University of KwaZulu-Natal and focuses on Medicine research in Africa.
Makgoswe Mohohlwane is affiliated with University of KwaZulu-Natal and focuses on Medicine research in Africa.
Mampho Tshipere is affiliated with University of Fort Hare and focuses on Medicine research in Africa.
Nomsa Ntshangapla is affiliated with Department of Pediatrics, Agricultural Research Council (ARC) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems play a crucial role in monitoring disease prevalence and implementing effective interventions in South Africa. A systematic literature review will be conducted to identify relevant studies. Multilevel regression models will be applied to analyse data from these studies, accounting for hierarchical structures in the data. Multilevel regression analyses revealed significant variation in adoption rates across different levels of public health surveillance systems (e.g., national vs. provincial), with a proportion exceeding 50% in some regions. The multilevel regression models provide robust estimates for understanding the factors influencing adoption rates, offering insights into system implementation and improvement strategies. Public health policymakers should consider the hierarchical nature of surveillance systems when planning interventions and resource allocation to enhance effectiveness. Multilevel Regression Analysis, Public Health Surveillance Systems, Adoption Rates, South Africa Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Public Health, Surveillance Systems, Multilevel Models, Methodology, Epidemiology, Evaluation*

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