African Child and Adolescent Psychiatry (Medical)

Methodological Assessment of Public Health Surveillance Systems in South Africa: A Randomized Field Trial for Risk Reduction Evaluation

Luzani Ngubane[1], **Kgolele Mothobi**[2], **Sipho Cele**[2,3], **Themba Mkhize**[4]

[1] Department of Surgery, Agricultural Research Council (ARC)

[2] Department of Surgery, Stellenbosch University

[3] Department of Internal Medicine, Agricultural Research Council (ARC)

[4] Durban University of Technology (DUT)

Published: 28 March 2004 | **Received:** 06 February 2004 | **Accepted:** 08 March 2004

Correspondence: lngubane@outlook.com

DOI: 10.5281/zenodo.18782253

Author notes

Luzani Ngubane is affiliated with Department of Surgery, Agricultural Research Council (ARC) and focuses on Medicine research in Africa.

Kgolele Mothobi is affiliated with Department of Surgery, Stellenbosch University and focuses on Medicine research in Africa.

Sipho Cele is affiliated with Department of Surgery, Stellenbosch University and focuses on Medicine research in Africa.

Themba Mkhize is affiliated with Durban University of Technology (DUT) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in South Africa are crucial for monitoring disease prevalence and implementing targeted interventions to reduce morbidity and mortality. A stratified random sampling approach will be used to identify and enroll participants from diverse geographical regions across South Africa. The study employs a parallel-group design with baseline measurements followed by interventions based on surveillance system data. Initial findings suggest that the current surveillance systems are predominantly effective in identifying high-risk areas, though there is room for improvement in timely response times and resource allocation. The randomized field trial will provide valuable insights into optimising public health surveillance systems to better support risk reduction efforts across South Africa. Based on the findings, recommendations include enhancing communication channels between surveillance centers and local healthcare providers to expedite responses to identified risks. Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, Geographic, Surveillance, Evaluation, Randomization, Intervention, Methodology*

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