African Family Medicine

Methodological Evaluation of Public Health Surveillance Systems in Rwanda Using Panel Data to Measure Cost-Effectiveness

Karembwa Nsabaganwa[1], **Hutseka Uwimbiza**[2], **Ingabo Bizimungu**[1,3], **Bakatsa Gaterera**[1]

[1] African Leadership University (ALU), Kigali

[2] Rwanda Environment Management Authority (REMA)

[3] University of Rwanda

Published: 12 April 2012 | **Received:** 12 January 2012 | **Accepted:** 23 February 2012

Correspondence: knsabaganwa@outlook.com

DOI: 10.5281/zenodo.18943427

Author notes

Karembwa Nsabaganwa is affiliated with African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Hutseka Uwimbiza is affiliated with Rwanda Environment Management Authority (REMA) and focuses on Medicine research in Africa.

Ingabo Bizimungu is affiliated with African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Bakatsa Gaterera is affiliated with African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems are crucial for monitoring diseases in Rwanda. However, their cost-effectiveness remains a subject of debate. Panel data analysis was employed to estimate the cost-effectiveness of surveillance systems over time. Robust standard errors were used for inference. The study found that a specific intervention model reduced healthcare costs by 15% (95% CI: -3%, 42%) in the first quarter compared to baseline year. The analysis highlights the importance of continuous evaluation and improvement of surveillance systems for cost-effectiveness. Investment in surveillance system upgrades should be prioritised to maximise health benefits and financial returns. Public Health Surveillance, Cost-Effectiveness Analysis, Panel Data, Rwanda 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, public health surveillance, panel data analysis, cost-effectiveness evaluation, econometric methods, longitudinal studies, geographic information systems*

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