African Gastroenterology

Methodological Evaluation of Public Health Surveillance Systems in Rwanda: A Randomized Field Trial for Yield Improvement Assessment

Kabuga Rugamba[1]

[1] Department of Clinical Research, University of Rwanda

Published: 14 September 2005 | **Received:** 16 April 2005 | **Accepted:** 02 August 2005

Correspondence: krugamba@hotmail.com

DOI: 10.5281/zenodo.18806768

Author notes

Kabuga Rugamba is affiliated with Department of Clinical Research, University of Rwanda and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Rwanda are crucial for monitoring infectious diseases such as cholera and typhoid fever. However, these systems have room for improvement to enhance their effectiveness. A randomized field trial was conducted across three regions of Rwanda. Surveillance data were collected from healthcare facilities and analysed using statistical models to assess system performance. The analysis revealed an increase in the proportion of reported cases by 20% when utilising a novel combination of machine learning algorithms for early detection compared to traditional surveillance methods. This randomized field trial demonstrated that incorporating advanced analytics can significantly enhance the yield and accuracy of public health surveillance systems, particularly for infectious diseases. Health authorities in Rwanda should consider implementing these enhanced surveillance techniques to improve disease reporting and control efforts. public health surveillance, machine learning, yield improvement, randomized field trial Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwanda, Geographic Information Systems, Public Health Surveillance, Randomized Controlled Trials, Outcome Evaluation, Data Quality Assessment, Spatial Analysis*

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