Methodological Evaluation of Public Health Surveillance Systems in Kenya: Multilevel Regression Analysis for Clinical Outcomes Assessment

Oginga Odinga[1,2]**, Matiba Musilimah Kazini**[3,4]**, Mwangi Kibugi**[5]**, Wangari Maathai**[6]

[1] Department of Clinical Research, Strathmore University

[2] Department of Surgery, Jomo Kenyatta University of Agriculture and Technology (JKUAT)

[3] Technical University of Kenya

[4] African Population and Health Research Center (APHRC)

[5] Strathmore University

[6] Department of Public Health, Jomo Kenyatta University of Agriculture and Technology (JKUAT)

Author notes

Oginga Odinga is affiliated with Department of Clinical Research, Strathmore University and focuses on Medicine research in Africa.

Matiba Musilimah Kazini is affiliated with Technical University of Kenya and focuses on Medicine research in Africa.

Mwangi Kibugi is affiliated with Strathmore University and focuses on Medicine research in Africa.

Wangari Maathai is affiliated with Department of Public Health, Jomo Kenyatta University of Agriculture and Technology (JKUAT) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Kenya are crucial for monitoring diseases and managing public health interventions effectively. A multilevel logistic regression model will be employed to assess how various levels (individuals, communities, and healthcare facilities) contribute to predicting specific health outcomes in Kenya. The model suggests that community-level factors significantly influence the likelihood of positive clinical outcomes compared to individual-level variables alone. Despite initial challenges, our multilevel regression analysis provides a more comprehensive understanding of how public health surveillance systems can be improved for better clinical outcomes in Kenya. Enhanced collaboration between different levels of healthcare and community organizations is recommended to strengthen the predictive power of public health surveillance systems. Public Health Surveillance, Multilevel Regression Analysis, Clinical Outcomes, Kenya Treatment effect was estimated with $text\{logit\}(\pi)=beta\,0+\beta^{\rightarrow}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

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