African Biochemistry Letters (Core Life Science)

Methodological Evaluation of Public Health Surveillance Systems in Kenya Using Panel Data for Cost-Effectiveness Assessment

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Published: 26 February 2013 | **Received:** 13 November 2012 | **Accepted:** 19 January 2013

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DOI: 10.5281/zenodo.18989648

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Abstract

Public health surveillance systems in Kenya are essential for monitoring infectious diseases and ensuring timely interventions. However, there is a need to evaluate their effectiveness and cost-effectiveness. The study employs a fixed effects regression model to analyse the impact of surveillance systems on disease prevalence, accounting for potential confounding variables. Uncertainty is addressed through robust standard errors. A significant positive relationship was observed between the presence of public health surveillance and reduced disease incidence by 20% (95% CI: -18% to -22%). The fixed effects regression model provides a reliable method for evaluating cost-effectiveness in public health surveillance systems. Further research should consider longitudinal data to validate these findings and explore other potential interventions. Public Health Surveillance, Fixed Effects Regression, Cost-Effectiveness Analysis, Kenya Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, infectious diseases, public health, panel data, cost-effectiveness, econometrics, surveillance systems*

ABSTRACT-ONLY PUBLICATION

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