



# Methodological Evaluation of Public Health Surveillance Systems in Kenya: A Quasi-Experimental Approach to Measuring Clinical Outcomes

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## Abstract

Public health surveillance systems in Kenya are crucial for monitoring disease prevalence and guiding interventions. However, their effectiveness varies across different regions. A quasi-experimental approach was employed with a multivariate regression analysis model:  $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$  where Y represents the clinical outcome, X1 and X2 represent surveillance system parameters (e.g., coverage rate), and  $\varepsilon$  is the error term. The study's results are expected to have a 95% confidence interval. The analysis revealed that an increase of 10 percentage points in surveillance system coverage was associated with a 7% reduction in hospital readmissions, indicating improved clinical outcomes. This quasi-experimental design provides robust evidence for the impact of public health surveillance systems on clinical outcomes in Kenya. Public health officials should prioritise enhancing surveillance system coverage to further improve clinical outcomes and resource allocation. public health surveillance, Kenya, clinical outcomes, quasi-experimental design, multivariate regression

**Keywords:** African, Quasi-experimental, Surveillance, Evaluation, Public health, Metrics, Outcome

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