



Methodological Evaluation of Public Health Surveillance Systems in Uganda: Estimating Clinical Outcomes Using Panel Data Analysis

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Abstract

Public health surveillance systems are crucial for monitoring disease prevalence and guiding interventions in healthcare settings. Panel data analysis was employed to estimate clinical outcomes from Ugandan public health surveillance data. The study utilised a fixed effects model with robust standard errors to account for potential confounders. The analysis revealed significant differences in clinical outcome measures across different regions, suggesting that local factors influence disease prevalence and treatment efficacy. Public health surveillance systems in Uganda require further refinement to better capture regional variations in healthcare outcomes. Healthcare policymakers should prioritise targeted interventions based on the identified regional disparities. public health surveillance, panel data analysis, clinical outcomes, Uganda Treatment effect was estimated with $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, Public health surveillance, Panel data analysis, Epidemiology, Healthcare delivery, Clinical outcomes assessment, Quantitative methods*

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