African Cardiovascular Surgery

Methodological Evaluation of Public Health Surveillance Systems Adoption in Uganda Using Quasi-Experimental Design

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Published: 20 September 2009 | **Received:** 24 June 2009 | **Accepted:** 03 September 2009

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DOI: 10.5281/zenodo.18883218

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Abstract

Public health surveillance systems are crucial for monitoring disease prevalence and guiding interventions in Uganda. However, their adoption rates vary among different regions. A mixed-methods approach incorporating quantitative data from surveys and qualitative insights through interviews was employed. Quasi-experimental analysis with propensity score matching and multivariable logistic regression models were used to assess adoption rates and identify key drivers of system use. Propensity scores stratified by region showed a significant difference in the rate of public health surveillance systems adoption ($p < 0.05$). Factors such as socioeconomic status, healthcare infrastructure, and awareness campaigns emerged as influential predictors of system adoption. This study provides evidence on the effectiveness of current policies aimed at increasing public health surveillance system adoption in Uganda. Future interventions should prioritise targeted awareness programmes and investment in healthcare facilities to enhance system coverage. Quasi-experimental design, public health surveillance systems, adoption rates, Uganda Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Quasi-experimental, Public health, Surveillance systems, Methodology, Evaluation, Africa*

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