



# Methodological Assessment of Public Health Surveillance Systems in Uganda Using Quasi-Experimental Design for Cost-Effectiveness Analysis

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## Abstract

Public health surveillance systems are crucial for monitoring diseases and guiding public health interventions in Uganda. A mixed-method approach combining quantitative data from surveys and qualitative interviews was employed to assess system performance. Statistical models were used to estimate costs and benefits. The analysis revealed that the current surveillance system had an average cost of 50 per case detected, with a precision interval (CI) of  $\pm 10\%$  indicating moderate variability in cost estimates. Quantitative analysis was performed using the logit model  $\text{logit}(\pi) = \beta_0 + \beta_1 X_1 + \dots + \beta_k X_k$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, Quasi-experimental, Evaluation, Surveillance, Cost-effectiveness, Public health, Methodology*

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