



Methodological Evaluation of Public Health Surveillance Systems in Uganda: Randomized Field Trial for Efficiency Gains,

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Abstract

Public health surveillance systems in Uganda are crucial for monitoring diseases and implementing effective control measures. A randomized field trial was conducted among healthcare facilities in Uganda. Data on disease prevalence and system performance were collected over two years using standardised surveys and statistical models. An average reduction of 15% in reporting times from the pre-trial period to post-trial period was observed, with a 95% confidence interval for this improvement (13-17%). The randomized field trial demonstrated that implementing targeted interventions can significantly enhance the efficiency of public health surveillance systems. Public health authorities in Uganda should prioritise further research and investment into system optimization based on these findings. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Geographic Information Systems, Randomization, Surveillance, Evaluation, Efficiency, Public Health*

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