African History of Medicine (Humanities perspective)

Methodological Evaluation of Public Health Surveillance Systems in Uganda: Quasi-Experimental Design for Risk Reduction Analysis

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Abstract

Public health surveillance systems in Uganda are crucial for monitoring diseases and identifying risk factors. A mixed-methods approach combining quantitative data analysis with qualitative interviews to assess system efficacy and identify areas for improvement. The system detected an increase of 15% in early-stage cases of malaria compared to previous years, indicating improved detection rates. Quasi-experimental design successfully identified risk reduction metrics within the public health surveillance systems in Uganda. Continuous monitoring and periodic updates are recommended to maintain system effectiveness and adapt to emerging diseases. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan Africa, Public Health Surveillance, Quasi-Experimental Design, Risk Assessment, Data Analysis, Geographic Information Systems, Sampling Methods*

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