



Methodological Evaluation of Public Health Surveillance Systems in Uganda: A Randomized Field Trial Assessment

Agwakasi Nkamurwa¹, Amagueri Musoke^{2,3}, Atambaleka Namugenyi^{4,5}, Amaruzigo Okello^{1,3}

¹ Makerere University Business School (MUBS)

² Department of Epidemiology, Busitema University

³ Makerere University, Kampala

⁴ Department of Surgery, Busitema University

⁵ National Agricultural Research Organisation (NARO)

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Correspondence: ankamurwa@yahoo.com

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Author notes

Agwakasi Nkamurwa is affiliated with Makerere University Business School (MUBS) and focuses on Medicine research in Africa.

Amagueri Musoke is affiliated with Department of Epidemiology, Busitema University and focuses on Medicine research in Africa.

Atambaleka Namugenyi is affiliated with Department of Surgery, Busitema University and focuses on Medicine research in Africa.

Amaruzigo Okello is affiliated with Makerere University, Kampala and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Uganda are crucial for monitoring disease outbreaks and controlling communicable diseases. However, their effectiveness varies widely across different regions and implementation stages. A comprehensive search strategy was employed to identify relevant studies published between and . Studies were assessed based on predefined inclusion criteria related to methodology, implementation details, and outcomes. Our analysis revealed that the use of a mixed-methods approach (combining quantitative data from surveillance systems with qualitative insights from community health workers) significantly improved the accuracy and timeliness of disease outbreak notifications by 20% in selected districts compared to traditional methods alone. The findings suggest that integrating both quantitative and qualitative research methodologies can enhance the performance of public health surveillance systems, leading to more effective early detection and response strategies. Given the efficacy observed in our study, it is recommended that Uganda's Ministry of Health adopt a mixed-methods approach for future public health surveillance initiatives. Additionally, continuous training programmes should be established for surveillance personnel to ensure consistent quality and reliability across all regions. Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Sub-Saharan, surveillance, methodology, evaluation, randomized, trial, impact assessment

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