

Longitudinal Evaluation of Public Health Surveillance System Adoption in Uganda

A Randomised Field Trial, 2000–2026

Nakato Nalwadda¹

Department of Epidemiology, Kyambogo University, Kampala

Correspondence: nnalwadda@yahoo.com

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ABSTRACT

Background: The sustained adoption of public health surveillance systems in low-resource settings remains a critical challenge, with many digital health interventions failing to move beyond pilot phases. Evidence on the long-term drivers of adoption, particularly from randomised evaluations, is scarce.

Purpose and objectives: This study aimed to quantify the long-term adoption rates of a digital public health surveillance system and to identify the key operational and contextual factors influencing its sustained use within a national health system.

Keywords: *Public health surveillance, Randomised controlled trial, Sub-Saharan Africa, Health informatics, Implementation science, Uganda, Adoption rates*

Article Highlights

- Interim analysis from an ongoing 26-year cluster-randomised field trial across 120 Ugandan health facilities.
- Mixed-effects modelling reveals human resource support as a stronger predictor of adoption than infrastructure alone.
- Study challenges the digital health pilot paradigm by measuring sustained use within a national system.
- Final adoption rates and conclusive analysis will be published upon trial completion in 2026.

Methodological Note

Primary analysis employs a mixed-effects logistic regression model with robust standard errors clustered at the facility level, measuring adoption via system logs and surveys at multiple time points.

This brief presents interim findings from a longitudinal trial still in progress.

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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