



# Methodological Assessment of Public Health Surveillance Systems in Ghana: A Randomized Field Trial Approach

Fiaatu Biiwa

University of Cape Coast

Correspondence: [fbiiwa@yahoo.com](mailto:fbiiwa@yahoo.com)

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## Abstract

Public health surveillance systems are critical for monitoring infectious diseases in Ghana. However, their effectiveness and efficiency vary. A mixed-methods design combining quantitative data analysis with qualitative interviews to evaluate system performance across different regions. In one region, an increase of 20% in disease detection rates was observed within the first six months after implementing targeted interventions. The randomized field trial demonstrated that specific intervention strategies can significantly enhance surveillance efficiency. Further trials should be conducted to validate these findings and promote broader adoption of improved surveillance systems in Ghana. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta^T X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, surveillance, evaluation, randomized, methodology, efficacy, transmission*

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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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