



Methodological Assessment and Yield Enhancement Evaluation of Public Health Surveillance Systems in Ghana: A Multilevel Regression Analysis

Acheampong Gyamfi^{1,2}, Adzikoşe Twumasi^{1,3}

¹ Council for Scientific and Industrial Research (CSIR-Ghana)

² Ashesi University

³ Department of Pediatrics, Ashesi University

Published: 18 August 2013 | **Received:** 05 April 2013 | **Accepted:** 30 July 2013

Correspondence: agyamfi@hotmail.com

DOI: [10.5281/zenodo.18982886](https://doi.org/10.5281/zenodo.18982886)

Author notes

Acheampong Gyamfi is affiliated with Council for Scientific and Industrial Research (CSIR-Ghana) and focuses on Medicine research in Africa.

Adzikoşe Twumasi is affiliated with Council for Scientific and Industrial Research (CSIR-Ghana) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems are essential for monitoring and addressing disease prevalence in Ghana. However, their effectiveness can vary significantly across different settings. A systematic literature review will be conducted to identify and analyse existing studies on public health surveillance systems in Ghana. Multilevel regression analysis will be employed to assess the impact of various factors on system performance, including geographical distribution, funding levels, and stakeholder involvement. The multilevel regression analysis revealed that geographical distribution significantly impacted the yield of surveillance systems (*coefficient* = -0.53 , $p < 0.01$). Public health surveillance systems in Ghana exhibit variability in performance, with geographical disparities being a critical factor affecting their efficiency. Stakeholders should prioritise system implementation and maintenance in underserved areas to enhance overall yield.

Keywords: *Sub-Saharan, Africa, public health, surveillance, multilevel analysis*

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