



Reliability Evaluation of Public Health Surveillance Systems in Ghana: A Quasi-Experimental Design Study

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Abstract

Public health surveillance systems play a critical role in monitoring disease outbreaks and ensuring timely intervention. A quasi-experimental study was conducted to assess the reliability of public health surveillance systems in Ghana. Data were collected from multiple sources and analysed using statistical methods including regression analysis. The findings indicate that the average response time for reporting suspected cases was reduced by 30% when compared to baseline periods, with a confidence interval of $\pm 5\%$. This suggests improved system efficiency. The study concludes that public health surveillance systems in Ghana have shown significant improvements in reliability and responsiveness. Further research should be conducted to identify areas for improvement within the systems and explore potential technological upgrades. public health, surveillance systems, quasi-experimental design, response time Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, surveillance, methodology, reliability, evaluation, Ghana, intervention*

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