African Ageing Studies (Interdisciplinary - Social/Health focus)

Methodological Evaluation of Public Health Surveillance Systems in Ghana: A Randomized Field Trial for Measuring Clinical Outcomes

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Abstract

Public health surveillance systems are crucial for monitoring disease prevalence and guiding healthcare interventions in Ghana. However, their effectiveness varies significantly across different regions and implementation strategies. A mixed-methods approach was employed, including quantitative data collection via standardised surveys and qualitative insights from healthcare providers. Randomization ensured comparability between intervention and control groups. In the randomized field trial conducted in rural Ghana, a notable proportion (25%) of participants exhibited clinically significant outcomes within six months post-intervention, highlighting the system's potential for timely clinical impact. The findings underscore the need for standardised protocols to enhance the accuracy and reliability of public health surveillance systems in Ghana, particularly in underserved regions. Standardised field trials should be replicated across different settings to validate these outcomes. Additionally, continuous monitoring and iterative improvements are essential for sustaining effective surveillance systems. Public Health Surveillance, Clinical Outcomes, Randomized Field Trial, Ghana Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Public Health Surveillance, Ghanaian, Methodology, Evaluation, Randomized Controlled Trial, Clinical Outcomes*

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