



Methodological Evaluation of Public Health Surveillance Systems in Rwanda: A Randomized Field Trial on System Reliability

Kabese Mugisa¹, Ingiri Ndayishimi^{2,3}, Nyirabahoare Uwizeye⁴

¹ Department of Clinical Research, African Leadership University (ALU), Kigali

² Rwanda Environment Management Authority (REMA)

³ University of Rwanda

⁴ Department of Pediatrics, University of Rwanda

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Correspondence: kmugisa@aol.com

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Author notes

Kabese Mugisa is affiliated with Department of Clinical Research, African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Ingiri Ndayishimi is affiliated with Rwanda Environment Management Authority (REMA) and focuses on Medicine research in Africa.

Nyirabahoare Uwizeye is affiliated with Department of Pediatrics, University of Rwanda and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Rwanda are crucial for monitoring infectious diseases and other health threats. However, their reliability and effectiveness have not been systematically evaluated. A randomized field trial was conducted in two regions of Rwanda, with 10% of healthcare facilities randomly selected as controls. Data on disease incidence, reporting times, and system performance were collected over six months using standardised forms and statistical software. The study found a significant delay (mean difference = 5 days) in reporting infectious diseases to the point of diagnosis and official surveillance records in the controls. Public health surveillance systems in Rwanda require improvement, particularly in reducing reporting delays. Investment should be prioritised in training healthcare workers and enhancing IT infrastructure to improve system reliability.

Keywords: *African geography, longitudinal study, methodological evaluation, public health surveillance, reliability assessment, randomized trials, system performance assessment*

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