African Genetic Engineering (Applied Science/Tech)

Evaluating System Reliability in Community Health Centres in Rwanda Using Quasi-Experimental Design,

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Abstract

Community health centers in Rwanda have been established to improve access to healthcare services. However, the reliability and performance of these systems are not well understood. A quasi-experimental study was conducted over two years, with data collected on service utilization rates, diagnostic accuracy, and patient feedback from randomly selected health centers across Rwanda. Service utilization in the evaluated health centers showed a moderate improvement (35% increase) compared to baseline levels, indicating enhanced accessibility. Patient satisfaction scores averaged at 78%, suggesting room for enhancement in service quality. The quasi-experimental design provided insights into system reliability but did not reveal significant differences between selected health centers and their performance metrics. Further research should explore factors affecting service delivery efficiency, with a focus on improving diagnostic accuracy and patient satisfaction. Treatment effect was estimated with $text\{logit\}(\pi)=beta 0+\vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Community health centers, Rwanda, Geographic information systems (GIS), Quasi-experimental design, System reliability, Health service evaluation, Spatial analysis*

ABSTRACT-ONLY PUBLICATION

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