



# Digital Health Surveillance Systems for Tuberculosis Prevention in South African Communities: An Impact Evaluation

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## Abstract

Tuberculosis (TB) remains a significant public health concern in South Africa, where digital health surveillance systems can enhance early detection and management. A mixed-methods approach was employed, including surveys, focus groups, and a Bayesian hierarchical model for estimating intervention effectiveness. Among the surveyed participants (n = 300), 72% reported improved access to healthcare information through digital platforms. The estimated effect size of the intervention on TB case detection rate is +15%, with robust standard errors around this estimate. Digital health surveillance systems show promise in enhancing TB prevention and control efforts, particularly among underserved communities. Further research should focus on scalability and cost-effectiveness of these interventions across diverse settings.

**Keywords:** Sub-Saharan, Africanization, Biosurveillance, Morbidity Monitoring, Qualitative Research

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