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Home-Based Health Monitoring Devices Among African Farmers in Tanzania: A Six-Month Evaluation

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Abstract

Home-based health monitoring devices (HMDs) have shown promise in improving health outcomes among various populations, including African farmers who often face challenges accessing healthcare services. The study reviewed existing literature on HMDs used by Tanzanian farmers, focusing on qualitative analysis of user experiences and quantitative data from relevant studies. A consistent theme in the findings was a high adoption rate of HMDs among surveyed farmers (85% reported using their devices regularly), although significant variability existed based on socio-economic factors. Users noted improvements in self-reported health status, with a mean improvement score of 20% across all monitored indicators. The six-month evaluation suggests that HMDs can be effective tools for improving the health monitoring practices of Tanzanian farmers, though further research is needed to refine device design and optimise usage context. Farmers should receive comprehensive training on proper use of HMDs, while healthcare providers need to integrate these devices into existing service delivery models. Future studies should explore longer-term outcomes and cost-effectiveness. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, adoption, geospatial, intervention, monitoring, outcomes, sensors*

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