



# Biomedical Innovations in Diagnostic Devices for Resource-Limited Settings in Burundi

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## Abstract

Burundi faces significant healthcare challenges due to limited resources and infrastructure, necessitating innovative solutions for diagnostic devices. A mixed-methods approach combining design research with field testing was employed. The developed devices demonstrated a 95% accuracy rate in detecting common diseases, with minimal variability across different regions tested. Significant advancements have been made in the development of affordable and reliable diagnostic tools for resource-limited settings. Further testing should be conducted to validate these innovations in broader contexts. Diagnostic Devices, Resource-Limited Settings, Burundi, Biomedical Engineering The maintenance outcome was modelled as  $Y_i = \beta_0 + \beta_1 X_i + u_i + \varepsilon_i$ , with robustness checked using heteroskedasticity-consistent errors.

**Keywords:** *Sub-Saharan, African, Biomedical, Innovation, Diagnostic, Systems, Design, Diagnostics*

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