



Innovative Medical Approaches in Sub-Saharan Africa: A Systematic Review of the Malagasy Context

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Abstract

Sub-Saharan Africa contends with substantial healthcare challenges due to resource limitations and a high disease burden. Innovative approaches are therefore essential. Madagascar's distinct epidemiological and health system context offers a pertinent setting to examine the adaptation and implementation of such innovations within the region. This systematic review aims to identify, synthesise, and critically appraise published literature on innovative medical approaches implemented in Madagascar. Its objectives are to map the types of innovations documented, assess their reported impacts and challenges, and identify gaps in the research evidence. A systematic search was executed across several electronic databases for relevant peer-reviewed literature. Pre-defined inclusion and exclusion criteria were applied. Study selection, data extraction, and quality assessment were conducted independently by two reviewers, with discrepancies resolved through consensus. The search identified a limited number of qualifying studies. A prominent focus was on mobile health (mHealth) and telemedicine initiatives designed to overcome geographical barriers. Much of the literature consisted of programme descriptions or pilot studies, with a notable scarcity of robust comparative effectiveness research or long-term outcome data. Innovation within Madagascar's medical sector, particularly in digital health, is an active area of exploration. However, the evidence base remains underdeveloped, dominated by preliminary reports rather than rigorous evaluation. This constrains definitive conclusions regarding the efficacy, scalability, and sustainability of these innovations. Future research should prioritise robust study designs incorporating comparative controls and longitudinal follow-up. Greater investment in implementation science is needed to understand contextual barriers. Strengthening local research capacity and fostering interdisciplinary collaboration are essential for generating impactful evidence. Systematic review, medical innovation, global health, Sub-Saharan Africa, Madagascar, healthcare delivery, mHealth This review provides a consolidated synthesis of the current evidence on medical innovation in Madagascar, highlighting the need for more rigorous evaluation to inform policy and practice.

Keywords: *Madagascar, Sub-Saharan Africa, innovative healthcare, health systems strengthening, evidence-based medicine, traditional medicine integration*



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