

SCIENCE BASED INNOVATION IN RURAL HEALTH CARE DELIVERY: POINT OF CARE DEVICES, LOW-COST DIAGNOSTIC, VACCINATION PROGRAMS AND MATERNAL CHILD HEALTH INTERVENTIONS

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Timely diagnosis, prevention, and care are disproportionately difficult for rural communities. By bringing testing and preventative services closer to people, science-driven innovations like point-of-care (POC) devices, low-cost diagnostics, improved vaccination delivery methods, and focused maternal-child health (MCH) initiatives have the potential to reduce health disparities in rural areas. This study summarizes current research on programmatic and technology advancements, implementation barriers and facilitators, and lessons for scaling up in rural areas with limited resources. We highlight: (1) the development of reliable POC platforms and smartphone-enabled assays; (2) low-cost diagnostics based on paper and CMOS; (3) community-based immunization tactics and cold-chain advances; and (4) integrated MCH packages that include mHealth support and POC testing. In order to guarantee that innovations result in better public health, we end with recommendations for practical application and research priorities.
