Optimizing Patient Care and Resource Allocation Through Electronic Medical Records and Health Insurance Integration in Nepal

Nepal is transitioning toward digital healthcare with initiatives like the Electronic Medical Records (EMR) system and the National Health Insurance Program (NHIP). This study evaluates how integrating EMRs with NHIP enhances patient classification, resource allocation, and health outcomes in dermatology and infectious diseases. It also explores the role of digital health in addressing healthcare disparities in Nepal's underserved regions.

Methods:
A mixed-methods study involved 200 patients enrolled in NHIP. Baseline data on demographics, disease prevalence, and healthcare utilization were collected. Open source EMR systems were piloted to streamline patient HMIS data management, disease tracking, and service delivery. Data analysis included regression models to assess the impact of EMR integration on patient outcomes and NHIP efficiency. Surveys and interviews with healthcare providers explored barriers to implementation and the system's operational readiness.

Results:
Initial findings show that integrating EMRs with NHIP reduced errors in claims management by 40% and improved service delivery times by 35% ($p < 0.01$). Dermatologic and infectious disease cases identified and prioritized for treatment increased by 25%, reflecting enhanced disease tracking capabilities. Providers reported better data accessibility and decision-making efficiency. Key barriers included limited technical skills (56% of providers required additional training) and infrastructural challenges such as unreliable electricity in remote areas.

Conclusions:
The integration of EMRs with NHIP improves patient classification, resource allocation, and care quality in resource-limited settings. This scalable model can guide Nepal and similar contexts in adopting digital health strategies to enhance universal health coverage. Addressing implementation barriers and building technical capacity are crucial for sustained success. This study aligns with global priorities for digital transformation in healthcare, demonstrating the potential of EMRs in addressing healthcare disparities. It underscores the need for policy and infrastructure investments to ensure equitable and efficient healthcare delivery in developing countries.