

ABSTRACT

Title: Development of a Digital Community Pharmacy Integrated Care Model for Advancing Universal Health Coverage in Nigeria

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Background: Nigeria continues to face significant barriers to achieving Universal Health Coverage (UHC), including inadequate access to primary healthcare, fragmented care pathways, increasing prevalence of chronic diseases, overcrowded hospitals, and high out-of-pocket healthcare expenditure. Community pharmacies are among the most accessible healthcare facilities in the country, yet their contribution to integrated healthcare delivery remains underutilized. Evidence from high-income and other resource-endowed countries demonstrates that digital health-enabled community pharmacy services improve access, continuity of care, medication management, and support progress toward UHC. However, similar integrated digital models remain largely underdeveloped in Nigeria and many low- and middle-income countries.

Objectives: To develop a digital Community Pharmacy Integrated Care Network (CPICN) model that integrates community pharmacies with physicians, diagnostic centres, hospitals, health insurers, and patients.

Methods: A health systems design methodology was employed using a narrative review of published literature on UHC, integrated care, digital health, pharmaceutical care, and implementation science. Evidence from established community pharmacy models in high- and middle-income countries was synthesized and adapted to the Nigerian context. System components, stakeholder interactions, patient care pathways, digital workflows, referral processes, medication therapy management, teleconsultation, and longitudinal follow-up mechanisms were integrated into the proposed CPICN model.

Results: The proposed digital CPICN comprises digital patient registration, interoperable electronic health records, pharmacist-led clinical assessment, clinical decision support, teleconsultation with physicians, electronic referral management, diagnostic service integration, medication therapy management, medicine adherence monitoring, home delivery support, health insurance connectivity, and longitudinal patient follow-up. These integrated components are expected to improve early disease detection, continuity of care, medication adherence, chronic disease outcomes, referral efficiency, reduced avoidable hospital visits, and lower out-of-pocket healthcare expenditure, thereby strengthening progress toward Universal Health Coverage.

Conclusion: The proposed digital CPICN provides a practical model for expanding pharmacists' clinical role within Nigeria's primary healthcare system through digital integration and

multidisciplinary collaboration. If implemented, the model could improve access, quality, continuity, efficiency, and equity of healthcare services while accelerating progress toward UHC. Future implementation and validation studies are recommended.

Keywords: Community pharmacy; Digital health; Integrated care; Universal Health Coverage; Primary healthcare; Nigeria