

Determinants, Benefits, and Barriers to the Adoption and Use of Digital Health Technologies Among Community Pharmacists in Nigeria: A Cross-Sectional Study

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Background: The rapid technological advancements following the emergence of COVID-19 and the rise of new and recurring diseases have underscored the necessity for robust and personalized patient care. Digital technologies are transforming healthcare delivery worldwide, yet little is known about the determinants, benefits, and barriers to the use of digital health technologies (DHTs) among Community Pharmacists in low- and middle-income countries.

Aim: This study aimed to assess the extent, purpose, perceived benefits, barriers, and other determinants of digital health technologies' adoption among Community Pharmacists (CPS) in Nigeria.

Method: A cross-sectional survey was conducted among 400 registered Community Pharmacists who attended the 44th Annual National Conference of the Association of Community Pharmacists of Nigeria, held in July 2025. A structured self-administered paper-based questionnaire was administered to 400 consenting participants through convenience sampling. Data were analyzed using the R programming language (version 4.5.1). Descriptive and inferential statistics were generated at a 95% confidence interval and a significance level of 0.05.

Results: A total of 360 completely filled questionnaires were retrieved, representing a response rate of 90%. Overall, commercial digital technologies such as Point of Sales softwares were widely used (88.1%) compared to specialized digital health technologies; Electronic Health Records (EHRs), telepharmacy, mobile health (mHealth) applications, and e-prescription softwares (51.4%). The Community Pharmacists commonly used digital technologies for inventory management (77.5%), with the majority reporting efficient data management (71.7%) and improved customer satisfaction (68.6%) as the primary benefits. However, their use of digital tools was limited by inadequate finances and infrastructure. Furthermore, geographic settlement, patients' digital literacy level, and pharmacy ownership type did not significantly determine the use of DHTs ($p > 0.05$). In contrast, geopolitical zones of the participants played a significant role in the use of DHTs ($p < 0.05$), with the North, South-west and South-east zones showing significantly higher adoption rates (57.7%, 55.5% and 51.5% respectively) compared to the South-east zone (36.7%).

Conclusion: This study has demonstrated that digital technologies are increasingly used in community pharmacies in Nigeria. However, Lack of financial resources, inadequate infrastructure, and limited technical capacity were found as the significant constraints to specialized DHTs adoption in community pharmacies. Targeted investments, standardized digital health policies, and the development of digital skills within the pharmacy workforce are recommended.

Keywords: Digital health technology, pharmacy practice, community pharmacists, health informatics, patient care, Nigeria

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