

Abstract

Achieving equitable Universal Health Coverage (UHC) is a fundamental goal for global health, especially in low-resource settings like Kenya. This study explores the integrated impact of digital health interventions - encompassing digital health tools and technologies, services, programmes, and information systems - on advancing UHC equity in Kenya, considering demographic factors of age, income, education, and digital literacy of the people. Several studies emphasised the promise of digital health, like telemedicine and mHealth applications, in overcoming geographic, financial, and infrastructural barriers to healthcare. However, challenges such as digital illiteracy, limited infrastructure, and socio-economic disparities persisted, inhibiting the widespread effectiveness of digital health interventions in achieving equity. Using a purely quantitative methodology, data was collected from 348 respondents drawn from Makueni County, and structural equation modelling (SEM) was used for data analysis. Findings revealed that while digital health platforms existed, and with 63.8% of respondents owning smartphones, digital literacy, income disparities, and gaps in awareness of advanced technologies, such as IoT, were significant barriers to equitable access to UHC. This shows that, while digital health was a powerful tool for advancing UHC, overcoming barriers related to technology access, education, and infrastructure was crucial to ensuring its success in promoting healthcare equity in resource-constrained environments like Kenya. The study recommends the implementation of digital literacy programmes, infrastructure improvements, and policies that promote equitable access to digital health innovations. The implications of this study are far-reaching, offering a roadmap for policymakers to enhance the inclusivity of healthcare systems through digital health.