Deploying digital tools to optimise seasonal malaria chemoprevention: Lessons from the Federal Capital Territory, Abuja, Nigeria

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Digitising SMC campaigns can improve timely access to data, inform decision-making and enhance transparency

Introduction

Seasonal malaria chemoprevention (SMC) involves the intermittent administration of sulfadoxine-pyrimethamine (SP) and amodiaquine (AQ) to children 3–59 months during seasons with high malaria transmission. In Nigeria, SMC programmes typically collect data using paper-based systems. However, research suggests paper-based systems are inefficient and prevent timely reporting and access to data.

In 2023, Malaria Consortium collaborated with the National Malaria Elimination Programme to develop a digital tool using DHIS2, including a mobile application to support data collection in four Federal Capital Territory (FCT) area councils. This evaluation assesses the lessons on the feasibility of deploying a digital tool for large-scale SMC campaigns.

Methods

- The evaluation involved training of 2,514 community distributors and 169 health facility workers (HFWs) in using the tool. A "bring-your-own-device" approach for data collection was used.
- We accessed user acceptability in two health facilities in Oyo state and the FCT, respectively. Health workers provided feedback using an issues tracker.
- An exploratory data analysis was conducted to summarise the data, employing descriptive analysis techniques to measure frequencies and means using Microsoft Excel.

Results

- Data for 385,168 children were captured using the DHIS2 capture application, representing 57.9 percent of the targeted population.
- In total, 80 percent of community distributors and HFWs reported that the application was user friendly.
- The application enhanced transparency, reduced commodity mismanagement and enabled real-time GPS monitoring for SPAQ distribution.
- The application increased waiting times for SMC participants from eight minutes to 12 minutes. However, improved data consistency and validity were observed.
- The study identified challenges relating to the specification and reliability of personal devices, as well as challenges for providing technical assistance to health workers.

Figure 1. Federal Capital Territory, Nigeria

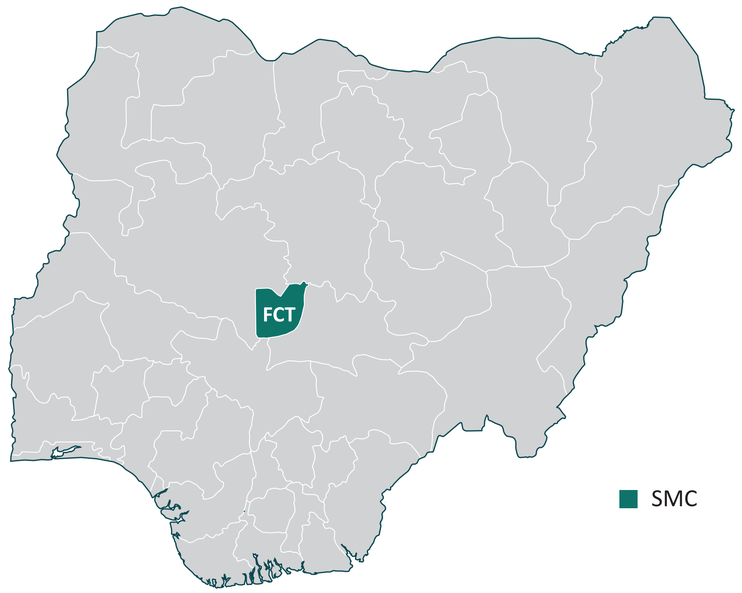
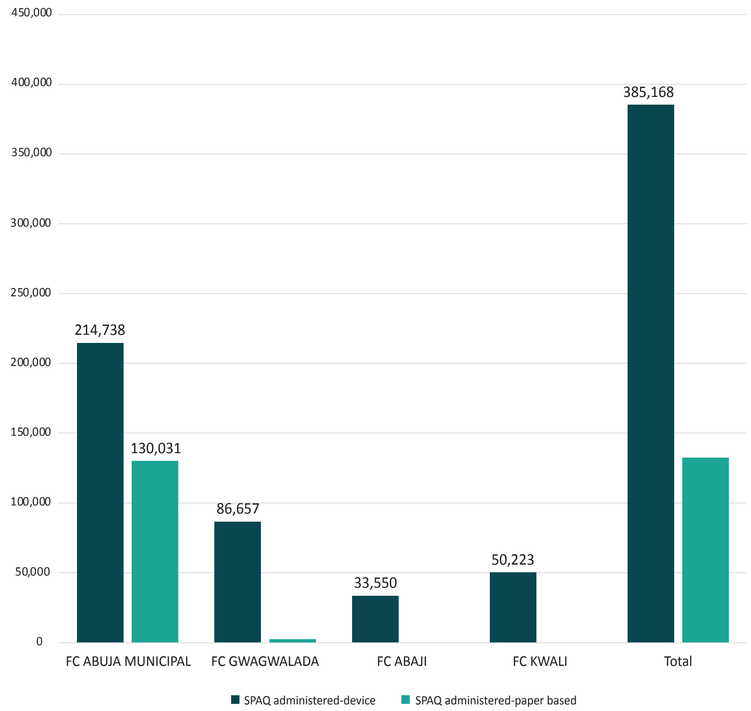


Figure 2. SPAQ administration using digital tools versus paper-based in cycle five



Conclusion

This study highlights the impact digital tools can have on improving timely access to data and enhancing transparency. Although the tool increased waiting times for SMC participants, it was widely reported to be user friendly and accessible. Key factors to its usability were a user-centred design, close engagement between the relevant stakeholders as well as investment in user-acceptance testing before deployment. Monitoring and evaluation is also important to identify and respond to challenges, including the provision of technical assistance.

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