Implementing a Digital Learning Program via Mobile Phone:

Lessons Learned from Breakthrough ACTION-Nigeria

USAID FROM THE AMERICAN PEOPLE

PMI U.S. PRESIDENT'S MALARIA INITIATIVE LED BY USAID CDC

Breakthrough ACTION FOR SOCIAL & BEHAVIOR CHANGE

This learning brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Breakthrough ACTION and do not necessarily reflect the views of USAID or the United States Government.

Photo Credit: Breakthrough ACTION-Nigeria

Acknowledgements

Breakthrough ACTION, which is funded by the United States Agency for International Development (USAID) and based at Johns Hopkins Center for Communication Programs, would like to acknowledge and express gratitude to Breakthrough ACTION-Nigeria state teams in all states for their contributions in implementing the digital learning intervention.

Thank you to the authors and contributors of this learning brief:

- Nura Aminu
- Winnie David
- Justin DeNormandie
- Victor Ibekwe
- Smart Joseph
- Mwikali Kioko
- Linda Osaji
- Juanita Sackey
- Halima Tahir
- Raymond Yaoste
- Chizoba Onyechi
- Georgina Oniga

Background

This learning brief shares lessons learned while implementing a digital learning program through mobile phones in Nigeria between 2020 and 2024.

Breakthrough ACTION-Nigeria is a social and behavior change (SBC) project funded by the United States Agency for International Development. Its goal has been to increase the practice of priority health behaviors related to malaria; maternal, newborn, and child health and nutrition; family planning and reproductive health; tuberculosis (TB); COVID-19; and Global Health Security priority zoonotic diseases at national and subnational levels in collaboration with Federal and State Ministry of Health programs, departments, and agencies and other partners.

Breakthrough ACTION-Nigeria first implemented a digital learning course on mobile phones in 2020 to teach community volunteers (CVs) in 11 states about COVID-19. Digital training was the safest and most effective way to build the capacity of community members at the time. The training course, which used interactive voice response and short message service, proved beneficial. So, the project extended its reach to other key stakeholders, such as health care providers, ward development committees (WDCs), and patent and proprietary medicine vendors (PPMVs) in states across Nigeria, while continuing to roll out new training courses for CVs. The digital courses were primarily designed to complement in-person capacity-strengthening interventions such as trainings or coaching provided through supportive supervision. The PPMV digital course was the only one designed and implemented as a stand-alone training to reach as many PPMVs as possible at a low cost and to improve rapid referrals for TB testing. Subsequently, the project introduced digital training courses on a variety of health issues, including malaria, integrated SBC (I-SBC), health provider behavior change, TB, and community capacity strengthening.

How the Digital Trainings Worked

Breakthrough ACTION-Nigeria's technical teams identified the need for the mobile training based on their objectives. They then developed the content for each digital training course, which was put into a mobile-friendly format by the digital team. Some training scripts included baseline and end-line questionnaires, while others included quiz questions to assess participants' learning. The project translated and recorded training scripts in English, Yoruba, Hausa, and Igbo, and then pretested recorded courses with a sample of participants before finalization.

While preparing course materials, Breakthrough ACTION-Nigeria state teams informed participants about the course and collected their phone numbers. The project verified all numbers, checking for duplicate, incomplete, or invalid numbers. The project also developed a training guide and schedule for when the calls would be made. Training guides shared the phone number from which participants should expect calls and encouraged them to save the number so they would recognize it when they received a call.

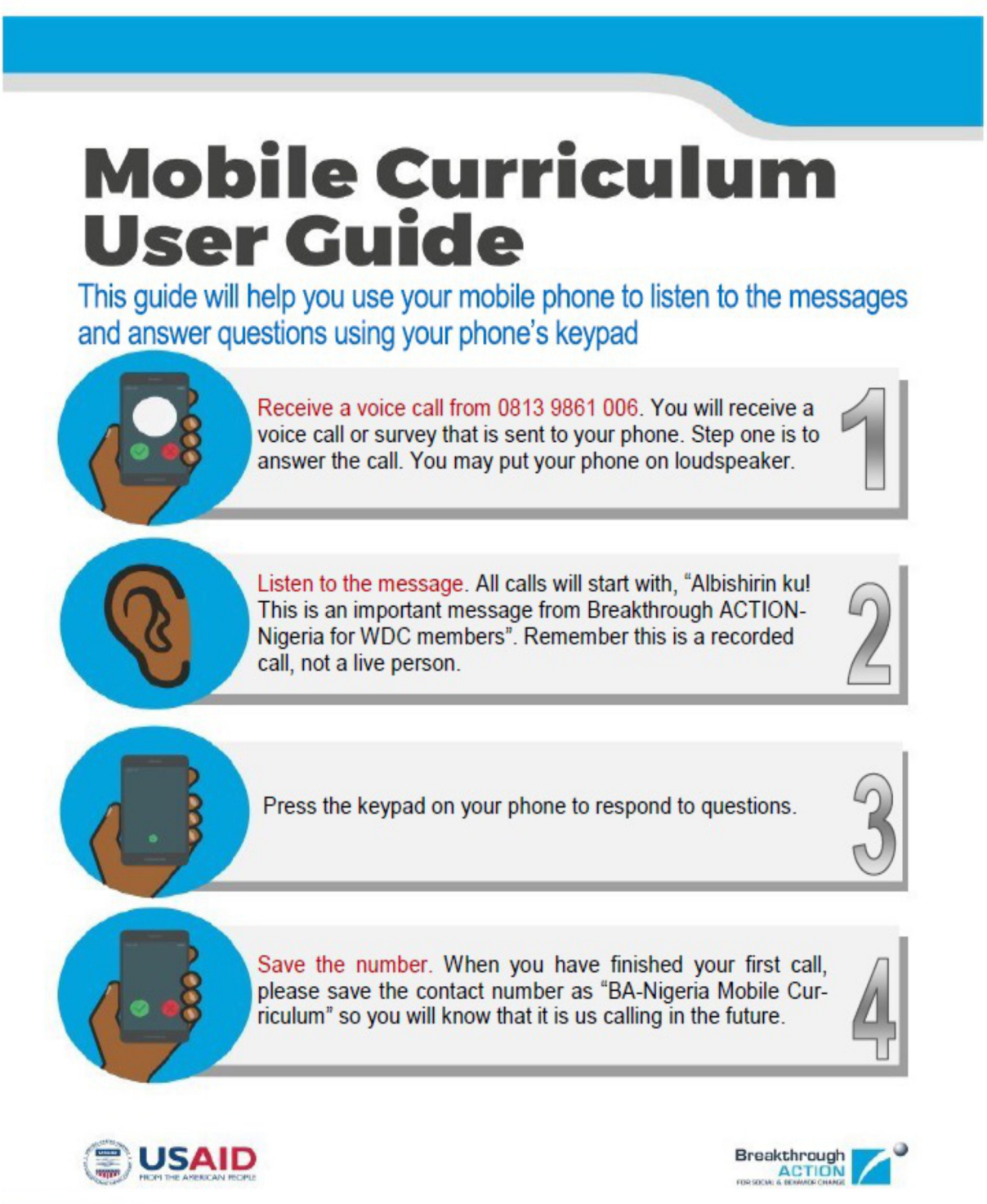


Figure 1: Digital Training (Mobile Curriculum) Guide

Training courses usually took place over two months. Individuals who were unable to complete training during that time could flash the training phone number for a call back at their convenience. Project staff followed up with participants who did not regularly participate to learn the cause. A lack of participation was usually due to missing phones, phone number changes, shared phones, or network problems. The project provided support so participants could complete the training.

To monitor knowledge change and information retention, the project analyzed results from quizzes and questionnaires after training was complete.

The I-SBC and malaria trainings were designed so that participants completed one lesson before moving on to the next, which made it easy to calculate knowledge retention and change. The high completion rate recorded could be attributed to the monthly stipend provided by the project. The state I-SBC and malaria teams also provided ongoing coordination and sensitization of the CVs and local government area (LGA) supervisors.

Malaria Digital Training

The malaria digital training was organized in two phases for CVs and LGA supervisors. Phase 1 was a pretest among 88 participants in Akwa Ibom, Benue, Oyo, Nasarawa, and Zamfara States in September 2020. Phase 2 took place from July to December 2022 for 803 CVs and LGA supervisors in Akwa Ibom, Benue, Cross River, Nasarawa, Oyo, Plateau, and Zamfara. The training, including associated quizzes, covered malaria danger signs, appropriate malaria treatment, methods of preventing malaria, and the benefits of preventing malaria.

87%
of participants completed Phase 1

80%
of participants completed Phase 2

Baseline and end-line surveys showed an overall change in knowledge of

2%
for Phase 1

5%
for Phase 2

I-SBC Digital Training

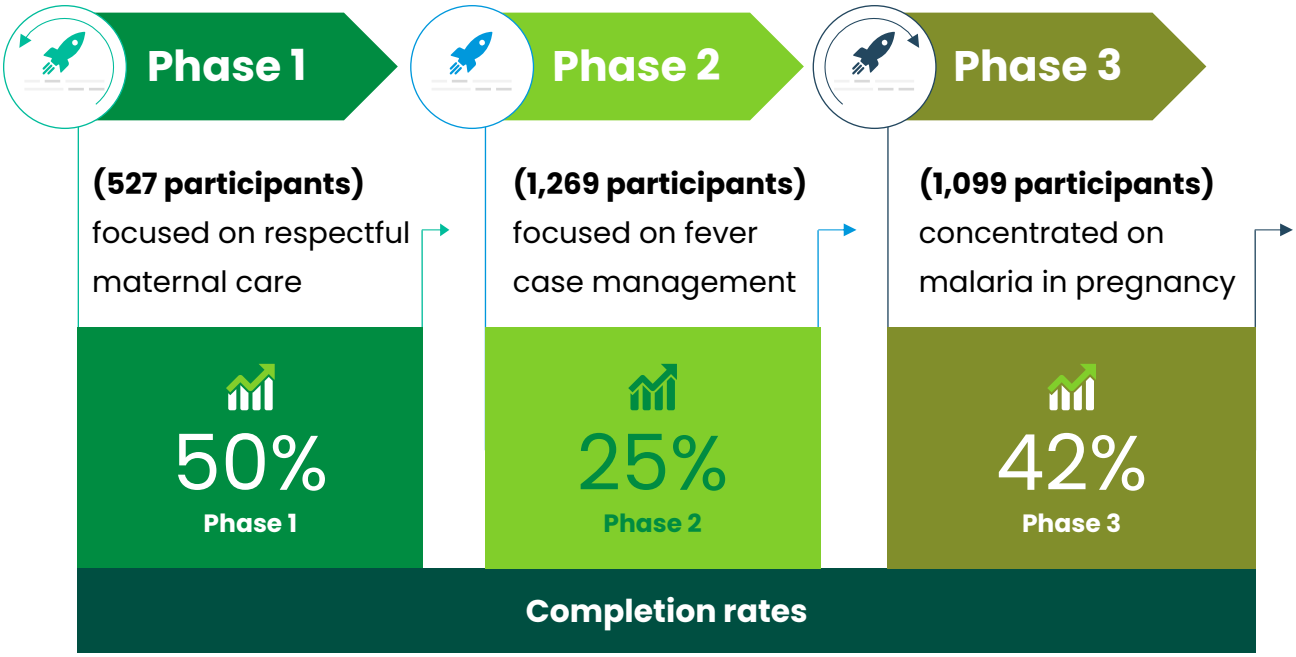
The I-SBC training began in July 2021 and was implemented over four phases among CVs and LGA supervisors in Bauchi, Ebonyi, Kebbi, and Sokoto States and in the Federal Capital Territory (FCT). The training complemented in-person training on life stages, malaria in pregnancy, and spousal communication, among other topics.

Table 1: Summary of I-SBC Training Participation

	Phase I	Phase II	Phase III	Phase IV
Number of participants	931	1,772	1,626	1,684
Completion rate	60%	80%	80%	84%
The overall change in knowledge	13%	15%	4%	16%

Provider Behavior Change Digital Training

A digital training was also conducted for health care providers, to complement in-person trainings, beginning in July 2022.



WDC Digital Curriculum

Between January and February 2022, 417 WDC members in Bauchi, Kebbi, and Sokoto States participated in mobile training. This first phase focused on community exploration, planning, acting together, using local resources, and monitoring community action plans. The completion rate was 70%, and knowledge scores increased by 2%. Between May and September 2023, 1,918 WDC members in Bauchi, Ebonyi, Kebbi, and Sokoto States and the FCT participated in Phase 2 training. The completion rate was 30% and knowledge scores increased by 1%.

In Phase 1 training participants had to complete a lesson before proceeding to the next. In Phase 2, participants could proceed without completing the previous session. Training for WDCs was not mandatory, which may explain the lower completion rate for Phase 2.

TB Digital Training

The digital TB training was the largest course, covering all 36 states in Nigeria and the FCT, reaching PPMVs in all those states as a stand-alone training. Training started in February 2022 and targeted 17,619 PPMVs, of which only 10,416 were active. Given that the database was large and not within Breakthrough ACTION-Nigeria's operational areas, the project was unable to sensitize participants prior to training. The training covered TB transmission, signs and symptoms, and testing and treatment. Only 6% of participants who started completed the training.

Lessons Learned

Several lessons emerged from the project's 4-2-1 experience.

1. Regular meetings between program and digital teams to understand and address challenges, review results, and make adjustments contributed to increased completion rates from Phase I (60%) to Phase IV (84%) for the I-SBC course.

2. Completion rates were higher when participation was mandatory. For CVs, training completion was a requirement, so higher participation was recorded. For WDCs, participation could not be enforced, hence the lower completion rates.

3. Developing the training in a gamified format might increase concentration and reduce entry errors. Some participants needed help engaging with the training owing to low literacy and time constraints.

4. The call-back feature allowed participants to flash the class number for a call-back if they missed a session. However, this feature was not fully utilized. Regular prompts may be necessary to remind participants about the call-back function.

5. For some training courses, participants were allowed to move to the next lesson without completing the previous one, making it difficult to track changes in knowledge. In the future, a lesson should be completed before moving on.

6. The large number of participants in the TB training made it difficult to deliver calls to all participants in the time allotted. To cover a wide area, training could be delivered in phases.

7. The length of the training should be limited to a maximum of 10 questions, three multiple choice answers, five minutes of audio, and no more than seven lessons per phase to ensure retention.

8. Correct answers to baseline and end-line questions should be shared when participants get them wrong. This feedback will further participants' learning.

9. Needs assessments could help focus content on knowledge gaps. CV training led to little knowledge change, yet CVs sometimes did not hold values or knowledge (such as gender equality and basic nutrition) needed to do their jobs.