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Maternal and Child
Survival Program

HelloMama – Using Digital Health Platforms to Improve Health Outcomes for Pregnant Women and New Mothers in Nigeria

December 2018

www.mcsprogram.org

Background and Objectives

The Mobile Alliance for Maternal Action (MAMA)¹ is a global consortium focused on delivering vital health information to pregnant women, new mothers and their families by leveraging Short Messaging Services (SMS) text messaging and voice calls on mobile phones. In collaboration with Jhpiego, Pathfinder International and Prækelt Foundation, through the Maternal and Child Survival Program (MCSP) aims to improve health outcomes for pregnant women, newborns, children under one year of age, and their families in Nigeria via a mobile messaging platform, HelloMama, that complements the efforts of frontline health workers. HelloMama is locally led, planned for scale, and aligned with national health priorities, policies, and systems.

The MCSP Nigeria HelloMama Program has two broad objectives:

1. Establish an operational, nationally scalable platform at adequate coverage that makes age- and stage-based mobile messages available to the target population and links to existing health information systems.
2. Complement supply side maternal, newborn and child health (MNCH) interventions by improving knowledge and adoption of healthy and safe MNCH practices.



A new mother listens as her husband reads out her HelloMama message outlining postnatal care for her newborn. *Photo: Karen Kasmański*

Program Approaches and Interventions

Pregnant women and new mothers were enrolled in HelloMama at the health facility level during routine antenatal care (ANC) visits and deliveries. During enrollment, healthcare workers obtained consent and other vital data relating to a woman's pregnancy (such as last menstrual period). Each health worker used a mobile phone with a unique code for facility identification to register the woman's preference for timing of messages, days for receiving messages, and language. The woman can also enroll a person that she finds influential, such as a spouse or mother-in-law.

¹<http://www.mobilemamaalliance.org/>

After enrollment, the pregnant or recently delivered woman receives three short text messages or two voice messages weekly, depending on her stated preferences that will continue until a year after childbirth. Through an ‘age and stage’ model², the messages are tailored to the local setting, a low literacy population and correspond to what a woman is experiencing in her pregnancy or in her child’s development. This personalization creates a trusting relationship between the end user and the MAMA Service and can facilitate behavior change. The chosen influential person also receives one weekly call or message with corresponding information about the woman to encourage better appreciation and support for pregnant woman or new mothers to engage in healthcare behaviors.

HelloMama introduced a call back feature in 2018 that allows registered users to trigger a call back with their last scheduled message in the event that they miss their call or the call is interrupted. This has resulted in mothers and gatekeepers receiving more HelloMama messages vital to improving the health outcomes for pregnant women, newborns and families in Nigeria.

HelloMama was piloted in 47 selected facilities from October 2016 to May 2017 across Ebonyi and Cross River states³. HelloMama then expanded the pilot to a total of 142 facilities in March 2018. The platform reached 66% of all public facilities across both states and over 63,000 pregnant women, new mothers, and gatekeepers.

HelloMama was also designed for community enrollment to facilitate active referrals of pregnant women to facilities. This



A new mother shares her HelloMama message “Visit the health center at least 4 times during your pregnancy. The nurse will make sure all is well and pick up any problem. Take some water.” *Photo: Karen Kasmanski*

Feature was thought to increase demand for ANC services at community levels, leveraging on community volunteers, who would identify pregnant women not attending ANC and enroll them on the platform to receive a messages intended to facilitate their referral to a health facility to complete the HelloMama registration and enroll for ANC. While the platform was set up already for the community enrollment service, this feature was not able to implement this during the life of the project.

Program Interventions

- **Network Mapping and Survey Assessment:** The Consortium completed network mapping and survey assessment in 192 facilities across both states. The objective was to test the network strength within and around the designated facilities and also review the performance of the mobile operators at the facilities for full optimization of the deployed HelloMama services. This network mapping helped in the facility selection for the HelloMama interventions and guided the mobile network operators’ partnership for the program.
- **Content Development:** The consortium developed content and adapted the HelloMama messages in English, Pidgin and Igbo languages. HelloMama messages raised awareness amongst women on danger signs in pregnancy, newborn and infant care as well as reinforce positive health seeking behaviors leading to increased skill birth attendance and general wellbeing of pregnant women.
- **Capacity Building of Health Care Workers:** The consortium trained 319 health workers in MCSP and SMGL-supported facilities on registering women for HelloMama using a mobile device, collecting data, and reporting data. HelloMama also supported the trained health workers to further cascade the training to other health care workers through direct supportive supervision and mentoring. A monthly meeting was initiated to foster peer mentoring reviews and healthy competition among the health care workers with memorabilia for performance as incentives.
- **Supportive Supervision:** The Consortium involved the role of government in leading routine integrated supportive supervision identifying and resolving issues affecting uptake and delivery of HelloMama messages.

² The major stages of the human life cycle include pregnancy, infancy, the toddler years, childhood, puberty, older adolescence, adulthood, middle age, and the senior years.

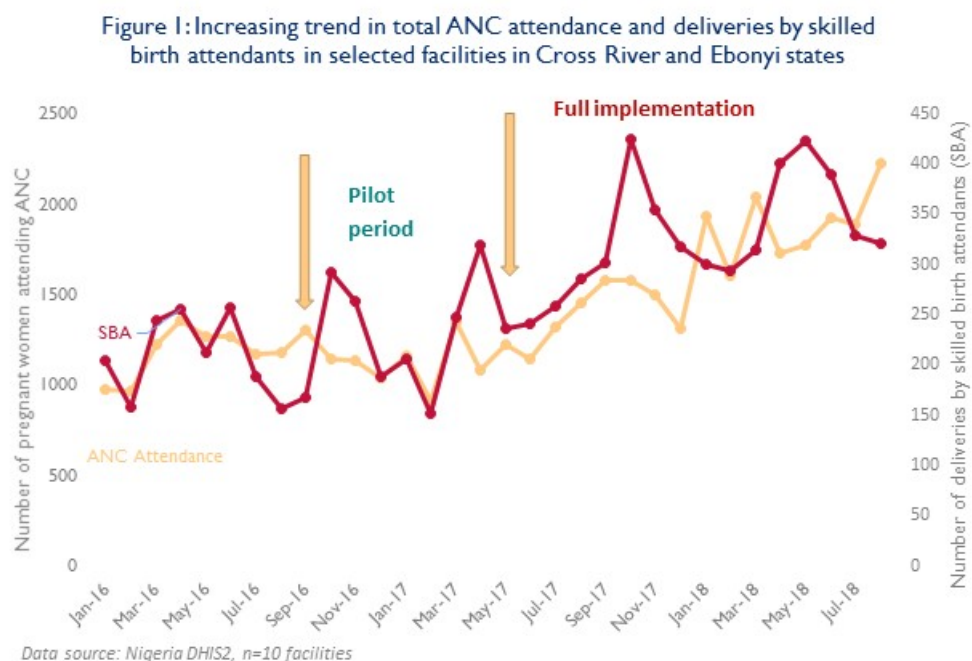
³ Ebonyi and Cross River were selected because they are USAID priority states, have state buy in and a high level of deliveries with maternal and newborn mortality and morbidity.

- **Government and Stakeholders Engagement:** The consortium strategically engaged both federal and state government towards state ownership of the intervention. The Consortium also influenced policies and resource mobilization through the adoption of the e-health policy and co-created a strategy for each state. The program continued to involve state actors in the transition plans to reinforce the principles behind the interventions, so that state stakeholders will have management and technical knowledge to implement, advocate for, and sustain digital health interventions in Nigeria.
- **HelloMama Promotional Materials:** The Consortium produced and provided memorabilia as well as information, education and communication (IEC) materials (e.g., posters, leaflets and job aids) to 142 facilities across Ebonyi and Cross River in order to sensitize beneficiaries to HelloMama services and aid health workers in the registration process. These materials boosted health worker morale and capacity with some memorabilia incentivizing the health workers.

Key achievements

- HelloMama was fully integrated into the four major mobile network operators in Nigeria, which allowed the Program and partners to deliver vital health information to more than 63,000 women and their influencers.
- HelloMama also achieved government adoption influencing national and sub national budget for e-health, through capacity development on project management and technical platform set up for messaging services at national and sub national levels including strategic engagement of stakeholders to influence governments 2019 budgets. Cross River State Ministry of Health, in addition to adopting the sustainability of digital health initiatives, committed over NGN 40 Million (\$110,000 USD) to sustain the cost of sending HelloMama SMS and voice messages in September 2018. These commitments and adoption by the Cross Rivers Ministry of Health demonstrate the improved capacity of the State Ministry of Health to manage and ensure the sustainability of HelloMama technology and program implementation to their constituents.
- HelloMama sent over 5,900,000 messages via SMS text and the outbound dialer (OBD) system to 63015 pregnant women, new mothers and gatekeepers.
- Data from Nigeria’s health information management system, DHIS2, suggest that these messages have facilitated increased uptake of essential services including ANC attendance (Figure 1), deliveries by skilled birth attendants (Figure 2), and number of children fully immunized (not shown) in selected HelloMama supported sites.

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- HelloMama developed dashboards to foster program management for decision making at project and state levels. The dashboards are supporting government ownership of digital health programming through training and mentorship to help decision makers implement informed, impactful programs.
- HelloMama is now popularly known as the “phone doctor” amongst health workers and beneficiaries as a result of the HelloMama messaging which complements counseling and services provided by health workers during ANC visits.

Findings

Lessons Learned

- The use of local hosting and aggregator service providers to integrate with all the major mobile networks operators took longer than expected due to inadequate infrastructure and technology incompatibility⁴. It’s important to make an assessment of local vendors and select the most appropriate for the technology. It is important to acknowledge that it may take higher level conversations to develop relations with vendors and mobile network operators.
- There were several downtimes, re-configurations and frequent service disruptions due to bugs and glitches which affected messaging. Setting realistic expectations about the time and coordination required to get a program like HelloMama up and running will lead to smoother implementation.
- No budgetary provision for digital health in state health budgets made it difficult for state to plan for digital health innovations such as HelloMama. This was addressed through capacity building and stakeholders’ engagement at the local level, developing a state e-health strategy and impressing on government the need to effectively coordinate and provide resources for digital health initiatives for universal health coverage. Moving forward programs should advocate early for budgetary provisions at the state level that can sustain initiatives.
- Digital health initiatives requires onsite field support and continuous engagement of health workers, technology partners and beneficiaries for adoption within the broader health systems as well as facilitate positive user experience and desired outcomes.
- Partnership and collaboration aligned under a government strategic digital health goal is critical to broaden the horizon for sustainable digital health and improve RMNCH outcomes. Government buy in and a national coordination mechanism to allocate and manage resource across partners is key to sustainability of HelloMama and future digital health initiatives.
- Policies or legislation that do not incentivize information and communication technology (ICT) service providers to provide discounted services for health deployment can jeopardize investment in digital health, including limiting scale-out for digital health initiatives already ongoing.

Next steps

- Ebonyi and Cross River state governments have pledged, in their 2019 state budgets, to continue providing HelloMama health messages to pregnant and recently delivered women as well as to support other digital health initiatives.
- National and state level Ministry of Health are developing a detailed implementation road map to guide future programs in Nigeria on implementing IVR voice and SMS text messaging systems.
- HelloMama team is developing a telegram bot that will act as an app for providers to send pregnant women existing HelloMama text-based messages. By using this bot, providers will be able to continue to reach pregnant and recently delivered women with maternal and newborn care messages beyond the life of the program.

⁴ Adequate technology would be more consumer-centered and reliable. Currently, telecoms infrastructure is centered around urban and peri-urban areas and does not adequately cover the entire country.