MOBILE TECHNOLOGY FOR COMMUNITY HEALTH

The USAID Mikolo Project

increases access to and availability of community-based primary health care services, especially for women of reproductive age, children under age five, and infants living in remote areas in Madagascar. The five-year project specifically focuses on reproductive health; family planning; maternal, newborn, and child health; and malaria prevention and care. It serves an estimated 4.6 million people who live more than five kilometers from a health facility in 8 of Madagascar's 22 regions, 42 districts, and 506 communes.

The USAID Mikolo Project supports the Ministry of Public Health by training and supporting community health volunteers to support a continuum of care under the supervision of the local health center. The community-based delivery of the service package they offer is endorsed by the World Health Organization and has been shown to be an effective way to address shortages of human resources without compromising the quality of care.
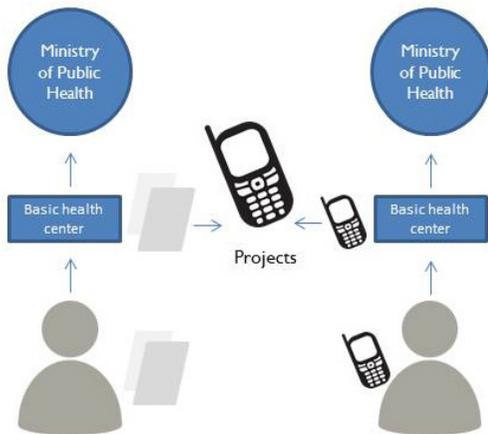
Figure 3: The tailored mHealth application eases reporting for CHVs and will replace the paper-based system.

Cover photo by Samy Rakotoniaina

Figure 4: The mHealth initiative is being carried out in tThe mHealth initiative is being carried out in five districts of the Analamanga (pink) and Atsinanana (blue) regions.

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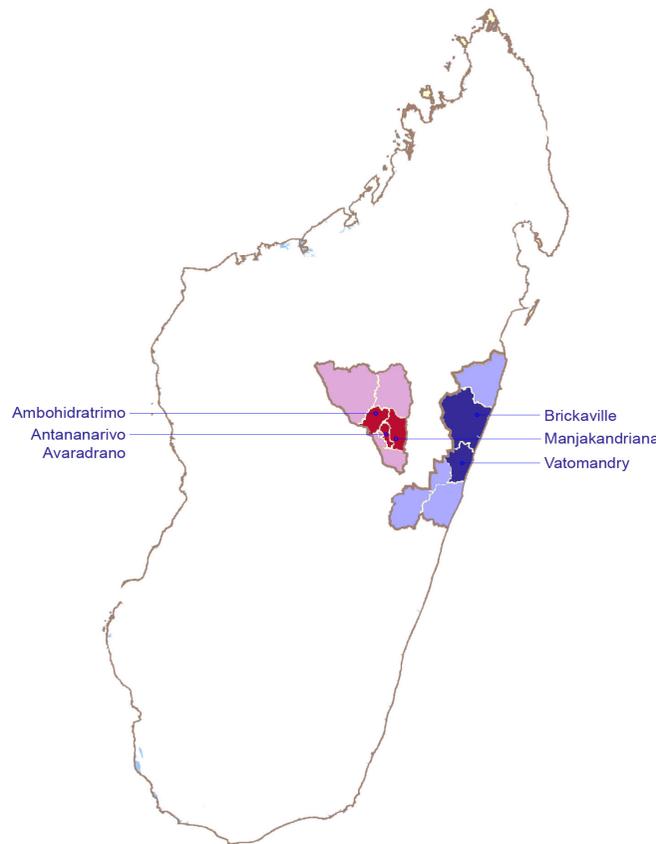
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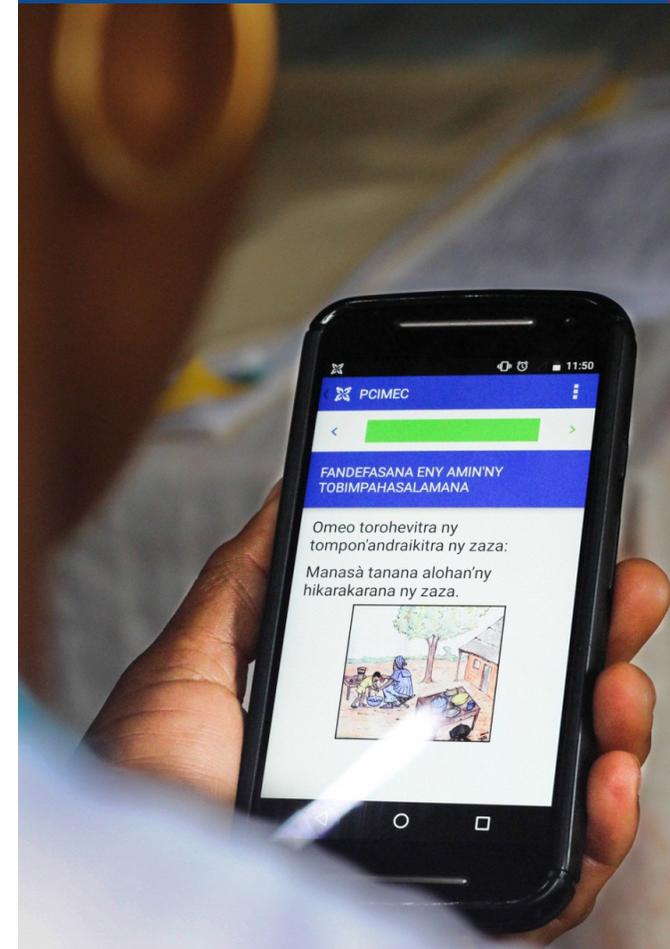
If successful, the mHealth application would greatly improve data accuracy and service quality and encourage data-based decision-making by local health officials, with data going directly to health centers, the Ministry of Public Health, and USAID Mikolo in real time. It would help advance development technology and innovations for the Ministry and for all current and future health programs in Madagascar.

WHO?

The USAID Mikolo Project in Madagascar is supporting the Ministry of Public Health to implement the mHealth pilot project.

WHAT?

To improve quality of service provision and data accuracy and timeliness, USAID Mikolo is introducing mobile technology to replace paper-based tools used by community health volunteers (CHVs). Working alongside the Ministry of Public Health and other partners, the project has developed a smartphone application that CHVs will use to manage their health services and record-keeping and disseminate information.

The mobile health (mHealth) application can also send messages to CHVs with reminders about key health information, upcoming health campaigns, or events.

The initiative is designed to contribute to Madagascar's 2016–2019 National Strategy for Cyber-health, which aims to improve health service delivery to clients and improve the quality of and access to data.

WHERE?

A pilot phase for 50 initial users is being rolled out in 2017 in the Analamanga and Atsinanana regions (Figures 1 and 4). These areas and users were selected based on geographic accessibility, mobile/Internet connectivity, and CHV competency to roll out new technology.

HOW?

The CHVs will enter the biographical information of patients into the application to set up personal medical records (Figure 2). The application will guide the CHVs through proper diagnosis and treatment, while simultaneously capturing the patient data. Currently, this is all done using paper forms. The CHVs will be able to use

Analysis and refinement of needs	Technical development	Preparation of pilot	Pilot	Scale up
- Prospection visit by provider - Transcription of technical specifications - Commitment of stakeholders and finalization of strategy	- Technical development of the prototype - Translation into Malagasy - Internal test - Identification of zones, users, pilot trainers	- Design of pilot phase - Logistical preparation	- Pilot training of 50 users in two regions - Monitoring and evaluation of pilot	- Refinement of scale-up plan - First deployment to 500 additional users by end of 2017
June-Nov 2016	Nov 2016-Jan 2017	Feb-March 2017	Apr-Sept 2017	After Oct 2017

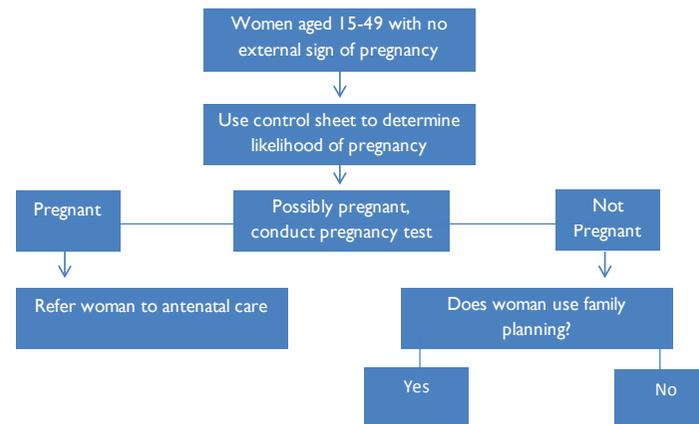*Figure 1: Phases of the mHealth initiative*

Figure 2: Part of the health service algorithm approved by the Ministry of Public Health – case management of women. The mHealth application will fully follow the sequence of pregnancy-related questions to be asked and messages to be delivered.

the mHealth application offline, securely storing data on the smartphone until the phone can connect to a cellular network to automatically upload client record updates into secure cloud storage (Figure 3).

WHY?

As Madagascar moves to an electronic health information system, it will be important to have one approach to mHealth for optimal efficiency. This particular application is one model that could be used but it is necessary to carry out this small-scale pilot to see if CHVs are able to use such mHealth applications easily. If successful, it would greatly improve data accuracy and service quality and encourage data-based decision-making by local health officials, with data going immediately to health centers, the Ministry of Public Health, and USAID Mikolo. It will advance development technology and innovations for the Ministry of Public Health and for all current and future health programs in Madagascar.

The mHealth approach will also enhance the quality of CHV services, which are the foundation of the health pyramid. At the community level, the tailored mHealth application eases the reporting workflow for CHVs and will replace the paper-based system (Figure 3). In addition, heads of health centers will be able to monitor community health data from the CHVs under their supervision.

WHAT NEXT?

USAID Mikolo developed a system to monitor and evaluate implementation and results of the pilot phase to capture best practices and lessons learned to improve the application design and training approach before the mHealth application is rolled out to an additional 500 users later in 2017.