



“Texting for Maternal Wellbeing”

Use of mobile phones by CHWs to offer family planning services

Context and Justification

Despite efforts by the Beninese government and its partners, reductions in the maternal mortality ratio are still quite tentative, and contraceptive prevalence remains very low. The contraceptive prevalence rate is particularly low in one of the health zones of the PRISE-C Project, a USAID-funded child survival project implemented by the Center for Human Services (CHS). Working in three health zones, PRISE-C engages primarily with community health workers (CHWs) to improve community maternal and child health. The health zone of AZT (located in the Atlantique Department in Benin) has the lowest prevalence in its department for family planning; the rates are particularly low in the communes of Toffo (0.06%) and Zè (0.2%), compared to 0.48% in Allada. The “Texting for Maternal Wellbeing” activity is funded by Dimagi through the CORE Group, and was integrated into the PRISE-C project. The activity aims to develop and test a mobile health (mhealth) application for CHWs and health workers to improve contraceptive prevalence in Toffo and Zè.

Development and Implementation of the Application

Pre-development and implementation planning

The activities began with a working session at the Toffo commune health



A community health worker (right) shares family planning counseling messages with her clients using a mobile phone application

center (CHC), bringing together PRISE-C staff and community leaders from the zone. During this session, it was decided to only work with female CHWs due to the sensitivity of the family planning subject matter, which is often considered taboo in Beninese households. Seven female CHWs—four from Toffo and three from Zè—along with the Toffo CHC midwife and the Koundokpoé CHC nurse were selected to participate in the activities. Each one received a cell phone, the Nokia C2-01. PRISE-C staff also has a

phone in order to monitor the activity from its office. All the phones are connected to the Internet using General Packet Radio Service (GPRS), which is currently the most modern technology available for mobile data. The 10 phones were equipped with data SIM cards, which are strictly reserved for sending data via the GPRS through a network chosen for its good coverage throughout the country. These phones also have a memory card which stores the application and multimedia files.

The application was based on Dimagi's Commcare, an easy-to-configure data management and work flow application, with functionality for both data collection and case management. Commcare can adapt traditional health communication tools (visual aids, counseling cards, etc.) with the possibility of adding additional pictures and audio or video illustrations, as needed. Another useful feature allows for automatic data recovery in close to real time after the user has completed data entry. The application developed under PRISE-C can be used on cellular phones, Android, tablets or Smartphones.

Design and Development of the Application

The application design began with development of algorithms, identification and selection of images and the recording of audio messages to accompany each of the selected images. PRISE-C's application primarily used images from the family planning counseling tool kit, designed by the Ministry of Health. Images from this tool kit were scanned and processed for inclusion in the application. The messages contained in the tool kit were then translated into local language, Fon, and audio taped. Two slightly different applications, one for CHWs and the other for health workers, were developed.

The application for community health workers is comprised of the following modules:

- **Registration**, which enables the CHW to register women as FP clients.
- **Advice** is used for counseling clients, using a combination of images and audio messages in the local language.
- **Choosing a method** registers the specific method chosen by the client after counseling.
- **Monitoring FP methods** allows for recording of possible side effects noted by clients after the adoption of a method.
- **Product sales** helps CHWs record any FP products that they sell.



Images from the MOH family planning counseling toolkit were adapted for the mhealth application

“Since the CHWs have begun this work with the phone, there has been greater demand for adopting an FP method.”

The application for health workers is comprised of the following modules:

- **Registration** registers clients who have come directly to the center without seeing a CHW.
- **Advice** provides family planning counseling messages for clients.
- **Choosing a method** registers the specific method chosen by the client after counseling. A check for the client's eligibility is included.
- **Monitoring FP methods** ensures monitoring by recording possible side effects noted by clients, their case management and the referral center, in case of complications.

Monitoring of the Application

Monitoring of activities is primarily carried out by the PRISE-C team in collaboration with the health workers. All user data is contained on the platform, regularly verified and analyzed, and any possible inconsistencies are identified, marked and reported back to the users in order to minimize future errors. After a health worker runs a module, the application automatically sends the data via the GPRS network on the platform. Thus, the data are accessible via the Internet, no matter where or when, which facilitates close monitoring and evaluation of activities. Monthly in-person visits are made to health facilities



CHWs and health workers were trained on how to use the mhealth application

where the data are verified using the FP register. CHW monitoring is done through observation of the CHW's case management after which specific feedback is provided.

Pre-testing and Training for Roll-out

A pilot version of the application was developed by a Dimagi technical team in collaboration with PRISE-C staff. Intended users of the application received a briefing on how to use the phone and the various modules of the first version of the application. Users were then divided into two groups, supervised by a joint PRISE-C and Dimagi team. These groups were sent into two different villages in Toffo to pre-test the applications. This pretesting exercise allowed the team to improve certain issues; in particular, the pictures and some audio messages did not sound or appear clear to the clients. A few days later, the users received a full training on family planning essentials as well as the updated modules of mhealth applications. A goal of using the application with four clients per week was set for each CHW. CHWs started using the application in February 2013.

Key Results

Between February and May 2013, 264 clients received FP counseling using the mobile application in the seven villages.

225 women had an FP session with the 7 CHWs. Of these women, 72 came to the health center to meet with the health worker, and 68 adopted an FP method.

During the same period, only 39 came directly to the center for family planning counseling and, of this number, 31 adopted an FP method. It was noted that clients prefer the implants to other methods, or 75% versus 19% for injectables and 6% for intrauterine devices.

The testimonial from a midwife from the Toffo Health Facility clearly illustrates these results:

“Since the CHWs have begun this work with the phone, there has been greater demand for adopting an FP method.

Figure 1. Percentage of women who adopted an FP method by source of counseling, Feb-May 2013

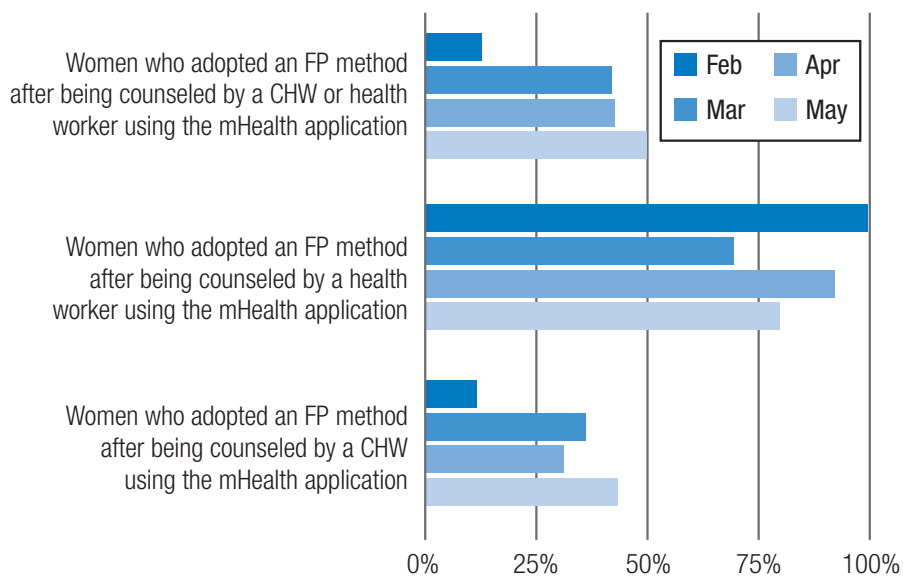
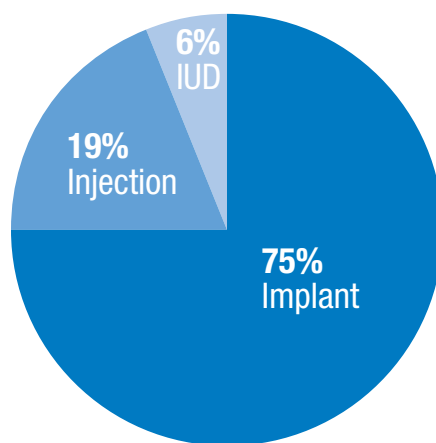


Figure 2. Methods chosen by clients initiating FP after counseling by a CHW using mhealth application, Feb-May 2013



I know it because since the women have been coming, they say that they met the CHW, who told them about FP and asked them to come to the center to see the midwife.”

Lessons Learned

Despite limited resources and a relatively short implementation period this activity demonstrated a number of indispensable lessons and teachings that can be applied for scaling-up.

Use of Data SIM Cards in Phones

The use of data SIM cards was extremely useful as they only allow the CHW to use the phone to enter activity data and do not allow phone calls. This helped save significantly on the cost of phone credit.

Creation of Counseling Images Adapted to the Specific Phone Used

It is important to create images that are adapted to the screen format on the specific phone used in the activity in order to ensure the quality and clarity of these images in the applications. Mrs. Adékambi, the community health worker from the village of Aifa which participated in the pilot, commented on this.

“When clients see the pictures and hear the voice on the phone that explains these images, we CHWs only have to add in a few details. This helps them quickly understand the various topics. Only, in the future, if we could make the photos in the phone a bit bigger, that would help us a lot.”

Accessibility of FP Products for the Community

The cost of FP products is too high for the community and poses a barrier to adopting FP methods. Even though



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Opportunities

The future applications of this technology are numerous and varied:

- The technology can easily be applied to other components of the CHWs' work, for example, case management or education sessions on hand-washing, malaria prevention, or other topics. Mrs. Adékambi also wishes to see this technology rapidly expand to these various topics, saying "For the moment, the phone is strictly reserved for family planning. If we could extend mobile technology to other domains such as case management, educational sessions, hand-washing, using LLINs, etc. and the images and audio messages, with everything in the phone on these different topics that we work with would be really interesting and would advance our work. And we'd be happy about our work so that clients will be even more satisfied with our work."
- The application addresses many of the challenges related to data timeliness and completeness, and is therefore an ideal tool for the monitoring and evaluation of health projects.

The CHW from Aifa gives family planning counseling using the mhealth application

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clients have been enrolled by the CHW and decided to adopt a method, some do not come to the health center because they believe the products are too expensive. A subsidy for FP products would be a major step towards increasing the adoption of FP methods.

Managing rumors about FP through an mhealth module

Rumors about side effects and other aspects of FP are a major barrier to clients' uptake of FP products. A special mhealth module addressing these rumors could help dissipate them and lead to increased adoption of FP methods.

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