Using Mobile Health Applications to Improve Family Planning Services

Implementing partners: D-tree International; Pathfinder International
Project location: Tanzania—Shinyanga region

Grant amount: $100,000
Timeline: April 28, 2014 – April 27, 2015

EARLY   MIDPOINT   **ENDPOINT**

The Problem

Use of family planning in rural Tanzania is low—in the Shinyanga region, where this project is implemented, only 12.5 percent of married women of reproductive age were using a contraceptive method in 2010. Factors contributing to low contraceptive use include limited access and poor service quality—health facilities in remote areas are difficult to reach and rarely provide client-centered care. To improve access, the government and other stakeholders have mobilized community health workers (CHWs) to deliver family planning services directly to clients' homes. However, ensuring quality is a challenge, given that family planning counseling is a complex process that requires CHWs to collect detailed information on client needs and provide customized guidance.

The Solution

D-tree International, in partnership with Pathfinder International and the Ministry of Health, aims to improve the accessibility and quality of family planning services in the Shinyanga region. To increase access to family planning information and services, the program incentivizes CHWs to conduct widespread and regular client outreach. To improve the quality of family planning counseling, D-tree has developed a mobile phone application for CHWs that facilitates the sharing of comprehensive, accurate information on contraceptive methods, selection of a suitable method, and scheduling of time-appropriate follow-up visits. D-tree also aims to leverage CHW-client interactions—and the mobile application—to collect client feedback on the quality of care at the facility level. The goal is to use these data to urge government officials to address access and quality gaps related to family planning.

The Strategy

- **Develop a mobile health application that**:
  —**Guides CHWs as they counsel family planning clients**. Using algorithms, the mobile application prompts CHWs to (1) ask questions to assess a client's reproductive health needs, (2) provide information on contraceptive methods that meet these needs, and (3) offer the selected method, if possible, or provide a facility referral. Based on the method chosen, the application identifies when follow-up visits should occur and prompts the CHW to schedule these visits. It also guides the CHW through follow-up visits and the process of assessing client satisfaction with the selected method, providing refills or a new method, and checking on completion of referrals.
  —**Collects feedback on quality of care**. For clients referred to a health facility, the application prompts the CHW to administer a "Citizen Report Card" module, which asks questions about the quality of family planning services at the facility. Questions focus on whether clients received the care they sought, had to pay for services, were treated with respect, and more.

- **Train CHWs on how to use the mobile application**. 120 CHWs were trained to use the mobile application to register new clients, help them select a contraceptive method, and conduct follow-up visits. D-tree and Pathfinder also trained "CHW Champions" to mentor newly trained CHWs in the field (and have developed a simple application to guide these mentoring visits).

- **Implement a pay-for-performance system to incentivize CHWs to register and follow up with clients**. The project set two monthly targets for CHWs: (1) registration of 10 new clients, and (2) completion of at least 75 percent of scheduled follow-up visits. CHWs received $2 for reaching each monthly target, in addition to a monthly stipend of approximately $10.

- **Use data to call the government's attention to areas that need improvement**. Pathfinder has discussed the data from the mobile application with district and local officials to provide insight into how they might support family planning initiatives. Eventually, Citizen Report Card data will also be shared to identify issues that need policy and programming action.

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Achievements

The mobile application has improved CHW workflow and perceived quality of family planning services. The mobile application helps CHWs follow the correct workflow while counseling clients. Clients are also more likely to view the CHWs using the mobile phone for counseling as experts, and to be more receptive to their advice.

"Using the phone to provide family planning services is best because it helps you to remember every question you're supposed to ask the client. When we were using paper, we had to memorize almost everything in our heads, and would often forget things." — A family planning CHW

Client registration and follow-up increased greatly after the intervention was introduced. CHWs participating in the program had been using paper-based counseling tools for two years before the intervention. After they were offered the mobile application and the related financial incentives, monthly registrations increased 5-fold, and follow-up visits increased 15-fold. D-tree is in the process of integrating this intervention into its other community health worker programs.

Ninety-five percent of clients used contraceptive methods throughout the project period. Data show that only 286 of 6,092 clients discontinued a contraceptive method during the implementation period. Ninety-four percent reported satisfaction with the selected method at every follow-up visit.

Challenges

Stigma surrounding family planning limited outreach to potential clients. Registration of women under the age of 24 has been low, with unmarried clients especially reluctant to discuss family planning because it may indicate to others that they are sexually active. Outreach is particularly challenging for male CHWs, who may encounter hostility from male spouses when providing family planning information to female clients.

Citizen Report Card data were subject to response bias. D-tree and Pathfinder conducted extensive fieldwork to understand how to word survey questions to maximize the objectivity of responses. However, analysis revealed substantial positive bias—the satisfaction levels captured by the module conflicted with reports from health workers and clients about poor quality of care at facilities. D-tree plans to delay sharing Citizen Report Card information with the government until data validity can be increased.

ABOUT THE GRANTEE AND PARTNERS

D-tree International specializes in using mobile technology to improve health care access and quality in low-income countries. Founded in 2004 by its president, Dr. Marc Mitchell, D-tree has focused its work in Tanzania and Malawi on developing and rolling out electronic support tools for community health workers in the areas of child health and nutrition, antenatal and post-natal care, family planning, emergency obstetric care, HIV, tuberculosis, and chronic care.

Pathfinder International aims to improve sexual and reproductive health around the world. It partners with local governments, communities, and health systems in developing countries to remove barriers to critical sexual and reproductive health services. In 2011, D-tree, Pathfinder, and FHI 360 developed an application for basic mobile phones to guide community health workers conducting family planning-related home visits. This project builds on that effort.

Key Learnings

- **mHealth tools can be designed to preempt common technology-related challenges in low-resource settings**. The application has an auto-synch function that automatically transfers data to a central server any time the phone has network coverage. There is no need for CHWs to manually synch data, which might require multiple attempts in low-connectivity areas.

- **Technical support and oversight provided by project staff made CHWs more comfortable with the technology and increased their motivation to perform well**. D-tree and Pathfinder conducted a multi-day training with health workers, as well as weekly feedback calls. Program staff also trained CHW Champions to observe home visits and provide in-person input. This ongoing support signaled to CHWs that their work was valued, which helped increase their motivation.

- **Customized applications for supervisors can improve the quality of supervision**. D-tree planned to have supervisors provide electronic updates on contraceptive stock levels to health workers. Program staff realized, however, that while this would be useful, a customized application for supervisors would facilitate more effective management and oversight. It would allow supervisors to increase interaction with CHWs, view CHW performance data, and receive aggregated data for government reports.

Next Steps

- **The project will continue for one more year with funding from another source**. D-tree and Pathfinder will train an additional 120 CHWs in the Shinyanga region on the mobile application. They will also develop a separate application for supervisors to track and use CHW performance data and Citizen Report Card results.

Tanzania

Shinyanga Region

Dodoma (Capital)