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CRS SENEGAL mHEALTH PILOT

IMPLEMENTATION DATE: April 2013 to April 2014

Using mobile phones to improve diarrhea case management for children under five

Across four community health projects, Catholic Relief Services (CRS) Senegal directly works with 2,139 unofficial community health workers (CHWs), and through this work identified a challenge in ensuring quality and timely data collection, reporting, and effective health messaging/sensitization. Specifically, CHWs are delayed in transmitting important information at the health hut level to the health post or CRS staff, lack proper documentation of available and expired medicine, and delay communication on important health information until the end of the month when information from daily consultation is compiled.

Furthermore, data analysis from the health huts is analyzed quarterly, often when trends such as high malaria rates have already occurred and timely messaging or response is subsequently late and ineffective. The current paper reporting system does not allow for timely community sensitization and responses regarding increases in illness.

About CRS Senegal's mHealth Pilot

To respond to this need, CRS and CommCare jointly developed a real-time cell-phone and web-based application that was used by CHWs in a pilot program to manage child diarrhea cases. By testing mobile phone and database applications, CRS and the community health team aimed to have access to real-time data focused on precise numbers and illness trends at the community level facilitated by a cell phone application. The app could provide appropriate messaging and steps for CHWs to increase the quality of

health services or reference to the next level health post. The approach would also allow district health authorities at the health post level to take appropriate and quick decisions and reinforce CHWs to educate the community on health concerns. The app that was developed was able to collect data that is accessible via a central database, trigger referrals, and transmit key behavior change messages to mothers through pictures and voice recordings in local languages.

Furthermore, the pilot supported the Government of Senegal's Ministry of Health and Social Action objectives within an ongoing five-year community health program (PSSC II) funded by the US Agency for International Development to target 10 CHWs based in 10 health huts in the Diourbel Health District to increase quality health care and services at the first point of contact for health services. The program further aligned with the national strategy by contributing towards: 1) an emphasis on improved care and case management at community level; 2) building the technical capacity of CHWs; 3) reducing infant diarrhea cases, which will lead to reduction in malnutrition and deaths in children under the age of five; and 4) increasing health professionals' ability to conduct timely data analysis in order to identify timing, trends, and drug stock-outs, and strengthen the impact of integrated management of childhood illness.

Evaluation and Results

The pilot allowed CRS to test the integration of technology and an approach that has the ability to change the way CRS Senegal collects and analyzes data and subsequently allows for timely and higher quality health responses. The cell phone application also has the ability to directly impact the quality of service offered by CHWs by providing consistent and uniform guiding questions, reminders and key messages to reinforce with beneficiaries. Project success was measured by two key indicators: 1) number of timely and complete monthly reports from health huts; and 2) reduction of time between identification of significant trends and response (community message, campaign, increase of medicine supply, and expiration of medicine). At the end of the pilot, CHWs reported that there was an overall increase in the completeness and timeliness of reports and that the use of mobile phones to collect and transmit data did, in fact, reduce information transmission delays (data that was once only available monthly or quarterly was suddenly available in real time), eliminate the need to travel every month to collect information and prepare reports, and serve as a very user-friendly platform that was very easy to master and maintain. Additional findings demonstrated that in addition to transmitting real-time data, the mobile application also improved the proper management of cases and facilitated interpersonal communication and counseling to caregivers. Without a doubt, the tool allowed for rapid data analysis by a variety of decision-makers. Other positive, but unintended results demonstrated that the use of the mobile technology elevated the status of CHWs within communities and increased the perception of improved health outcomes on the part of community members.

Lessons Learned

- **Ensure consistency of messages.** The ability to play a recorded message in the local language helped to ensure beneficiaries were receiving the exact same messages related to promoted behaviors, such as identifying warning signs of diarrhea and treating it.
- **No availability of electrical power charging points.** Because most of the health huts did not have access to electricity throughout the day (long-lasting power cuts), the health workers had to travel to the nearest Poste de Santé to have their phones recharged. Future design should consider solar charger devices.
- **Ensure that merit is recognized and showcased.** Openly recognize CHWs that are submitting their data regularly and are encouraging others to do the same. The project can purchase airtime for a health worker's personal cell phone as an incentive to encourage continuous submission of data for the next six months.
- **Provision for spare devices.** The project team should have a contingency plan for devices in case of needed repairs or replacements.

Conclusion

The second phase of the larger community health program requires integrating and establishing a larger number of health hut sites as well as the integration of new services in the current health package. The majority of activities in the second phase include strengthening quality standards and sustainability of the health hut system to be integrated into the formal health sector under the health post. CRS presented the methodology, progress, and results of its CommCare pilot to other members of the PSSC II consortium and offered exchange visits. In addition, as the local implementing partner is the Government Health District, CRS worked closely with regional government authorities to ensure understanding and implementation of the approach for future replication. The application also allows for direct timely communication by integrating technology at the community level and for reporting serious health cases to the health post. Based on results, best practices and lesson learned, CRS will continue to support integration of this approach in other health districts and programs. ■

Geographic Coverage: Diourbel, Senegal

Implementation Partner: Catholic Relief Services

Donor: Dimagi, Catholic Relief Services

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