

INTERACTIVE ALERTS

Improving vaccine coverage through small incentives

An estimated 17% of the 8.8 million deaths worldwide each year in children under five are attributed to vaccine-preventable illnesses. Despite major immunization coverage efforts through Pakistan's Expanded Program on Immunization (EPI), low rates of uptake and delayed immunization leave children vulnerable to diseases that are vaccine-preventable. Provinces report full immunization coverage rates from 40% to 80%. Additionally, there are limited data identifying whether vaccines were administered at age-appropriate times during infancy.

Through education and small incentives, Interactive Research & Development (IRD) hopes to decrease the burden of vaccine-preventable diseases by increasing the immunization coverage and timeliness among Pakistani children. IRD, in collaboration with the Government of Pakistan and the Department of Health in Sindh Province, implemented Interactive Alerts, a mobile phone-based vaccine registry system that uses SMS reminders to caregivers and conditional cash transfers to care givers and health workers to improve immunization coverage among children in and around Karachi, Pakistan.

Implementation date: June 2012

About Interactive Alerts

Interactive Alerts offers child tracking and referral via general packet radio service (GPRS) using near field communication (NFC) mobile phones and radio frequency identification (RFID) tags. It provides a J2ME mobile client application for data collection and a web based server side application for data monitoring and storage. Plans are to release the android version of the application in November 2013.

A child's caregiver first enrolls in a lottery system during an EPI center visit and then receives SMS reminders about vaccination appointments. To assure each child completes the scheduled vaccines on time, health workers also individually track enrolled children using the mobile phone-based RFID system. The amount of cash the caregiver is eligible to win increases with each subsequent vaccine their child completes. Caregivers

receive higher cash amounts for vaccinations that are administered at the recommended age. After winning the lottery, the caregiver is sent a winning lottery code via SMS. The lottery winnings can be used at the participating stores offering groceries and medicines located in close vicinity to each EPI center, and codes cannot be exchanged for cash. Each time a lottery prize is won, the health worker who administered the vaccination also receives a mobile money transfer payment through Easypaisa, equivalent to 40% of the lottery prize. Easypaisa is a mobile banking service offered through Telenor Pakistan cellular communications, in partnership with Tameer Bank MicroFinance.

Evaluation and Results

The pilot phase started in June 2012 and has enrolled more than 14,000 infants from 12 public and private sector EPI centers in Karachi.

Interim data analysis suggests improved immunization coverage and timeliness. Currently, an impact evaluation study is underway to determine the effectiveness of Interactive Alerts in improving immunization coverage and timeliness in children, performance of vaccinators, and the accessibility and quality of program data.

Scale-up of the project will begin in January 2014 with a target of reaching another 100,000 children from Karachi over the period of one year.

Lessons Learned

- Vaccinators are enthusiastic about using a cell phone data entry system for recording immunization events. mHealth Innovation leverages existing resources and personnel and increases their efficiency compared to the existing paper-based record keeping system.
- Lottery-based conditional cash transfers incur low costs and have the potential to induce positive behavior change in caregivers for improving immunization and improve performance of vaccinators

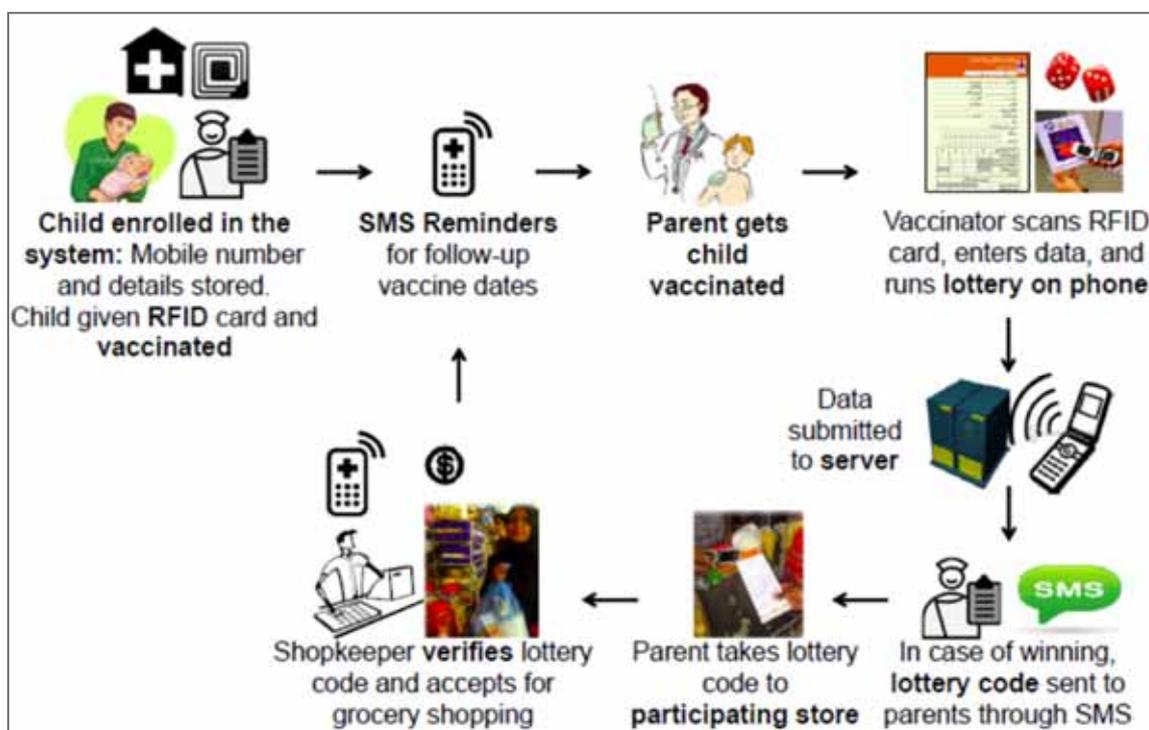


Figure 1. Participant flow

Conclusion

Small incentives can prove beneficial in public health programs. Through SMS reminders and a lottery system, caregivers are encouraged to bring in their children for timely vaccinations and health workers are incentivized to provide efficient vaccination services. Together, these innovative strategies help prevent needless childhood deaths and illnesses associated with vaccine-preventable diseases.

Geographic Coverage: Pakistan

Implementation Partners: Interactive Research & Development (IRD) | Expanded Program on Immunization (EPI), Sindh Province, Government of Pakistan | openXdata.org; Indus Hospital | Johns Hopkins Bloomberg School of Public Health

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