MAMA
Mobile Alliance for Maternal Action

COMMUNITY SPOTLIGHT

PEOPLE IN NEED (PIN)
CAMBODIA

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BACKGROUND

Emerging from a recent history of political instability, suppression of development, and genocide, many Cambodians face significant barriers to health education and health care. These barriers are especially prevalent in rural populations where the majority of the population (over 80%) of Cambodians live. In addition, many people living in rural Cambodia have very little disposable income and relatively low literacy rates.

Traditional health practices regarding pregnancy and child rearing are still common and encouraged in rural communities. Many people are also not aware of danger signs, or that early detection is the best chance to avoid many of the prevalent issues poor, rural Cambodians suffer from. This creates a situation where mothers or caregivers tend to go to available health clinics only when the situation is dire and irreparable damage has already been done. The delay of seeking formalized health care for children is common in rural Cambodia. While the country has made significant strides in under 5 child mortality, Cambodia has maintained a high neonatal mortality rate (27 per 1,000 live births nationwide), which is dramatically higher in certain areas such as Kampong Chhnang province (45 deaths per 1,000 live births). Keeping these factors in mind, mHealth has the potential to improve newborn care, addressing an important and achievable target area for health in Cambodia.

Mobile phones are now almost universal in Cambodian society — almost 90% of the population owns a cell phone. Thus, there is potential for efficient information dissemination amongst often hard to reach groups. People in Need (PIN) Cambodia, a Czech nonprofit organization, has trialed and is now ready to expand the use of automated messaging mobile technology as a means of promoting health messages

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at a large scale to beneficiaries in the central Cambodian province of Kampong Chhnang. The mHealth program was developed in partnership with Open Institute and InSTEDD (two local non-government organizations) who assisted in developing the software and mobile infrastructure.

The intervention in Cambodia utilizes IVR technology using an open source platform called Verboice (developed by InSTEDD). Each message uploaded to Verboice and sent to mothers is between 60-90 seconds long — the maximum amount of time that people will concentrate on a recorded message without losing focus or attention. Due to the nature of recorded messages not all information can be provided, so the objective is to remind and prompt the audience to seek more information if required.

This is achieved by visiting or contacting the closest health centre. In total, the PIN mHealth program disseminates seven voice-messages in a period of four weeks, which equates to one message being sent every three days. The topic of the messages is the care of newborn babies (focusing on the first vulnerable period of life, hence a four week long pilot program). Before developing the script for the voice-message content, the MAMA messages were consulted to look at the key information that should be included in the message and the simple manner in which such messages should be delivered to the target audience (mothers and caregivers of newborns).

ADAPTATION, TRANSLATION AND LOCALIZATION

After reviewing the MAMA message templates, PIN Cambodia adapted the content to ensure that it resonated with the Ministry of Health's Safe Motherhood Protocols and was endorsed by the government. Messages centered around newborn health care such as effective and exclusive breastfeeding, cord care, keeping warm and the early recognition of danger signs. All messages encouraged mothers to seek further care from health centers if there was anything wrong. The script to deliver the messages was designed to ensure that the main points of the messages (knowledge of newborn care, danger signs observed, and then visits to the health centre) would be memorable to subscribers. Before finalising the script, PIN Cambodia underwent rapid prototype testing of the messages in the target group to ensure that the users understood the content and were able to identify with and recall the message.

In the end, "personified messages" were chosen to be the format of the messages. "Personified messages" consisted of a character narrating the voice message. Five influential characters from the community were identified to be suitable for recording the script: three female characters (a midwife, a village health volunteer and a grandmother) and two male characters (a doctor and a village chief). Despite results in PIN Cambodia's feasibility survey which suggested that most of the target group preferred female voices, PIN Cambodia decided that male voices were also important to include. The PIN team decided that they wanted the messages to be gender inclusive to encourage fathers in particular to be involved in the care of their newborn. Additionally, PIN Cambodia's earlier feasibility report indicated that only 45% of women in the target area owned their own mobile phones, leaving a majority of phones belonging to their husbands. This meant that it was likely the husband of the target user would receive some of the voice-messages.

Messages are reinforced by a toy for babies (a hanging swing baby mobile) provided to mothers upon registration that illustrate the key topics covered in easy to understand images. This is important to serve as a reference guide as well as reminder of messages given.

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The main challenges the PIN Cambodia team encountered with regards to implementing the messages were low levels of education and health literacy, coupled with high prevalence of traditional beliefs regarding pregnancy and child rearing that contributed to widespread misconceptions and misinformation. Traditional practices are often perpetuated by advice provided from key influencers from within the family unit or wider community. For example, some believe it is good to apply unsterile animal products to the umbilical cord after birth. These practices pose challenges to the effectiveness of a project aimed at changing health related behaviors because new mothers and their supporting partners are accustomed to listening to the respected senior members of their family and community for advice. This practice, consulting older and respected members of society for advice, is a very important aspect of Cambodian culture.

Keeping these factors in mind, the PIN Cambodia team decided to center their approach on the concept "*it takes a village to raise a baby*". While the mobile messaging program's primary target audience is mothers and caregivers, it is also aimed at influencing a wider secondary audience or "the whole village" (mothers, sisters, husbands, midwives, etc.) to leverage the importance of the communal structure present in Cambodia. It also taps into the element of pride of raising a baby appropriately and collectively. In addition, the messages are delivered using characters that represent key influencers — e.g. a village chief, grandmother, aunty, health worker — and as such convey culturally relevant, trusted and traditional authority figures.

PROGRAM DESIGN AND IMPLEMENTATION

As mobile based health promotion is a fairly new concept in Cambodia, the PIN Cambodia team first performed a feasibility study in July 2013 of the current mobile usage trends by mothers, and surveyed their attitudes toward the proposed program. Interviews were also conducted with midwives from 11 health centers and one referral hospital in the Kampong Tralach Operational District of Kampong Chhnang Province, Cambodia. The PIN Health Team surveyed 78 mothers with newborns and 12 midwives for the feasibility study. In addition, one midwife was surveyed in each health facility. All midwives interviewed were positive about the program and said that they thought mothers were likely to want to participate in a mobile voice-messaging service that gave information about newborn care.

Of the mothers interviewed, all reported having access to a mobile phone which either belonged to them personally, to their husbands, or a family member/neighbor (often being family that are living on the same property). As such, the automated voice-messaging service was not only targeted at the mothers of newborns but also the family/household unit as a whole. Furthermore, a key feature of the service allows the voice-message to be repeated, making the information more accessible to other key caregivers.

Between September and December 2013, the mHealth program was piloted in Kampong Chhnang province with 455 participants registered to receive messages on neonatal care. After piloting the program, PIN undertook a Pilot Evaluation aimed at finding out the overall reception of program concept and response from the target audience.

REGISTRATION:

Midwives were trained by PIN and Open Institute staff on how to register the phone number of the subscriber for the automated voice-messaging system. These midwives registered women after delivery of their babies at the local Health Centre. Past

experience with mobile usage in Cambodia indicates that self-registration would be difficult and potentially confusing for the mother (with many pieces of information to be entered such as the baby's date of birth, etc.). Midwives were therefore chosen to be in charge of program entry. In order to streamline the process of task management, the PIN team developed a checklist given to midwives as a helpful reminder to register the target women and their families on to the mHealth service. In this phase, there was no cost for users for the service.

TECHNOLOGY

Automated voice messages were sent to registered phones twice a week in the first three weeks and then one final summary message provided in the fourth week. As this was the first time that the software Verboice was used in this type of program, PIN tested the technological aspects of the program and monitored for any issues.

Overall, the technological aspects of the pilot worked well. PIN staff managing the Verboice platform were able to provide feedback of their experiences to InSTEDD to improve the program and include some new features that will help to streamline operations. For example, PIN staff recommended that InSTEDD add a search function to Verboice whereby one could search a user's phone number for monitoring and evaluation purposes.

PARTNERSHIPS

PIN Cambodia's mHealth program was planned and developed with a number of key partners and stakeholders. This consortium will continue to expand if the project is fully launched and has nationwide coverage.

InSTEDD, PIN Cambodia's key tech partner, manages the development and implementation of the Verboice platform used for delivering mHealth messages. InSTEDD provides the Verboice platform development and implementation at no cost. In addition, Open Institute facilitates interactions between PIN and Cambodian Telecommunications Providers.

PIN Cambodia also has a partnership with 17 Triggers, a socially focused marketing agency. 17 Triggers is currently involved in developing the mHealth messages and concept. This includes creating the designs for marketing materials and developing the IVR messages' audience friendly characters and scripts. In addition, PIN Cambodia partners with Women's Media Centre an organization that provides voice talent and production of the final voice messages used for the mHealth program. PIN is planning to continue this partnership through recording an estimated 180 additional messages for the expanded version of the program.

PIN Cambodia also collaborates with RACHA, The Reproductive and Child Health Alliance, a Cambodia based NGO. RACHA provides PIN with local health experts that develop base content for pre-recorded messages, as well as facilitates with Ministry of Health (MoH) for approval of messages. Midwives and health workers at a variety of community level health clinics serve as the ideal contact point for the program's primary target audience, and have been established through the pilot phase (currently running) as vital for the success of this project.

Finally, PIN Cambodia is the process of successfully forming partnerships with telecommunication companies in Cambodia in order to effectively deliver the mHealth content in future stages of rollout. The three major operators in terms of subscriber

numbers are Metfone (9.5 million subscribers), Smart (5 million subscribers), and Cellcard (3.2 million subscribers). PIN Cambodia's next steps include engagement with these providers in order to make the program more sustainable.

BUSINESS MODEL

PIN Cambodia is currently in the early phases of developing a business model. They envision a financial model that would potentially include a fee-based service. Over 95% of those who have registered with the program have stated that they would not mind paying a nominal fee (roughly USD 0.5/month) for the services because they saw value in the program. PIN would also like to offer a free service to the very poor who are not able to pay (based on Cambodia's established ID Poor System).

By introducing a small subscription fee for users, the project will have set secured revenue per user every month, which is easily defined and tracked. A portion of this fee will need to be allocated to telecommunication providers in exchange for their communications support and partnership. Due to economies of scale, this should contribute enough revenue to run, expand, provide very poor communities with free access to the program, and be profitable for the mHealth program as an entity and for the telecommunications provider partners.

M&E

The PIN Cambodia team working on this mHealth program has a regular process monitoring system in place. Each week a member of the health team does a spot check of registrants to ensure that the messages are getting through and to receive participant feedback. They also check-in with the midwives to receive feedback on whether the registration process is running smoothly and the midwives also call PIN staff to report any technical problems. Furthermore, the Verboice system keeps statistics on calls being made, so the team can see how long each call has been listened to, if certain messages are being cut short and if a participant has not received the message, and can rectify the situation immediately. While monitoring is a crucial component to the program, it is very labour intensive for PIN staff.

As previously mentioned, a more comprehensive evaluation of the pilot was completed in December 2013. This pilot of the mHealth program was implemented by one Program Manager and two support staff. The evaluation of the pilot sought to answer some key programmatic questions around technology, user-friendliness and satisfaction, and acceptance of the messages among others.

The team found that over 90% of respondents in the survey said that they received the messages in whole and clear form, but unfortunately most received just four out of the seven messages that they were sent. Almost all (close to 96%) of the respondents said that the timing of the calls was convenient and all (100%) said that the voice messages were believable, respectable and understandable. In addition, satisfaction with the service was 100%. Of participants surveyed, 45% reported learning new information about newborn care and 43% reported they brought their newborns to the Health Centre as a result of listening to the messages. In addition, 70% of mothers reported they had given the messages to other caregivers (fathers, grandmothers, etc.) to also listen to.

The PIN Cambodia team believes that monitoring and evaluation, and providing real-life feedback is the key to ensuring that the program is what the target audience actually needs.

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CHALLENGES

When PIN Cambodia began the program, the major bottleneck in the first few weeks was technology. While the team could test the technology somewhat in the 'lab', when the program went 'live' it was difficult to predict if the connection might time out, how the system would handle simultaneous calls, etc. The first few days they had issues with registration where sometimes the number listed for a subscriber could not be called. However, the midwives who handle registrations would contact the PIN team immediately and report the problem. The PIN team saw this as a positive sign that the midwives felt immediate ownership of the program. After the first few weeks and a system upgrade, the technical problems were smoothed out.

Another challenge the PIN Cambodia team encountered was that some of the features needed to make the program more efficient were not available. For example, if a midwife reported that a registered phone number on the system was not receiving messages, the team was unable to search that number to see what was going wrong. Instead, they had to manually check through all the numbers that were registered. When the team realized they needed additional features in their operating system, they met with InSTEDD, the program software designer and requested these new capabilities. Since then, InSTEDD has developed the new features requested and the PIN team is testing them out.

Currently, the main obstacle the PIN team faces is limited funding to undertake a proper impact assessment to examine health-related behavior change in the participants of the mHealth program. In addition, the PIN Cambodia team is currently developing a strategy to engage the telecommunication companies in Cambodia, and figuring out how to develop the mHealth program into a value-added service for these companies. PIN Cambodia hopes that in the future, mobile phone companies will offer this service to all eligible customers and keep this program sustained in the long run with limited support from NGOs.

FUTURE PLANS

The PIN Cambodia team is currently working to make the program financially sustainable by 2020, design the program so that telecommunication partners can implement it and so that the poorest subscribers can have free access to the program. The team's next step involves more efficacy research to determine how effective the messages are in providing users with more knowledge about newborn care, and undertaking further impact evaluations to assess how effective the mHealth approach is with regards to health care seeking behaviors, infant care practices and infant morbidity. The efficacy research will be done in the first half of 2014. After the efficacy research is complete, and depending on the results, the team plans to scale up the program and potentially undertake an impact evaluation.

PIN Cambodia looks forward to engaging with other MAMA Community Members, to hear about their experiences, particularly with regards to the process of scaling-up and working with telecommunication partners.

Mobile Alliance for Maternal Action

The MAMA Community Spotlight series shines a light on some of the great work being done by organizations using MAMA's adaptable mobile messages. Each month we feature a new organization that has downloaded our messages and is using mobile technology to improve maternal, newborn and child health.

Inspired by these innovative programs? Download the MAMA messages for yourself by visiting www.mobilemamaalliance.org and completing our short questionnaire.

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