

# OVERCOMING mHEALTH OPERATIONAL CHALLENGES IN CAMBODIA (RE: JMTM 2013, 2: 20–23)

Chris **Smith**, MBBCh, MSc<sup>1,2</sup>, Uk **Vannak**, BN<sup>1</sup>, Ly **Sokhey**, BM<sup>1</sup>, Melissa **Cockroft**, BA, MA<sup>1</sup>

<sup>1</sup>Marie Stopes International Cambodia (MSIC); <sup>2</sup>Department of Population Health, London School of Hygiene and Tropical Medicine (LSHTM), London, UK

Corresponding Author: [chris.smith@mariestopes.org.kh](mailto:chris.smith@mariestopes.org.kh)

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We concur with the mHealth operational challenges in Cambodia identified in Bisit Bullen's perspective piece<sup>1</sup>. We would like to share our experiences with MOTIF (MOBILE Technology for Improved Family Planning); a project to design and evaluate a mobile phone-based service to support post-abortion family planning (PAFP) clients accessing services at Marie Stopes International Cambodia's (MSIC) clinics.

In developing the MOTIF intervention we conducted formative research that included interviews and focus groups with MSIC clients, and sought input from clinicians and technology partners in Cambodia. We also realised that an SMS intervention was unlikely to be either acceptable or effective due to limited literacy of clients and Khmer script incompatibility on phones, and therefore in conjunction with our technology partners InSTEDD, we developed an intervention comprising both voice messages and direct phone calls to clients<sup>2</sup>.

The development of voice messages required additional considerations beyond what is required in developing an SMS message. We found that tone of voice, speed of delivery, and length of message were important factors with regards to acceptability and comprehension of messages. Thus, significant time was required just to develop one message.

With the current state of technology, voice messages must be listened to at the time they are sent (voicemail is not routinely used). This is a limitation if compared to SMS, whereby the user can listen and choose if and when to respond when they have free time. In order to increase the likelihood of messages being listened to, on recruitment, clients are provided with written and oral instructions

(including a demonstration), and asked for their preferred time to receive messages.

To address the challenge of SIM switching, hence not knowing if messages have been received, the voice message is interactive. Clients are asked to respond by pressing '1' to receive a phone call from an MSIC counsellor, or '2' if they are fine. The Verboice software allows the counsellor to view the response to the voice message. The counsellor makes a direct phone call to clients that press '1', and also those that don't respond. On recruitment, clients are also requested to provide a second, alternative number, this way if the counsellor has difficulty contacting the first number, an alternative can be attempted.

To reduce the likelihood of unintended consequences resulting from phone sharing, such as messages being listened to by third parties, clients only sign up if they are willing to receive messages that mention contraception. Furthermore, our voice message does not mention any personal details of the client. Finally, the service is provided to clients for three months. This relatively short duration of the intervention may increase the likelihood of maintaining engagement with clients.

We are currently evaluating the effectiveness of MOTIF on increasing PAFP uptake with a randomised controlled trial<sup>3</sup>. We look forward to sharing our findings, and more detailed description of the intervention, in due course. However, we recognise that mHealth is a dynamic area; with rapid changes in both technology and the techno-literacy of populations; hence, what works or doesn't work now may not hold true in a few years time. In particular, as feature phones and smartphones

become more commonplace, it may be possible to pre-load message content as an application onto clients' phones when registering for services, or develop interventions using social media, which would mitigate the challenge of SIM card switching and network costs<sup>4</sup>.

Despite the significant challenges outlined by Bisit Bullens, there are some characteristics that make Cambodia attractive for mHealth. Although the Khmer language does pose challenges, it is the language spoken by the majority of the population, rather than a number of local languages, as is often the case in other contexts. Organisations such as the Open Institute promote use of technology in the Khmer language. Although prone to SIM card switching and phone sharing, Cambodians do appear to be enthusiastic mobile phone users, as can be witnessed during daily life in urban and rural areas. With a predominantly rural population, appropriate mHealth interventions provide an opportunity to deliver cost-effective health advice to populations with the least access<sup>5</sup>. Perhaps the most positive indicator that Cambodia will not get left behind in the mHealth revolution is the groundswell of young tech talent interested in technology, as evidenced by events such as BarCamp, attended by increasing numbers of young technology enthusiasts<sup>6,7</sup>.

We hope that organisations will continue to work together and share experiences to address the challenges and unlock the potential of mHealth in Cambodia.

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