

Question:

Who gets left behind in mHealth?

Jesse Coleman, WITS Reproductive Health & HIV Institute, Johannesburg, was interested to know who is left behind when we focus on using mobile technology to provide health information and services.

Jesse was interested in whether there are studies that explore non-users of mHealth services.

As part of our question answering service, HealthEnabled sponsored [Atanu Gerai](#) a member of our Expert Network to research an answer on this topic.

Answer:

Approach

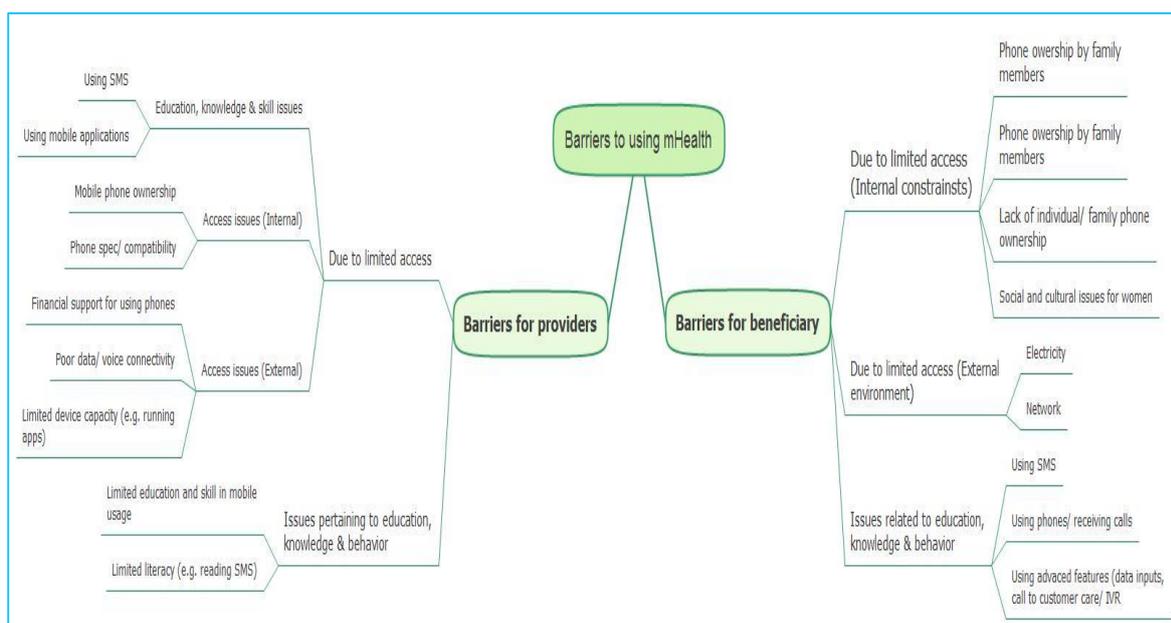
For the purpose of this answer non-users may include people lacking capacity and people voluntarily opted out of mHealth services.

We have recognized that mere searching with keywords for literature would give us an incomplete (and misleading) picture of the research and understanding on this issue. Therefore, we looked at the broad causes contributive to mHealth non-usage either for a) limited capacity or for b) opting out.

The analysis has considered the context of low-resource healthcare delivery settings in a developing country context. Several studies have pointed out the areas where mHealth can be used in low-resource settings (Vital Wave Consulting, 2009). This analysis highlights the causes for non-usage for those application areas in low-resource settings.

Causes leading to mHealth non-usage for limited capacity

Through various studies and discussions, we have identified several challenges beneficiaries face in using the mHealth services.



Source: Garai, Atanu (2014).

Barriers for beneficiary

Access to mobile phones

Limited access to mobile phones as a key barrier to mHealth adoption can be found in the literature on mHealth and more broadly in mobile for development. Studies have analysed the access issue through statistics on issuance of SIM cards, taken as a proxy for mobile phone ownership (Examples: ITU, World Telecommunication/ICT Indicators database 2014; <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>; World Bank, World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>). Few studies conducted in the broader ‘mobiles for development’ category explored the challenges women face for lacking mobile phones (2012). More than economic reasons, religion, culture and societal biases influence a woman’s ability to access and use mobile phones. The table below reproduces key factors that influence the individual ownership among women, as reported by (GSMA and Cherie Blair Foundation, 2012, p. 31). This study also explores how the ownership by family members impacts the ability to use mobile phones among the women.

Table Error! No text of specified style in document.-1: Factors contributing to limited phone ownership among women

Factors	Percentage share of women
Handset costs too much	42
Monthly service cost too expensive	8
No need – everyone is local	20
No need – use a landline phone	10
Lack family or spouse permission	3
Fear of the technology	3
All other reasons	13

Source: (GSMA and Cherie Blair Foundation, 2012, p. 31).

Education, knowledge, and behavior

In the low-resource setting contexts, there are fewer mHealth interventions which require the beneficiaries direct interact with mHealth technologies (except health call centers). mBCC projects that require the beneficiaries use messages delivered over mobile calls and text messages have long been aware of the limitation beneficiaries have in accessing and using those content.

Two projects are notable in this regard – Grameen Foundation’s MoTECH (Ghana) and BBC Media Action’s Ananya (Bihar, India). Grameen Foundation (2012) reached rural women in Ghana to disseminate customized messages on MCH over calls. They have found that the rural women faced difficulties in accessing the messages. BBC Media Action (<http://www.rethink1000days.org/blog/>) has registered some 250,000 pregnant women for an MCH messaging services which were promoted through village-level activation camps. However, the project literature has limited information on the behavioral challenges the target beneficiaries may face in subscribing to the content.

Barriers for providers

Literature on mHealth projects studied provider’s ability to use mHealth applications (e.g. in areas of using installed mobile app, data collection and reporting over SMS), mostly after training. Anantraman

et al. (2002) found most ANMs were able to collect health and demographic data of the beneficiaries in the application installed in PDA. Blaschke et al. (2009) found that FLWs were able to report data over SMS.

A recent baseline study using qualitative research methods found that some providers (e.g. ANMs) do not have access to the mobile phones (belonging to their families), at least during the time she is on her job (Abt Associates, 2014). The study also found that many ANMs a) do not know that Bihar National Rural Health Mission sends to remind FLWs on key events and b) can not read even Hindi SMS comfortably.

Causes leading to mHealth non-usage due to opting out

Literature does not mention the instances of opting out by the beneficiaries in low-resource settings. During the course of the study on Ananya Contact Centre, Bihar (Abt Associates, 2014), the Contact Centre reported that many beneficiaries subscribe to the Mobile Kilkari (a paid messaging services over outbound calls to provide instructional messages on MCH, <http://www.rethink1000days.org/2014/11/scaling-bbc-media-action-mhealth-services-pan-india-2/>) during activation camps/ promotion by FLWs. Then, a call center associates make a call to the prospective subscriber to provide information on messaging, cost and to take her consent. The dialling gateway is required to store this consent because of Indian law. During our discussion, we found that a significant number of beneficiaries tend to opt out of the service. However, the reasons for opting out have not been documented in the literature.

Study limitations

These studies have several limitations:

- Project literature and scientific studies do not elaborate barriers beneficiaries, and providers have, before and after the capacity-building exercise.
- Project literature often tends to mention provider having the ability to perform the activities using mHealth application. Because most such projects tend to cater to a small group of providers, it is not obvious how the limited capacity of most providers can pose a challenge in scaling-up the mHealth projects.

References

- Abt Associates (2014). Dialing the Frontline Health Workers. New Delhi: Abt Associates. (Unpublished report)
- Anantraman, V., Mikkelsen, T., Khilnani, R., Kumar, V. S., Pentland, A., & Ohno-Machado, L. (2002). Open source handheld-based EMR for paramedics working in rural areas. *Proc AMIA Symp*, 12-16.
- Blaschke, S., Bokenkamp, K., Cosmaciuc, R., Denby, M., Hailu, B., & Short, R. (2009). Using mobile phones to improve child nutrition surveillance in Malawi. Retrieved 30 June, 2009, from <http://www.mobiledevelopmentsolutions.org/unicef.pdf>
- GSMA and Cherie Blair Foundation. (2012). Women & Mobile: A Global Opportunity. Retrieved December 22, 2012, from mWomen: http://www.mwomen.org/Research/women-mobile-a-global-opportunity_1
- VITAL WAVE CONSULTING 2009. mHealth for development: The opportunity of mobile technology for healthcare in the developing world. Washington, D.C. and Berkshire, UK.
- Grameen Foundation (2012). Mobile technology for community health in Ghana: What it is and what Grameen Foundation has learnt so far.

<http://www.grameenfoundation.org/sites/grameenfoundation.org/files/MOTECH-Lessons-Learned-Sept-2012.pdf> (p. 3-5).