



HIFA mHEALTH-INNOVATE online discussion

Report, May 2022

Background

In April/May 2022, HIFA organised an online discussion on health workers' informal use of mobile phones, as part of the mHEALTH-INNOVATE project (<https://www.fhi.no/en/cristin-projects/ongoing/mhealth-innovate/>). The discussion list aimed to explore how mobile phones are used, their benefits and weaknesses, and how they could lead to better health care, particularly in resource-constrained settings. We analysed all contributions to the discussion list to inform the systematic review that is planned as part of the mHEALTH-INNOVATE project.

Methods

HIFA established a working group drawn from existing HIFA members and members of the mHEALTH-INNOVATE project team. The project group discussed and agreed upon five questions to help structure the HIFA discussion (below). HIFA then sent an invitation to all existing HIFA members and to others identified by the working group as potential contributors (Annex 1*). The questions:

1. Do you use a mobile phone to help you in your work? How do you use it?
2. How do you use your phone to communicate with colleagues, patients and families?
3. How do you use your phone for other work-related purposes? (eg searching for healthcare information and guidance, tracking supplies, referring patients...)
4. Can you give any examples of *informal* use of mobile phones by health workers? (ie uses of mobile phones that have not been directed by the employer, but have been initiated, adapted or developed by health workers themselves)
5. How can the informal use of mobile phones be improved to strengthen healthcare?

During the discussions, members of the working group encouraged people to respond to the five questions, monitored contributions and asked follow-up questions. Questions were presented as 'guiding' rather than 'fixed' questions: participants were encouraged to discuss any aspect of the use of mobile phones by health workers.

Once the discussions were over, one member (Claire Glenton) of the working group carried out a thematic analysis of the contributions. She compiled all contributions to the discussion (Annex 2). She then read and familiarized herself with the contributions before coding and categorising the contents of each contribution. Finally, she shared preliminary results with the other members of the working group before further refining the categories.

*Annexes available on request: neil@hifa.org

Results

Twenty-five people made a total of 71 contributions to the discussion list, including eight members of the working group. Contributors were based in UK (5), Uganda (3), India (3), USA (2), Switzerland (2), Zimbabwe (1), Cameroon (1), Nigeria (1), Ethiopia (1), Democratic Republic of Congo (1), Haiti (1) Iraq (1), Norway (1), Netherlands (1) and Philippines (1) (Annex 3).

- Nineteen of the 71 contributions were invitations and follow-up questions from working group members (Annex 4).
- An additional 19 of the 71 contributions included references to relevant articles and reports, all of which were retrieved and examined for relevance to the planned systematic review (Annex 5).
- Coding of the contents of the remaining 43 contributions (Annex 6 and Annex 7) led to the following categories:
 - *How* are health workers using mobile phones in their work?
 - To which extent are these mobile phone uses informal?
 - *Why* are health workers turning to mobile phone-based solutions?
 - What are the *challenges* and possible *solutions* when health workers use mobile phones?

How are health workers using mobile phones in their work?

Contributors described the use of mobile phones to carry out a range of activities. These included:

1. Using the phone's **clock, stopwatch, torch, camera and calendar** functions
2. Using the phone to **search for information** on internet-based resources

However, most contributors described the use of mobile phones to communicate with others:

3. Using the phone to **communicate with other health workers** or staff members in their own setting and in other parts of the health care system:
 - sharing practical, clinical and scientific information and resources with colleagues, for instance information about meeting schedules, regulations, and clinical guidelines
 - sharing experiences and ideas, supporting colleagues who are struggling, and offering psychological support
 - attending virtual meetings
 - tracking drugs and supplies, requesting supplies, and reporting supply chain issues and stock-outs
 - consulting each other on how to handle cases, especially between different levels of care
 - connecting health workers at different levels of the health system, including connecting community-based health workers with facility-based staff and connecting health workers at primary level facilities with secondary or tertiary level care
 - tracking and registering patient information and collecting data for the ministry or partner organisations
 - transmitting patient data, including images, to other levels of the system
 - submitting reports and statistics
 - facilitating patient referrals, including requesting referrals, transmitting patient information and organising transport
 - coordinating teamwork
4. Using the phone to **communicate with clients and patients**, patient groups and their families:
 - sharing general clinical information and education
 - sharing practical information, such as appointment reminders

- following up individual patients, for instance, through teleconsultations, monitoring, treatment and follow-up
 - sending test results to patients
5. Using the phone to **participate in online training, education, supervision and monitoring**

Contributors used mobile phones to communicate via phone calls, text messages, social media platforms such as Facebook, and communication apps such as WhatsApp, Viber, Teams, email, Messenger and Skype, with WhatsApp being the most commonly referred to.

To which extent is health worker mobile phone use *informal*?

Several of the contributors described how WhatsApp groups had been initiated and established by the health workers themselves. One contributor mentioned that most of his mobile phone use “*is not directed by the institution, and therefore "informal"*”. One contributor explained that while the initiative came from the health workers themselves, their leadership eventually started encouraging use of WhatsApp groups as a channel of communication.

Why are health workers turning to mobile phone-based solutions?

Several contributors described how mobile phones eased their workflow by allowing them to gather, search for and share information *quickly*:

“If ringing during surgery clinical time to a specialist i.e. dermatology, I may leave my personal mobile phone number for the doctor to get directly back in touch with me that day, as getting back through the surgery switchboard can be a lengthy wait at times and I want them to contact me back asap about a clinical concern” (General practitioner, UK).

Many contributors described how the Covid-19 pandemic increased the need for mobile phone-based strategies. Reasons for this included:

An increased need for information to health workers and patients: Contributors described how the pandemic led to a need to spread information quickly and to debunk misinformation, both among health workers and patients:

“2020 saw us do much Covid Education for staff and parents together over phone (dos and don'ts) and reach out to allay the fears and anxiety of children and families during the lockdown.” (Paediatrician, India)

An increased need for communication about stock levels: One contributor described how the increased need for equipment during the pandemic also led to a need for more frequent tracking and notification of stock levels:

“During the peak of the pandemic, it was critical to track availability of PPE [personal protective equipment] at health facilities weekly, but the traditional stock tracking system used a monthly and quarterly system. In order to ensure timeliness of reporting, google forms were created and those with smart phones used these to send weekly updates on stock status.” (Pharmacist, Zimbabwe)

Decreased facility-based service provision and limited mobility of health workers and patients: The pandemic limited the ability of healthcare facilities to deliver regular services and led to widespread restrictions on the movements of both health workers and patients, particularly during periods of lockdown. Contributors described how these circumstances were partly addressed through mobile phone-based communication:

“During the COVID-19 lockdowns, facility health set up informal WhatsApp groups (in Northern Uganda) to ensure quality service delivery. Such groups had the participation of facility health workers, community

health worker (Village Health Teams) and local leaders. The facility health workers would use such channels to conduct mentorship sessions after trainings during the lockdowns. Community health workers would also use the same channels to secure first line help, report reactions to medication (Family planning projects) and share weekly progress reports.” (Project manager, Uganda)

“Mobile phone during the challenging lonely periods was sometimes the only device for health care workers to connect with each other both for physical and psychological support.” (Global health professional, Switzerland)

Mobility restrictions outside of pandemics: Other contributors referred to the use of mobile phones where mobility was restricted for other reasons than the Covid-19 pandemic. One contributor referred to the usefulness of mobile phones for health workers working in remote areas. Another contributor described the importance of mobile phones in a conflict-affected setting. Here, the impact of the conflict on people’s mobility meant that supervision and reporting that would normally be done by higher-level staff was now left to lower-level staff with the help of mobile phones:

“In Cameroon where there is a conflict, mobile phones are used to send reports and statistics to the regional level. Health supervisors can no longer move to local health units or District Health Services to perform their duties. Health officials at the local level have become supervisory authorities. Without any formal knowledge to perform these tasks, the local health personnel are required to do this. Even the District Medical Officers who have abandoned their services depend now only on the local health staff for reports. This is done only with the help of a mobile phone. This is an important topic that should be encouraged especially in conflict and disaster zones of the world.” (Development professional, Cameroon)

Emergency situations help formalise the use of mobile phones: One contributor suggested that the Covid-19 pandemic was an emergency situation that helped ‘formalise’ the use of mobile phones.

What are the *challenges* and possible *solutions* when health workers use mobile phones?

While contributors were generally positive to the use of mobile phones and the opportunities these offered, they also highlighted several challenges:

Patient confidentiality issues: Some contributors were concerned about confidentiality issues, particularly when sharing information about patients.

Solutions suggested by contributors included:

- limiting what they discuss on the phone
- locking phones and subscribing to antivirus and anti-hacking tools
- anonymising patient data
- creating awareness

“...because we are told that Whatsapp messages are encrypted, I have used it on occasions to refer patients to known medical colleagues, especially when out of the office. Even then, there are certain details that I leave out for direct communication to the colleagues (there is still the fear/uncertainty about securing confidentiality). I also ensure that my phone has a code (PIN) that allows me open it for use, and it has anti-virus cover to prevent hacking!!” (Public health professional, Nigeria)

Legal and liability issues: One contributor also asked for clarification regarding the legal status of communication that takes place in work-related Whatsapp groups:

“Do we consider discussions done and resolutions passed on WhatsApp platforms as binding eg work assignments given to employees via this platform-would an employee who does not follow through be liable for disciplinary measures? How do we handle harassment issues that originate from discussions on some WhatsApp groups? How do we handle grievances aired on the WhatsApp platforms? Who follows them up?” (Pharmacist, Zimbabwe)

Lack of formal policies and guidance: Contributors called for formal policies on the use of mobile phones when transmitting information. They also called for more guidance regarding the type of information that should or should not be shared and guidance about how to share patient information while anonymising it.

One contributor linked this lack of policies and guidance to the fact that mobile phones were often the personal property of the health worker and that their use is often not part of the formal health care system. Others pointed to the need for governments to start documenting and reviewing informal and innovative use of mobile phones.

Equity issues: Contributors also described challenges that had equity implications, including poor access to mobile phones, low levels of literacy or digital literacy, language issues, and access to phones and internet.

Poor access to mobile phones among patients and families: Contributors referred to a lack of mobile phones, particularly among marginalised populations, that impacted on health workers' opportunities for mobile phone-based communication. One contributor described how this problem had been partly addressed during the Covid-19 pandemic by pairing families with community health workers who owned mobile phones.

Low levels of literacy and digital literacy: Contributors pointed to challenges tied to health workers' literacy skills and digital literacy skills. These included health workers not understanding how to use available applications and health workers struggling to type, read or write:

One contributor highlighted the need for further training in the use of mobile phones. Other contributors described how some community health workers used audio or video recordings to record information, although one contributor pointed to the implications for patient confidentiality and data management:

“I noticed that a few of our community workers (now referred to as caregiving staff) who used to participate well in the community meetings in the pre-covid phase were less active at this juncture as compared to the rest in the group. It turned out that some of our workers (particularly the ones with practical experience but did not complete high school) were not adept at writing long sentences and did poorly in the capacity building lessons. [...] That was when we came up with a few innovative solutions to ensure participation by all staff and parents. We taught them to use voice notes to convey important information as well as to be a part of the ongoing capacity building.” (Paediatrician, India)

“Some CHWs resort to audios and video audios and video recordings – recording themselves while describing the client's condition or situation. They did not record the clients themselves except in situations where it was necessary, and then only recording the specific body part. But this creates a challenge for data management.” (Project manager, Uganda)

Language issues: Contributors also pointed to the need for digital platforms in local languages. One contributor pointed out that maintenance of these platforms was a challenge. Other contributors described how tools such as Google translate could help to a certain extent, but that additional manual translation was also necessary.

Funding issues: Contributors described how health workers often paid for phones, maintenance and airtime, despite the phones being used for work purposes.

Internet access and infrastructure: One contributor highlighted the need for collaboration across government sectors to bring about sustainable and broadly accessible systems. Another contributor pointed to the need for communication applications that could be used without internet access.

High quality information: One contributor referred to WhatsApp as “a game-changer for time access to medical information (both correct and wrong). Other contributors referred to the need for improved online information, including hotlines, automatic response centres, information databases and libraries.

Conclusion

Contributors described a range of mobile phones uses, although with a focus on the mobile phone as a channel for two-way communication, either between colleagues and other parts of the health system or with patients and families. They also described a range of challenges tied to mobile phone use, many with equity implications.

Most of these findings reflect findings identified in previous research of mobile phone use among health workers¹. What is novel in the HIFA discussion are the many examples of the increased use of mobile phone communication due to the Covid-19 pandemic. This includes the establishment of WhatsApp groups, often initiated by the health workers themselves to meet the increased needs for information, monitoring and reporting; and the need to secure service delivery despite limitations in mobility. As suggested by one contributor, the Covid-19 pandemic may have helped formalise the use of mobile phones.

Conclusion

With thanks to all contributors and members of the working group:

<https://www.hifa.org/projects/new-mhealth-innovate-what-can-we-learn-health-workers-informal-use-mobile-phones>

Thanks also to the wider mHEALTH-INNOVATE project, funded by the Norwegian Research Council, to which this HIFA discussion is contributing:

<https://www.fhi.no/en/cristin-projects/ongoing/mhealth-innovate/>

¹ . Odendaal WA, Anstey Watkins J, Leon N, et al. Health workers' perceptions and experiences of using mHealth technologies to deliver primary healthcare services: a qualitative evidence synthesis. The Cochrane database of systematic reviews 2020; 3: CD011942