**Abstract**

**Title**: Harnessing new technologies: lessons from health workers’ informal uses of mobile phones to support their work - reasons, challenges and possible solutions

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**Introduction**

Large scale digital technologies to strengthen health systems and improve population health have received much attention. However, less attention has been paid to healthcare workers’ informal use of their own mobile phones to carry out their work and address health systems challenges. This research aimed to explore the views, experiences, and practices of healthcare workers and managers regarding their informal uses of mobile devices to support their work.

**Methods**

Firstly, we conducted a systematic review of qualitative studies exploring healthcare workers’ and managers’ views, experiences, and practices regarding informal uses of mobile devices for work purposes. Secondly, we undertook a qualitative study in the Ugandan health service, including interviews with patients, caretakers, and healthcare workers from two districts in central Uganda and with other stakeholders including policymakers.

**Results**

We included 30 studies in the review, published between 2013 and 2022 and covering a range of healthcare settings and worker cadres. These revealed that healthcare workers in Uganda and globally experience a gap between expectations and available resources. To bridge this gap, workers sometimes use their personal mobile phones, data and airtime, and personal time to address patient needs and communicate with colleagues. The Ugandan qualitative study shows that healthcare workers use their phones to refer patients, handle emergencies, communicate, and consult on complicated cases. The study also suggests, however, that informal use can compromise patient privacy, promote inequality in healthcare access, compromise data confidentiality, and may have legal and ethical implications. Also, workers bear the financial and time costs. Policymakers noted that amid non-functional formal systems, healthcare workers need to use their mobile phones to fulfill their roles. Informal use, alongside formal systems, enables healthcare workers to function but improved guidance from the MoH is probably needed.

**Conclusion**

Amidst challenges in service delivery, healthcare workers find informal solutions to continue delivering services, increasing efficiency and responsiveness. However, these informal solutions have downsides and we need to consider how to minimize these while retaining the benefits for patients and health systems