

Mobile phone-based decision-support for health-care workers in primary and community care: what are the effects?



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Healthcare workers in many settings do not have enough supplies, equipment, training or support, may struggle to stay up-to-date or may not have enough time to make the right decisions. Decision-support tools may help address some of these problems. A decision-support tool helps the healthcare worker ask the patient the right questions and to think through what he or she knows about the patient and his or her symptoms. The tool then guides the healthcare worker to the right decision. It can also help the healthcare worker calculate a patient's risk and can provide a checklist of activities the healthcare worker must address. Designing decision-support tools that can be used on mobile phones or other mobile devices such as tablets and personal digital assistants (PDAs) can make these tools easier to use and keep up to date. This Cochrane Review aimed to find out if healthcare workers based in primary or community healthcare settings give better quality healthcare if they use decision-support tools on mobile phones.

What are the key messages in this review?

We do not know if decision-support tools used on mobile devices make primary healthcare workers better at following recommended practice. The evidence is not clear about the effects of these tools on patients' and clients' behaviour and on their health. We need more and better research to assess these issues.

Who is this summary for?

Implementation agencies, ministries of health, programme managers, and other stakeholders who are considering the use of decision-support tools on mobile devices among primary healthcare workers.

What did the review look for?

A recent Cochrane Review assessed whether primary health workers using decision-support tools on mobile phones or other mobile devices offered better quality of care (Agarwal 2021). The review authors collected and analysed all relevant studies to answer this question and found eight studies.

How up-to-date was this review?

This review includes studies published up to April 2018.

What were the main results of the review?

The review authors found eight relevant studies. Three studies were carried out in the USA and five studies in India, China, Guatemala, Ghana, and Kenya. The studies compared decision support tools on mobile phones to routine practice where there may be no guidance or guidance in a paper format.

These studies showed that when primary healthcare workers use decision-support tools on mobile phones:

- we do not know if they are better at following recommended clinical practice, because the quality of this evidence was very low;
- there was no clear pattern of a positive or negative effect on patients' or clients' behaviour and on their health;
- this may slightly improve patients' satisfaction with medical information; and
- we do not know if this approach led primary healthcare workers to manage people's health issues more quickly because we found no studies that measured this. We also found no studies that explored the effect on healthcare worker satisfaction, resource use, or whether this approach had any unintended consequences (e.g. harms).

How did this review inform WHO guidelines?

This review was commissioned by the World Health Organization (WHO) to inform their 2019 guidelines on recommendations on digital interventions for health system strengthening (<https://www.who.int/reproductivehealth/publications/digital-interventions-health-system-strengthening/en/>). After assessing the evidence from this review, as well as other available evidence about acceptability, feasibility, resource use and implications for equity, gender and rights, the WHO decided to recommend the use of digital health worker decision support in the context of tasks that are already defined as within the scope of practice for these health workers.

The results presented in this summary are from a Cochrane Review. **This summary does NOT include recommendations.** The review authors have searched for, assessed and summarised relevant studies of effectiveness using a systematic and predefined approach.

The review authors assessed the certainty of each finding using a systematic approach called GRADE. GRADE uses criteria such as the risk of systematic errors (bias) in the finding of each study and the risk of errors due to the play of chance (because of few people or events in the studies).
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Reference

The information for this summary is taken from the following Cochrane Review: Agarwal S, Glenton C, Tamrat T, et al. Decision-support tools via mobile devices to improve quality of care in primary healthcare settings. Cochrane Database of Systematic Reviews. 2021(7). <https://doi.org/10.1002/14651858.CD012944.pub2>

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