

## Clinical decision-support systems on mobile devices aim to improve the adherence of primary-care providers to guidelines, the quality of care and patient outcomes, but their effectiveness remains unclear

Agarwal S, Glenton C, Tamrat T, Henschke N, Maayan N, Fønhus MS, et al. [Decision-support tools via mobile devices to improve quality of care in primary healthcare settings](#). Cochrane Database of Systematic Reviews. 2021;(7):Art. No.: CD012944. DOI: 10.1002/14651858.CD012944.pub2.

### What is the context of this review?

- The provision of appropriate, evidence-based, quality care is a concern of patients, professionals, researchers, policymakers, and other health-system stakeholders across the globe.
- There is widespread recognition that the quality of care often varies widely across care providers (including in primary-care settings).
- We often refer to the ‘know-do’ gap, which is the gap between what providers know (for example about diagnostics, treatments, and management protocols) and what they do in practice.
- Clinical decision-support systems (CDSS) refer to any electronic system designed to help make decisions, in which characteristics of a patient are used to generate assessments or recommendations specific to the patient that are then presented to clinicians for consideration.
- CDSS are available on smartphones, tablets and other mobile devices and can help primary-care providers at make decisions at the point-of-care.
- CDSS on mobile devices aim to improve adherence to guidelines, quality of care and patient outcomes, but evidence of their effectiveness have not been synthesized.

### Box 1: Coverage of OHT building blocks

This review addresses [OHT building blocks #5 and #8](#):

- 1) defined patient population
- 2) in-scope services
- 3) patient partnership and community engagement
- 4) patient care and experience
- 5) digital health (domain 36 – digital health tools)**
- 6) leadership, accountability and governance
- 7) funding and incentive structure
- 8) performance measurement, quality improvement, and continuous learning (domain 54 – guidelines and other sources of best evidence)**

### What question is being addressed?

- What is the effectiveness of CDSS on mobile devices by primary-care providers?
- More specifically, the authors examined whether CDSS on mobile devices improved:
  - adherence to guidelines or protocols;
  - timely access to diagnosis and care; and
  - patient outcomes (for example, health behaviours, wellbeing, satisfaction, health outcomes).

### How was the review done?

- Several online databases were searched to find studies that compared CDSS on mobile devices with non-digital decision-support tools, or no tools at all.
- The authors found a total of 7,777 potential studies, eight of which were deemed relevant after assessing their eligibility.
- The authors were supported by a fund from the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP).

### How up to date is this review?

- The authors searched for studies published up to 9 October 2020.

### What are the main results of the review?

- The studies showed that various types of primary-care providers used CDSS on mobile devices for the management of different kinds of conditions, such as cardiovascular diseases and maternal health.
- The review revealed that CDSS on mobile devices may slightly improve the satisfaction of patients with medical information provided to them.
- Given the low-certainty or mixed evidence, it is unclear if CDSS on mobile devices improve:
  - primary-care providers' adherence to guidelines or protocols; and
  - patients' health behaviours and health outcomes.

### How confident are we in the results?

- This is a recent and high-quality systematic review with an AMSTAR score of 11/11.

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