

# PLAIN LANGUAGE SUMMARY



SPOR Evidence Alliance

Strategy for Patient-Oriented Research

Alliance pour des données probantes de la SRAP\*

Stratégie de recherche axée sur le patient

Strategy for Patient-Oriented Research



## Digital Education Tools for Patients Undergoing Cardiac Procedures

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### Summary

Digital education tools, such as mobile apps, websites, or online connections with healthcare providers, could improve outcomes for patients undergoing cardiac procedures, particularly for those who cannot travel to rehabilitation centres. We did a systematic review of studies about these tools. We found that they tended to have a positive impact on patient outcomes related to health, knowledge, behaviour, and attitudes. However, the studies often did not use the same ways to measure how well the tools worked. This meant that we could not easily compare findings across studies.

### What does this mean?

Digital tools are a promising way to educate patients who are either preparing for, or recovering from, cardiac procedures, but it is hard to say for certain how well they work and under what circumstances. Future tool designers should consider using educational theories or frameworks to design and evaluate the tools while involving patients and/or knowledge users. This could result in consistent ways to measure how well they work.

**Citation:** Wells R\*, Boulos L, Gray M, Keeping SE, Devereaux EJ, Brauer-Chapin T, Hariharan A, Fera G, DeCoste K, Hickey M, Johnson C, Rubenstein D\*, Hirsch GM, Gainer R, Curran JA. Wide variability in studies reporting on digital education interventions for patients undergoing cardiac procedures: A patient-commissioned mixed methods systematic review. *Heart Lung*. 2026 Jul-Aug; 78:102702.

\*Patient Partners

For more information, please contact  
Janet A. Curran (jacurran@dal.ca)

### What is the current situation?

Patients undergoing cardiac procedures do best when they are educated about how to prepare for and recover from their procedures. In the past, education was provided in person and on paper. Today, there are many options for delivering education in digital format such as mobile apps, websites, and online connections with healthcare providers and other patients with lived experience.

### What questions did we aim to answer in our research?

We wanted to know how well these digital education tools work for improving outcomes for patients undergoing cardiac procedures.

### How did we approach these questions?

We did a systematic review of studies about these tools. We searched four online databases and looked through websites. We ended up with 41 studies to analyze. First, we used a framework by the World Health Organization to group the digital education tools into buckets depending on their features. Then, we grouped the studies by which outcomes they measured. We wanted to see if certain tool features were associated with a positive impact on particular outcomes. We also looked at whether the tools were designed using an educational framework, or in partnership with patients and/or knowledge users.

### What answers did we find from our research?

Most studies found that the tools had a positive impact on patient outcomes related to health, knowledge, behaviour, and attitudes. Most of the tools sent targeted communications and/or alerts to patients based on their health status. However, the studies were designed very differently, and most did not measure the same outcomes in the same ways. We were not able to find out whether design features resulted in particular outcomes, and we could not easily compare results across studies. And finally, almost none of the tools used educational frameworks, and none used co-design or involved patient partners or knowledge users.

### How confident are we in these findings?

Because the studies were so different, we cannot draw conclusions based on the whole body of evidence. But individual studies did tend to find that these tools had a positive impact on a variety of patient outcomes. We would be more confident in future studies that measure the same outcomes in the same way. We would also be more confident if future tools were designed using educational frameworks, or in partnership with patients and/or knowledge users.