

What is the status of remote patient monitoring in heart failure?

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Background

Heart failure is a common condition in Australia and a leading cause of hospitalisations.¹ Surveillance of symptoms and pharmacological treatment is core to effective management, meaning that remote patient monitoring (RPM) has significant potential.²

Literature search

How did we answer this question?

This evidence snapshot uses a non-systematic approach, rapidly reviewing the most relevant, recent, and high quality evidence to answer this question. The evidence is reviewed alongside one academic expert and one content expert, to produce a brief evidence summary that is “good enough” to inform health services of relevant topics.³ This document alone is not sufficient to solely inform decision-making.

Findings

What is the evidence for clinical and cost effectiveness of RPM in heart failure?

More than 70 studies have investigated the effectiveness of RPM for patients with heart failure in more than 125,000 participants.^{4,5} Overall, the evidence indicates that RPM is effective in improving clinical outcomes, quality of life, and is cost-effective. RPM for heart failure is associated with reduced risks of cardiovascular-related mortality and hospitalisation for a cardiovascular cause.⁶⁻⁸ The difference in costs between RPM and usual care ranged from about AUD\$1000 - \$1600 per patient, with RPM almost always being less costly than usual care, with savings accounted for primarily by reduction in hospitalisations.⁸ One important factor that impacted how much cost saving resulted from RPM was organisational workflows, in that level of RPM integration into existing systems affected costs for resources, software, and training.⁵

What is the current status of RPM for heart failure in health systems?

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- Canada is a world leader in RPM for heart failure. RPM is being implemented in various health services across Canada and evidence shows that site specific implementation advice may be needed to ensure success.⁹
- In the US, changing regulatory environment during COVID-19 has meant that RPM is now reimbursable, which has contributed significantly to widespread use.²
- In Australia, the most recent Guidelines for cardiac conditions were published in 2018, meaning they are out of date for current RPM evidence.¹⁰ However, even in these earlier Guidelines, there was a strong recommendation in favour of RPM where access to a face-to-face multidisciplinary heart failure disease-management program after discharge is limited, which is particularly relevant for rural and regional areas.
- There is evidence that individuals of all ages with remote patient monitoring can engage with RPM. Older patients had the highest rates of compliance in a heart failure RPM program.⁶

What does this mean for health services?

- Health services should design programs that select patients most likely to benefit from RPM, identify preclinical indicators of decompensation, and ensure patient adherence. ² RPM algorithms should be optimised for clinical alerts that are actionable, while eliminating false positives that may result in unnecessary healthcare utilisation.
- While RPM can prevent long-term high-cost health events, it often increases healthcare costs in the short term due to the capital investment required, and operational costs required to provide an ongoing remote patient monitoring program. Decision makers must trade-off the gains with the costs.
- Health services should understand the macro level barriers to RPM success, such as reimbursement models and digital maturity of an organisation.² In the absence of appropriate reimbursement, the burden of implementation of RPM lies totally within the providers (hospitals, ambulatory patient services) and the benefits lie with the third-party payers (Government and insurance companies). Health services should ensure they are evaluating their programs, so that the data can be used to advocate for changed funding models.

Limitations

- Most studies had relatively short time horizons of less than 12 months, which means these findings may not be reflective of the true long-term cost savings.
- Most studies considered economic savings solely from a health system or third-party payer perspective, and societal perspectives were rarely considered.
- The data is primarily from the US and to a lesser extent, Europe, which has a different healthcare system context.
- The costs of the implementation of RPM are not accounted for in these analyses.

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The DELIVER Research Project:

- Identifies what the people and healthcare providers of western Victoria need most in terms of home-based healthcare services
 - Designs and tests the best way to deliver these services, so that home-based healthcare services will continue to grow and improve across the region and beyond
 - Supports the growth of research in western Victoria, so that future research findings can quickly be translated to improvements in healthcare
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