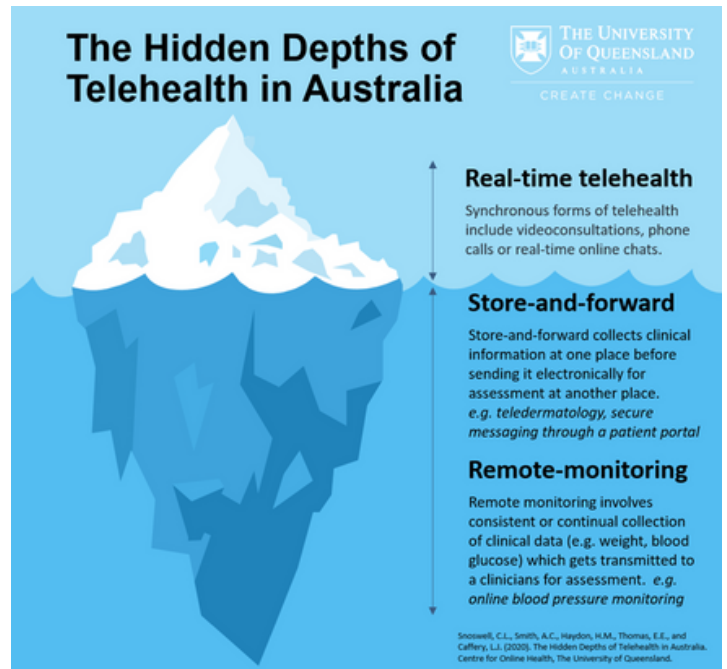


REMOTE PATIENT MONITORING

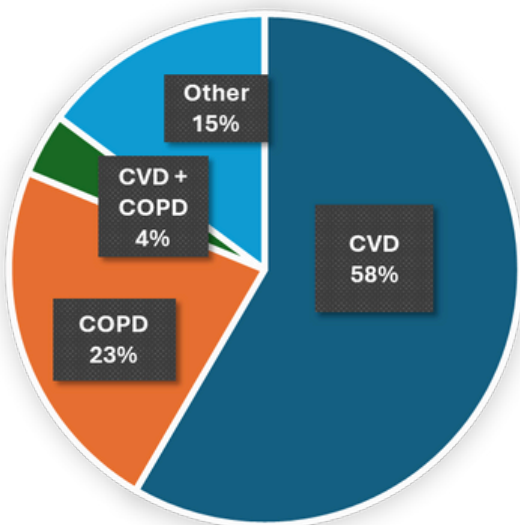
PRESENTED BY DR EMMA THOMAS

Real-time telehealth (e.g. telephone or video consultations) only really scratches the surface of telehealth.

Remote patient monitoring (RPM) is one aspect of telehealth that is gaining traction but not yet used to its full potential in patient care. RPM involves the recording and transmission of patient biometrics, vital signs, and/or disease-related data to a healthcare provider using information and communications technology.



Included studies (N=91)
disease conditions

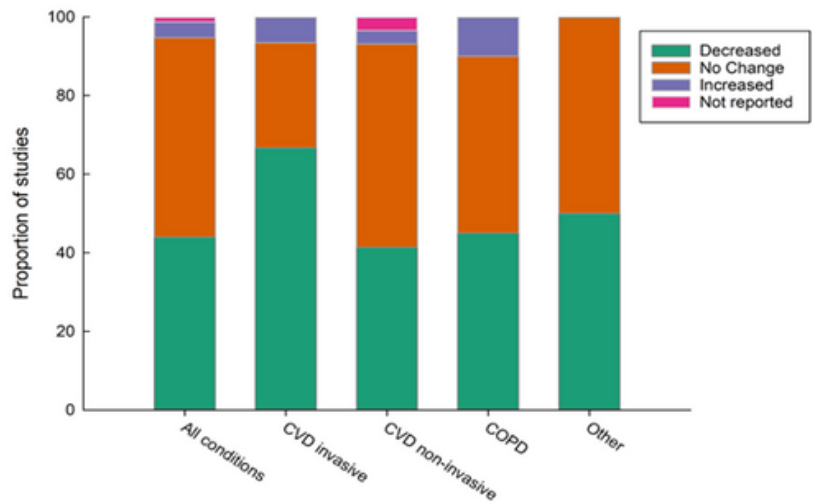


What is the evidence on RPM?

We conducted a review of the evidence to determine if RPM can reduce acute hospital use (so presentations to ED and/or hospital admissions). We focused on this outcome of acute care use because this is a very costly aspect of care for health services. We included 91 studies. The evidence at this stage is heavily focused on areas such as cardiovascular disease and chronic obstructive pulmonary disease.

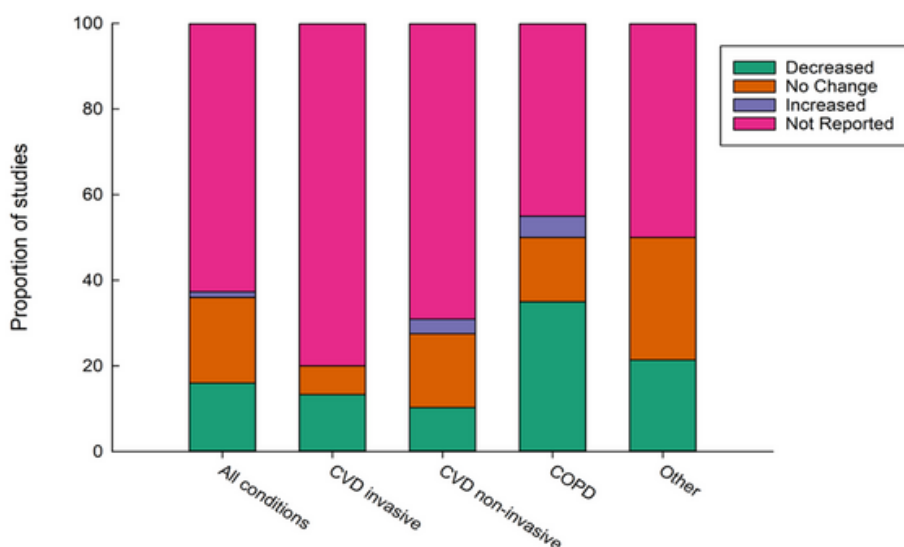
RPM and hospitalisation

- Invasive monitoring of cardiovascular disease (e.g. pacemakers) was more effective at reducing hospital admissions.
- Effectiveness may be linked to the ability to provide continuous and passive biometric monitoring rather than other methods which give intermittent “snapshots” and often require patients to manually upload information.



RPM and ED presentations

- Fewer studies looked at ED presentations. Of those that did, RPM of chronic obstructive pulmonary disease (COPD) was more effective at reducing emergency presentations.



- While it is challenging to accurately predict COPD exacerbations based on variations in physiological measures, studies show promising results that RPM can be used to reduce ED presentations.

However, the overall effect of RPM on acute care use is mixed; service implementation is key.

So, what are the factors that enhance implementation of RPM projects?

If the focus is to reduce hospital admissions you should consider:

1. Target populations at high risk

- Prioritise RPM applications for patient groups with high admission rates (e.g. patients with CVD or COPD).

2. Select the most appropriate biometrics to monitor

- Ensure that the clinical information being collected and shared is customised according to patient condition and clinical requirements.



3. Provide timely responses and regular patient engagement

- Where possible, automation for interactions like out-of-range alerts and reminders should be included in software to improve efficiency, and to ensure services are responsive to patient needs.

4. Provide personalised care

- RPM services should align with clinical requirements and allow for customisation of care plans for individual patients, depending on patient needs.

5. Enhance self-management

- RPM information should be shared with the patient in a practically useful format and help empower the person to better manage their health condition.

6. Ensure collaborative and coordinated care

- RPM services need to be integrated into clinical models of care, as business-as-usual activities. To optimise this, roles and responsibilities need to be carefully articulated to avoid duplication and ensure that services are delivered in a safe and effective manner.

What does this look like in practice?



ORGANISATIONAL

- Centrally monitored/dedicated person
- Integrate RPM into workflow
- Provide incentives to use RPM
- Enhance coordination between primary and tertiary care



INTERPERSONAL

- 2-way interaction between patient and team
- Support & education to enhance self-management
- Use data to tailor and personalise
- Ensure collaboration and multidisciplinary team



INTRAPERSONAL

- Select patients at high risk of readmissions
- Increase adherence through routine data checks
- Motivate patients to use



INTERVENTION

- Co-design with target population
- Make it simple and easy to use
- Use patient-specific measurements
- Enhance self-management (e.g., medication adherence)

To read more about this see:

- <https://bmjopen.bmj.com/content/11/3/e040232.abstract>
- <https://bmjopen.bmj.com/content/11/8/e051844.abstract>
- And to learn more about the important parts of implementation in a community based use of RPM in cardiac telerehab see here: <https://academic.oup.com/ehjdh/article/5/3/208/7511796?login=false>