

Media release

Clinical study finds that offering digital health platform Cardihab increases participation in cardiac rehabilitation

A clinical study of patients with cardiovascular disease by Queensland Cardiovascular Group has found that offering a digital health platform, Cardihab, substantially improved participation rates in cardiac rehabilitation.

The findings were published in cardiovascular medicine journal JMIR Cardio and revealed that participation in cardiac rehabilitation improved from 21% to 63% when app-based cardiac rehabilitation (SmartCR) was offered as an alternative in addition to a conventional in-person program.

Cardihab provides a digital platform and patient apps (SmartCR) that facilitate the virtual delivery of cardiac rehabilitation and chronic disease management programs for patients recovering from cardiac events and living with heart disease.

The study involved 204 patients who were offered cardiac rehabilitation post angioplasty.

Cohort 1 comprised 99 patients who were offered conventional cardiac rehabilitation only. Cohort 2 comprised 105 patients who were offered Cardihab as an alternative if they declined conventional cardiac rehabilitation.

Patients in each cohort were monitored throughout a 6-week cardiac rehabilitation program, and participation rates were compared for both groups.

Dr John T Rivers, director of the Queensland Cardiovascular Group and lead author, said that cardiac rehabilitation was recommended and improved outcomes for patients, but poor patient uptake remained a challenge.

“The emphasis on continued close involvement by the clinical team was a key success factor. The inclusion of digital health should be considered as another tool in program delivery. Cardiac rehabilitation reduces cardiovascular mortality and increase quality of life, but many people don’t participate because of geographic distance or lack of transport, time constraints as well as cultural, cost and psychological barriers. The improved uptake of cardiac rehabilitation following the addition of SmartCR suggests that a significant number of patients will benefit from the convenience and flexibility of a remotely delivered virtual program. The low readmission rates were also an encouraging outcome that warrants further exploration.”
[Dr Rivers]

Helen Souris, Cardihab’s chief executive officer, said that Cardihab enables patients to participate in a care plan that fits within their life.

The structured yet personalized program means that patients are getting high-quality care, while completing a specific program tailored to their individual needs.

“Cardihab provides an important option to help overcome barriers to participation in conventional in-person cardiac rehabilitation programs. Patients do not have to travel long distances to attend a program – they complete it from home while under clinical supervision. Cardihab also helps fit in with peoples’ busy work schedules and family commitments, and alleviates cost and time constraints associated with traditional programs. It has been a critical alternative particularly during COVID-19 whereby significant disruptions to traditional programs have been experienced Australia wide, and social distancing requirements presented further barriers to participation.” [Ms Souris]

Other key insights

- App-based cardiac rehabilitation offered to those declining conventional cardiac rehabilitation can improve participation rates;
 - The study found that providing the additional option of Cardihab was associated with an increase of 42% in overall cardiac rehabilitation participation;
- Participation in conventional in-person cardiac rehabilitation in Cohort 1 was 21% while that with the added option of Cardihab in Cohort 2 was 63%;
- Approximately 23% of patients in Cohort 2 who declined any cardiac rehabilitation program identified technology issues as the reason why they declined use of the digital platform. Approximately 26% did not participate in either conventional or digital cardiac rehabilitation because they were scheduled for further cardiac procedures. Others declined because of psychosocial issues, frailty or comorbidities, and other reasons;
- This study was not powered to address differences in readmission rates, but the very low rate of 4% observed for app-based cardiac rehabilitation compared to that in other groups is hypothesis-generating.
- Readmission after major cardiac events is a significant and costly problem [1], with 30-day rates estimated between 6%-27% and 12-month rates estimated at 20%-30%.

References:

[1] Chew DP, Scott IA, Cullen L, et al. National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the management of acute coronary syndromes. *Heart Lung Circ* 2016 Sep;25(9):895-951. PMID: 27476580, DOI: 10.1016/j.hlc.2016.06.789.

[2] Janssen V, De Gucht V, Dusseldorp E. Lifestyle modification programmes for patients with coronary heart disease: A systematic review and meta-analysis of randomized controlled trials *Eur J Prev Cardiol* 2013 Aug;20(4):620-640. PMID: 23022703, DOI: 10.1177/2047487312462824.



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Original article:

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URL: <https://cardio.jmir.org/2022/1/e24174/>

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About Cardihab Pty Ltd

[Cardihab Pty Ltd is a digital health company](#) that helps patients to reach optimal health when at risk of, or living with, heart disease. Cardihab's secure cloud-based SaaS platform enables clinical professionals to deliver tailored cardiac rehabilitation care plans for patients who have had a cardiac event, and chronic cardiac care plans for secondary prevention. Cardihab's care model was originally developed by the Commonwealth Scientific and Industrial Research Organisation.

A randomized control trial showed that Cardihab demonstrated significantly higher rates of uptake (80% vs 62%), adherence (94% vs 68%), and completion (80% vs 47%) than traditional hospital-based cardiac rehabilitation.

Cardihab was also shown to be just as effective as traditional hospital rehabilitation in improving physiological and psychological health outcomes and led to significantly improved health-related quality of life, and significant reduction in both depression and anxiety. Cardihab is registered on the Australian Registry of Therapeutics Goods as a Class I Medical Device. ARTG Identifier: 340440.

About the Queensland Cardiovascular Group

The Queensland Cardiovascular Group (QCG) continues to offer quality cardiac health care after 28 years in practice. The QCG was established in 1993 with the vision of providing comprehensive investigative cardiac services and state-of-the-art treatment options to patients throughout Queensland.



Since then, the QCG has pioneered and set the benchmark for group cardiology services in Queensland, proudly remaining an independent, patient-oriented practice focused on excellence in cardiovascular care.

As leaders in their fields, our 25 cardiologists provide experienced and compassionate clinical assessment using cutting-edge technologies to provide patients and referring doctors with a quality integrated service. Because we are such a diverse group, consisting of cardiac electrophysiologists (heart rhythm specialists), interventional cardiologists, and imaging and computed tomography cardiologists, patients can easily be referred within the group to the most appropriate specialist.

At the QCG, patient experience is our primary focus. All our patients receive individualized attention by cardiologists, nurses, scientists, technicians, and office staff—it is a team effort.

The QCG (website: <https://qcg.com.au/our-practice>) is the longest established independent group of cardiologists in Queensland.