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# Queensland Tele-Cardiac Investigations (T-CI) Program

Initiative Type

System Improvement

Status

Sustained

Added

13 November 2020

Last updated

30 March 2022

URL

<https://cnxp3cuvtvrn68yjaibaht5ywrxspj7m.clinicalexcellence.qld.gov.au/improvement-exchange/queensland-tele-cardiac-investigations-t-ci-program>

## Summary

With the assistance of high quality and innovative technology, the Tele-Cardiac Investigations (T-CI) team is utilising Telehealth to facilitate the cardiac investigations of Holter monitoring and exercise stress testing to rural and remote hospitals across Queensland. Specialist cardiology support is provided throughout testing to ensure rural and remote patients are receiving early access to testing

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followed by rapid reporting and prompt follow up, where required.

## Key dates

Nov 2020

Jun 2022

## Implementation sites

North West HHS Mount Isa Base Hospital Cloncurry Community Health Centre Julia Creek Hospital Camooweal PHC Doomadgee Hospital Mornington Island Hospital Normanton Hospital Central West HHS Longreach Hospital Iningai CHC Boulia PHC Windorah Clinic Winton

## Partnerships

The T-CI Program have been supported by Clinical Excellence Queensland (CEQ) since its inception. CEQ funded the project for the three year 'project' period and have continued to fund the program ongoing. The assistance from our Telehealth Coordinator

## Key Contacts

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## **Aim**

To enable access to specialist cardiac investigations of Holter monitoring and exercise stress testing to all Queenslanders, regardless of geographical location.

## **Benefits**

- Same day access to Holter monitoring and exercise stress testing
- Increased testing capacity
- Proven increase in Aboriginal and Torres Strait Islander (ATSI) patient uptake
- Decreased wait times to access testing
- Decreased time to reporting (immediate reporting of exercise stress testing via electronic signature and same day reporting of Holter monitors).
- Reduced requirement for patients to travel to access specialist cardiac investigations with associated cost saving for both the hospital and health service and the patient.
- Rural medical team supported by T-CI Advanced Trainee Cardiology Registrar to provide guidance and recommendations, where required.

## **Background**

The urban-rural disparity is strongly evident in Australian rural communities, with a higher prevalence, incidence and deaths from cardiovascular disease, with limited access to cardiac investigations being a major contributor. Our aim was to assess whether a Tele-Cardiac Investigations (T-CI) team, located at a tertiary facility (Royal Brisbane and Women's Hospital (RBWH)), could conduct 'live' exercise stress testing (EST) and Holter monitoring (HM) at rural facilities, via Telehealth, to support local rural clinicians. Having listened to our rural colleagues and their consumers, it was our intent to reduce this urban-rural disparity by improving access, reducing waiting times, reducing reporting times, decreasing patient travel, reducing costs and closing the gap for First Nations People.

## **Solutions Implemented**

With the assistance of high quality and innovative technology, the T-CI team are utilising Telehealth capabilities in a world first method. This is achieved through 'live' videoconference equipment and the ability to either slave and remotely control the EST machine or initialise and upload Holter monitors from the rural site to the T-CI team at the RBWH for rapid analysis and reporting. An

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experienced cardiac scientist provides guidance and support throughout the duration of the appointment with subsequent immediate reporting performed by a cardiology registrar for ESTs and same day reporting for Holter monitors. This enables patients in rural and remote areas of Queensland to have the same quality and level of care as metropolitan areas. The T-CI initiative has the potential to encourage creative thinking across multiple health disciplines and encourage utilisation and implementation of Telehealth technology to solve access barriers.

## Evaluation and Results

Prior to T-CI implementation, rural and remote hospitals were unable to access specialist cardiology services within their own community with testing either unavailable or alternatively performed by under-equipped non-specialised staff. Post implementation, the T-CI team has completed a total of 4,997 occasions of service between 2017 and end of June 2020 in local communities. There are 21 active rural sites as of July 2020, with further sites to be brought online after 2020. A 12-month pre- and post T-CI analysis of two rural HHSs revealed a 42% increase in Occasions of Services and a two-fold increase in First Nations patient uptake (63 to 127 patients per year). Additionally, substantial decreases were observed for time to testing (pre- 40 vs. post: 22 days), time to reporting (36 vs. 0 days) and time from referral to the report returned to the referring doctor (80 vs. 23 days). Furthermore, a reduction in travel was observed post T-CI, with a reduction of 502 kilometres achieved on average, per patient requiring a Holter monitor. An estimated cost saving of \$393.33 per patient through reduced travel and overnight stays was observed, with 91% of patients able to have their test performed at their local health facility.

## Lessons Learnt

The success of the T-CI Program has been due to the forward thinking and innovative mindsets of our rural and remote partners. The service listens to what our customers require, rather than telling them what they need. The T-CI program provides unique and specialised solutions to each of our partnered facilities as we appreciate one solution does not fit all. The program aims at empowering the staff at our rural facilities by assisting, upskilling and delivering services as an equal partnership rather than being just a service provider.

## References

CEQ funded the project for the three year 'project' period and have continued to fund the program ongoing. The assistance from our Telehealth Coordinators both within Metro North and with our partnered HHSs have been fundamental for the success of the program. The T-CI Program are currently partnered with five hospital and health service regions including:

- North West HHS
- Central West HHS
- Central Queensland HHS

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- Mackay HHS
  - Metro North HHS

## **Further Reading**

[Cardiovascular Telemedicine Program of Rural Australia](#)

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