

Aboriginal and Torres Strait Islander Better Cardiac Care Data Linkage Project

Executive Summary

Acknowledgements

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to Elders past and present.

We would also like to acknowledge the contributions of the Project Advisory Group, the Aboriginal and Torres Strait Islander Health Branch of the Queensland Health Department, the Queensland Data Linkage group, the Health Innovation, Investment and Research Officer and data custodians, our collaborators, and past members of the Menzies School of Health Research team, including the Menzies Global and Tropical Health business manager.

© Menzies School of Health Research 2021

The material contained in this document is the subject of copyright and/or privileged information. Non-commercial use of this document may be granted, with Menzies School of Health Research acknowledged.

This report was prepared by Dr Abbey Diaz, Professor John Condon and Associate Professor Lisa Whop.

Investigators

Coordinating Principal Investigator

Daniel Williamson Manager Performance, Aboriginal and Torres Strait Islander Health Branch

Menzies Team

Abbey Diaz Senior Research Officer, Menzies School of Health Research
 Lisa Whop Senior Research Fellow, Menzies School of Health Research
 John Condon Senior Principal Research Fellow, Menzies School of Health Research
 Therese Kearns Research Fellow, Menzies School of Health Research
 Suzanne Moore Senior Research Fellow, Menzies School of Health Research
 Boyd Potts Data Analyst, Menzies School of Health Research
 Ross Andrews Senior Principal Research Fellow, Menzies School of Health Research
 Gail Garvey Senior Principal Research Fellow, Menzies School of Health Research

Queensland Health Team

Abdulla Suleman Principal Policy & Planning Officer, Aboriginal and Torres Strait Islander Health Branch
 Alex Kathage Principal Policy & Planning Officer, Aboriginal and Torres Strait Islander Health Branch
 Lucy Stanley Principal Policy & Planning Officer, Aboriginal and Torres Strait Islander Health Branch
 Louise Mitchell Principal Policy & Planning Officer, Aboriginal and Torres Strait Islander Health Branch

ABBREVIATIONS

Acronym	Term
ABS	Australian Bureau of Statistics
ACHI	Australian classification of health interventions
ACS	Acute coronary syndrome
ARF	Acute rheumatic fever
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of health and Welfare
ARIA+	Accessibility/Remoteness Index of Australia
CABG	Coronary artery bypass graft
CHF	Congestive heart failure
CVD	Cardiovascular disease
DLQ	Data Linkage Queensland
ERP	Estimated resident population
ICD	International classification of disease
IHD	Ischaemic heart disease
MI	Myocardial infarction
NSTEACS	Non-ST-segment elevation acute coronary syndrome (NSTEMI + UA)
NSTEMI	Non-ST-segment elevation myocardial infarction
PCI	Percutaneous coronary intervention
QHAPDC	Queensland Hospital Admitted Patients Data Collection
RHD	Rheumatic heart disease
SA	Statistical Area
SEIFA	Socioeconomic Indexes for Areas
SLA	Statistical Local Area
STEMI	ST-segment elevation myocardial infarction
UA	Unstable angina

Executive summary

This study includes Queenslanders admitted to hospital with Ischaemic heart disease (IHD), congestive heart failure (CHF), stroke, rheumatic heart disease (RHD) and/or acute rheumatic fever (ARF) during 2010-2016. Key findings include:

Survival

Compared to other Queenslanders, Aboriginal and Torres Strait Islander people were:

- 2.0 times as likely to die from IHD during their first IHD admission
- 2.2 times as likely to die from IHD after discharge from their first IHD admission
- 2.1 times as likely to die from CHF during their first CHF admission
- 1.1 times as likely to die from stroke during their first stroke admission
- 1.2 times as likely to die from other cause during their first stroke admission
- 1.4 times as likely to die from stroke after discharge from their first stroke admission
- 3.5 times as likely to die from RHD during their first RHD admission

Procedures

- 68% of Queenslanders aged 25-84 years admitted with a principal diagnosis of ACS received at least one therapeutic procedure for ACS during this admission, diagnostic angiography (63%), percutaneous coronary intervention (32%) and coronary artery bypass graft (8%).
- A lower proportion of Aboriginal and Torres Strait Islander people received ACS procedures during their first ACS admission. People who did not receive a therapeutic procedure for ACS during their first ACS admission had a higher ACS re-admission rate and ACS fatality rate than those who did receive a procedure.

Length of stay

- Generally, Aboriginal and Torres Strait Islander people spent one day longer in hospital than other Queenslanders at their index admission. For CHF, however, Aboriginal and Torres Strait Islander people spend one day less in hospital.
- For stroke, the difference in length of stay between Aboriginal and Torres Strait Islander people and other Queenslanders was larger (relatively) for those living in the most advantaged areas
- For RHD, the difference in length of stay between Aboriginal and Torres Strait Islander people and other Queenslanders was seen for those living in major cities, but not elsewhere

Re-admission rate

- Aboriginal and Torres Strait Islander people had a higher 30-month rate of re-admission than other Queenslanders for IHD, CHF, stroke, and ARF, but it was similar for RHD
- Most re-admissions occurred within the first month after discharge from the first index admission and then declined to plateau
- Generally, Aboriginal and Torres Strait Islander people had a higher one-month re-admission rate than other Queenslanders

Differences across age groups

- The average age at time of index admission was lower for Aboriginal and Torres Strait Islander people than other Queenslanders in all study cohorts.
- The risk of dying from the index condition during the index hospital admission moderately increased with increasing age for the IHD, CHF, stroke, and RHD cohorts.

- The risk of dying from index condition in the three years post discharge from the index admission increased with increasing age for the IHD, stroke, and RHD cohorts.
- Generally, age was not associated with length of stay or 30-month re-admission rate

Differences between men and women

- Generally, there were more men than women hospitalised for CVD during the study period, except for RHD and, for Aboriginal and Torres Strait Islander people, CHF and Stroke.
- Women had lower cause-specific death rates in the 36-months after discharge from their index admission, for IHD and RHD, and, for Aboriginal and Torres Strait Islander people, stroke.
- For the IHD cohort, women had a shorter length of stay, on average, compared to men. For other cohorts, sex was not associated with length of stay.
- For the IHD, CHF and stroke cohorts, women had significant lower 30-month re-admission rates compared to men.

Differences across residential and service areas

- Aboriginal and Torres Strait Islander people were more likely to live in poorer and non-urban areas and be admitted to health services in northern Queensland and less likely to be admitted to private hospitals.
- Socioeconomic advantage was associated with:
 - Less deaths due to IHD during the index admission and the three years after discharge from the index admission for the IHD cohort, although the latter was only observed in other Queenslanders.
 - Less deaths due to other causes during the index admission and the three years post discharge for the CHF cohort.
 - Less deaths due to other causes during the index admission for the RHD cohort
- Residential remoteness was associated with:
 - Increased cause-specific deaths during the index admission for the IHD and RHD cohorts
 - Longer length of stay during the index admission, in general.
 - Increased 30-month re-admission rate for the IHD and Stroke cohorts.
- Compared to Metro North HHS, private hospital patients were:
 - Less likely to die during the index admission from any cause, and the 36-months after discharge for the IHD cohort
 - Less likely to die during the index admission, for any cause, for the Stroke cohort
 - Had shorter length of stay, on average, during their index IHD and stroke admissions
 - Had a reduced 30-month re-admission rate for the Stroke cohort.

Differences by co-morbidity level

- The most common non-cardiac comorbidities were diabetes, renal disease, pulmonary disease, and cancer. Except for cancer, these comorbidities were more common in Aboriginal and Torres Strait Islander people.
- As comorbidity score increased the proportion of the IHD, stroke and RHD cohorts who died during their index admissions increased, more so for other causes of death.
- The 36-month cause-specific death rate after discharge from the index admission increased for IHD, stroke and RHD cohorts, as did the cause-specific death rate for the CHF cohort.
- As comorbidity increased, the average length of stay increased for the IHD and RHD cohorts.
- Generally, those with comorbidity compared to those without, had an increased re-admission over the 30-month follow-up.