2.2 Heart failure

Why is this important?

Heart failure affects about 1–2% of people in Australia. People with heart failure often have multiple hospitalisations, and have a mortality rate of 50–75% within five years of diagnosis.¹ In 2017–18, heart failure accounted for 412,693 hospital bed days.² Hospital care is appropriate when the condition is severe, but well-coordinated care in the community can keep people with heart failure well enough to reduce their need for hospitalisation.

What did we find?

Between 2014–15 and 2017–18, the rate of heart failure hospitalisations per 100,000 people nationally increased by 4%. In 2017–18, the rate of hospitalisations for heart failure was **5.8 times as high** in the area with the highest rate compared with the area with the lowest rate. The rate for Aboriginal and Torres Strait Islander people was 2.3 times as high as that for other Australians, but decreased by 4% between 2014–15 and 2017–18.

What can be done?

Reducing hospitalisations for heart failure will take a combination of approaches:

- Primary prevention
- Consumer enablement
- More effective use of medicines
- Greater use of exercise and cardiac rehabilitation programs
- Better care in the community, including improved integration with hospital care and greater access to multidisciplinary care.

Major system changes that support widespread implementation of these changes are needed to reduce hospitalisations for heart failure. For example, system redesign to ensure outpatient clinic review within 30 days of an admission may have a marked effect on mortality. Better integration of care in the community with acute hospital care can improve outcomes for people with heart failure. Specific interventions, such as medication management and rehabilitation programs, can also reduce hospitalisations for heart failure.

Heart failure is not a new problem, and the health system must do better to manage it. Priority should be given to improving care for groups with higher rates of hospitalisation for heart failure, such as Aboriginal and Torres Strait Islander people and those living outside metropolitan areas or in socioeconomically disadvantaged areas.

Context

Chronic heart failure is a condition that occurs when the heart becomes weaker and/or less effective at pumping blood around the body. Symptoms of chronic heart failure include fluid accumulation in the body and breathlessness.

Ejection fraction is a measure of the volume of blood the heart pushes out with each heart beat. The major categories of heart failure are heart failure with reduced ejection fraction and heart failure with preserved ejection fraction.

The most common cause of heart failure is underlying heart disease due to impaired coronary blood supply, usually accompanied by a history of myocardial infarction (heart attack).³ Other causes include hypertension and valvular heart disease.³ Risk factors for these conditions and heart failure include age, family history, smoking, obesity and diabetes.³ Reducing these modifiable risk factors could reduce the prevalence of heart failure.

People with heart failure have high rates of hospitalisation to manage acute episodes of decompensation (severe symptoms), and have a mortality rate of 50–75% within five years of diagnosis.¹ In 2017–18, heart failure accounted for 412,693 hospital bed days.² The rate of hospitalisations for heart failure was 227 per 100,000 in Australia, compared to 164 per 100,000 in Canada, in people aged 15 years and over in 2016.⁴

The most common events that lead to hospitalisation are infection, non-adherence to fluid restrictions and non-adherence to medicines.⁵ People admitted to hospital with acute decompensation of chronic heart failure often have comorbidities with shared risk factors, such as renal disease, diabetes and pulmonary disease.⁵

Prevalence

The prevalence of heart failure in Australia is estimated at 1–2%. The prevalence of heart failure rises steeply with age, and the rate of hospitalisations for heart failure is approximately 20 times higher among people aged 75–79 years than among those aged 45–49 years.² There may be substantial numbers of people with undiagnosed heart failure in Australia.¹

National data on long-term trends in the prevalence of heart failure are not available. A Western Australian study reported that the incidence of first hospitalisations for heart failure decreased steadily between 1990 and 2005 – from 191 to 103 per 100,000 in men, and from 130 to 75 per 100,000 in women.⁶ However, hospitalisations for heart failure increased by 15% over this period, partly due to the ageing population and improved survival among people with heart failure.⁶

Rates of heart failure are higher in rural and remote areas than in metropolitan areas of Australia.¹ A combination of factors is likely to contribute to this:

- Social determinants such as education, income and employment
- Risk factors such as smoking
- Lack of access to health care or health professionals.⁷

Heart failure in Aboriginal and Torres Strait Islander people

Rates are higher among Aboriginal and Torres Strait Islander people.¹ Estimates of heart failure prevalence among Aboriginal and Torres Strait Islander people range from 1% to 5.3%.¹ Timely diagnosis of heart disease and heart failure is one of the priority areas in the Better Cardiac Care Measures for Aboriginal and Torres Strait Islander People initiative of the Australian Health Ministers' Advisory Council.⁸ The number and proportion of Aboriginal and Torres Strait Islander people, compared with other Australians, who received one or more relevant cardiac-related Medicare Benefits Schedule (MBS) diagnostic services in the previous 12 months is reported as a measure of timely diagnosis. This measure showed some improvement between 2004–05 and 2017–18, when MBS claims for cardiac-related diagnostic items rose from 7% to 11% for Aboriginal and Torres Strait Islander people and from 7% to 9% for other Australians.⁸

Management

Better health care can keep people with heart failure well enough to reduce their need for hospitalisation. However, for people with chronic progressive diseases such as heart failure with exacerbating features, hospital presentation is appropriate when the patient is decompensating.

Best-practice management of people with chronic heart failure involves evidence-based, multidisciplinary care.⁹ Effective management involves a combination of strategies, which may include:

- Non-pharmacological approaches, such as physical activity programs, and consumer and carer education about self-management of heart failure¹⁰
- Pharmacotherapy, including diuretics, betablockers, angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers, mineralocorticoid receptor antagonists and angiotensin neprilysin receptor inhibitors (a newer type of medicine)¹⁰; note that recommended therapy differs between heart failure with reduced ejection fraction and heart failure with preserved ejection fraction
- Surgical procedures and supportive devices for example, coronary artery bypass graft surgery, cardiac resynchronisation therapy with or without insertion of an implantable cardiac defibrillator, and heart transplant.¹⁰

About the data

All hospitalisations with a principal diagnosis of heart failure (with reduced or preserved ejection fraction) are included.

Data are sourced from the National Hospital Morbidity Database, and include admitted patients in both public and private hospitals, as well as hospital care in the home.

Rates are based on the number of hospitalisations for heart failure per 100,000 people of all ages in 2017–18.

Because a record is included for each hospitalisation for the condition, rather than for each patient, patients hospitalised for the condition more than once in the financial year will be counted more than once.

The analysis and maps are based on the residential address of the patient and not the location of the hospital.

Rates are age and sex standardised to allow comparisons between populations with different age and sex structures.

Data quality issues – for example, the extent of identification of Aboriginal and Torres Strait Islander status in datasets – could influence variations seen.

What do the data show?

Magnitude of variation

In 2017–18, there were 62,554 hospitalisations for heart failure, representing 201 hospitalisations per 100,000 people of all ages (the Australian rate).

The number of hospitalisations for heart failure across 325* local areas (Statistical Area Level 3 – SA3) ranged from 91 to 531 per 100,000 people. The rate was **5.8 times as high** in the area with the highest rate compared with the area with the lowest rate. The number of hospitalisations varied across states and territories, from 172 per 100,000 people in Tasmania to 324 in the Northern Territory (Figures 2.10–2.13).

After the highest and lowest 10% of results were excluded and 260 SA3s remained, the number of hospitalisations per 100,000 people was 2.0 times as high in the area with the highest rate compared with the area with the lowest rate.

Analysis by remoteness and socioeconomic status

Rates of hospitalisation for heart failure were substantially higher in remote areas than in other areas. Hospital admission rates also increased with socioeconomic disadvantage in major cities, and inner regional and remote areas (Figure 2.14).

Analysis by Aboriginal and Torres Strait Islander status

The rate for Aboriginal and Torres Strait Islander people (462 per 100,000 people) was 2.3 times as high as the rate for other Australians (201 per 100,000 people) (Figure 2.9).

Figure 2.9: Number of potentially preventable hospitalisations – Heart failure per 100,000 people of all ages, age and sex standardised, by state and territory of patient residence, by Aboriginal and Torres Strait Islander status, 2017–18[†]



The data for Figure 2.9, and the data and graphs for analysis by Primary Health Network are available at safetyandquality.gov.au/atlas

† Data for ACT (Aboriginal and Torres Strait Islander people) have been suppressed. Data by Aboriginal and Torres Strait Islander status should be interpreted with caution as hospitalisations for Aboriginal and Torres Strait Islander patients are under-enumerated, with variation among states and territories. Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018.

For further detail about the methods used, please refer to the Technical Supplement.

^{*} There are 340 SA3s. For this item, rates were suppressed for 15 SA3s due to a small number of hospitalisations and/or population in an area. **Notes:**

Some SA3 rates are more volatile than others. These rates are excluded from the calculation of the difference between the highest and lowest SA3 rates in Australia.

Trends over time

Between 2014–15 and 2017–18, the rate of heart failure hospitalisations per 100,000 people nationally increased by 4% (Figure 2.15).*

For Aboriginal and Torres Strait Islander people, the rate of heart failure hospitalisations per 100,000 people nationally decreased by 4% between 2014–15 and 2017–18 (Figure 2.16).

Interpretation

Potential reasons for the variation include differences in:

- Clinician factors:
 - non-concordance with management guidelines
 - diagnostic error
 - failure to refer to heart failure multidisciplinary programs that include education, psychosocial support, exercise training and optimal pharmacotherapy¹¹
- Health system factors:
 - access to post-discharge, multidisciplinary disease management programs
 (either hospital or community based)
 - access to review within 7–14 days of discharge to avert readmission¹⁰
 - quality of both hospital and community care, which can be affected by suboptimal communication between clinicians
 - quality, efficiency and effectiveness of primary health care
 - availability of health care that is compatible with Aboriginal and Torres Strait Islander culture¹²

- access to dialysis for Aboriginal and Torres Strait Islander people; in areas with large Aboriginal and Torres Strait Islander populations requiring dialysis for kidney disease, inadequate access to dialysis may worsen heart failure and contribute to hospitalisation numbers
- availability of primary care clinicians to increase primary and secondary prevention
- availability of services that are appropriate to the local population's health literacy levels
- Demographic and consumer factors:
 - socioeconomic disadvantage, as heart failure appears to be more prevalent among people living in lower socioeconomic areas²
 - prevalence of risk factors for heart failure, such as coronary heart disease, rheumatic fever and rheumatic heart disease, diabetes, hypertension, smoking, obesity and obesogenic environments, kidney disease and psychological distress
 - severity of heart failure and comorbidities
 - health literacy about medicines, concordance with medication regimens, ability to afford medicines.

Variations between areas may not directly reflect the practices of the clinicians who are based in those areas. Area boundaries reflect where people live rather than where they obtain their health care. Patients who live in metropolitan, regional and rural areas may all travel outside their local area to receive care.

Note:

^{*} Since June 2017, emergency department-only episodes in New South Wales have not been counted as hospitalisations, and this will affect the time trends described above.

Non-concordance with guidelines

Translation of clinical guidelines into practice is poor, according to results of a recent Victorian study: only 13% of heart failure patients received an outpatient review and heart failure home visit review, and were prescribed medicines according to guidelines, within 30 days of discharge.¹³ Rates of guideline-concordant management after discharge were lower in regional areas than in metropolitan areas.¹³

Rates of prescription of ACE inhibitors and betablockers among patients admitted to hospital for heart failure also showed shortfalls compared with recommended use in a study in New South Wales (NSW) and the Australian Capital Territory (ACT), suggesting that uptake of evidence-based guidelines can be improved.⁵

Readmissions

Readmissions make a substantial contribution to hospitalisations for people with heart failure. The rate of readmission within 30 days, for any cause, among people with heart failure in Australia is approximately 24%.¹⁴ Factors that increase the risk of readmission for heart failure include male gender, socioeconomic disadvantage, numerous comorbidities and being admitted from an aged care setting.¹⁵ A recent study of hospitalisations with acute heart failure in NSW and the ACT found that 11% of patients were residents of aged care homes.⁵

Addressing variation

Rates of hospitalisation for heart failure in Australia have increased since publication of the *Second Australian Atlas of Healthcare Variation* in 2017. Heart failure is not a new problem, and the health system must do better to care for people with this condition.

There are pockets of excellence in managing heart failure, but major system changes are needed if we are to make meaningful progress in this area. And it is vital that we do make progress, to improve the quality of life, outcomes and experience for people with heart failure.

Reducing hospitalisations for heart failure will take a combination of approaches:

- Primary prevention
- Better care in the community, including improved integration with hospital care
- Consumer enablement
- More effective use of medicines
- Greater use of exercise and cardiac rehabilitation programs.

Primary prevention

Reducing the prevalence of risk factors for heart failure, such as hypertension, diabetes, smoking and obesity, is fundamental to reducing the prevalence of, and hospitalisations for, heart failure.¹⁶

Primary care

General practitioners (GPs) have a vital role in the community management of people with heart failure. Barriers to effective primary care for heart failure patients, and potential solutions, were identified in focus groups of GPs and practice nurses from five general practices in Sydney.¹⁷ Suggested improvements to support effective delivery of heart failure management included:

 Thorough, accurate discharge summaries from hospitals, with clear medication instructions at an appropriate level for the health literacy of the patient

- Closer contact between GPs and hospital specialists and clinical nurse consultants
- More consistent coding of heart failure, because the use of alternative terms can result in the diagnosis not being flagged and some patients being unaware of their diagnosis
- Appropriate Medicare rebates for practice nurse consultations in chronic disease management
- A Medicare rebate for outpatient testing of B-type natriuretic peptide levels, which is often useful in confirming the diagnosis of heart failure.¹⁷

Other strategies to support GP care of people with heart failure include community rapid response initiatives. For example, in Tasmania, people are referred to the Community Rapid Response Service by their GP. A nurse practitioner, community nurses, GP and other health professionals, as required, plan care together with the person referred.¹⁸ Care is delivered to the person in their home or other community setting such as an aged care home.¹⁸ Health conditions treated include exacerbations of chronic conditions such as heart failure.¹⁸

Transition to community care

The first few weeks after hospital discharge are a high-risk period for people with heart failure, but early follow-up can reduce the risk of readmission and death. Australian guidelines advise starting discharge planning early during hospitalisation for heart failure, including review within 7–14 days of discharge, an early outpatient clinic appointment and community services, as needed.¹⁰

A recent study from Victoria found that the readmission rate was 24%, and the mortality rate was 9%, within 30 days of discharge after hospitalisation for heart failure.¹⁴ Having an outpatient appointment within 30 days of discharge reduced the mortality risk by 81%.¹⁴ The referral rate at discharge was 63% for an outpatient clinic appointment, but, at 30 days post-discharge, 26% of patients with a referral were waiting for an appointment date.¹⁴ The average time to an outpatient clinic visit was 27 days.¹⁴ Rates of review in an outpatient clinic, and of referral to heart failure programs, were lower for people living in rural areas compared with metropolitan areas.¹⁴

The authors of the study suggested that system redesign is warranted to ensure rapid referrals and post-discharge review within the transitional period. This includes streamlining hospital systems to facilitate rapid follow-up and community support in this high-risk period.¹⁴

Integrated care

Better integration of care in the community with acute hospital care may improve outcomes for people with heart failure. See page 75 for a description of an integrated care model in western Sydney that reported a 37% reduction in potentially preventable hospitalisations among chronic disease patients in a preliminary evaluation.¹⁹

Consumer enablement

Ongoing self-management for heart failure is required to slow progression of the disease. Self-management includes taking prescribed medicines, modifying sodium intake and undertaking physical exercise. Consumer activation is a measure of the extent of consumers' involvement in their own health care, and is correlated with better self-management in people with heart failure.²⁰ Australian guidelines recommend that education for people with heart failure, and their carers, starts soon after diagnosis and is tailored to the person's level of health literacy.¹⁰ The National Heart Foundation website has heart failure resources for people with either low health literacy or higher health literacy.

The person's overall health, literacy and cognition are likely to affect their degree of success with self-management. A holistic approach is needed to improve outcomes in people with heart failure and cognition problems.²¹

Improving use of medicines

Current prescribing of medicines for heart failure with reduced ejection fraction is suboptimal, according to recent Victorian data showing that only 42% of eligible patients were prescribed the recommended triple therapy medication.¹³ Lack of prescriber confidence or awareness of gold-standard pharmacotherapy in heart failure is likely to contribute to this low rate, along with perceived difficulty in prescribing for elderly people and those with multimorbidity.¹³ Strategies to improve prescribing for heart failure have focused on monotherapy, but the study authors suggested that the focus should now be expanded to consider triple therapy in heart failure with reduced ejection fraction.¹³

Pharmacist-based interventions

Pharmacist interventions in transitions of care to improve medicines use by heart failure patients can reduce the risk of 30-day all-cause hospital readmission by 54%, compared with standard discharge processes.²² Pharmacist interventions in the transition of care process include:

- Medication reconciliation
- Patient education
- Follow-up
- Monitoring of medication adherence.²²

Another systematic review examined the impact of multidisciplinary interventions involving a pharmacist on all-cause hospitalisations over longer periods among people with heart failure. The review reported a 24% reduction in all-cause hospitalisations, which were measured over a period of six weeks to 55 months.²³ The interventions included:

- Discharge counselling
- Home visits
- Liaison with GPs
- Telephone follow-up
- Education on medicines, lifestyle changes and self-care.²³

Nurse-led titration clinics

Use of beta-adrenergic blocking agents, ACE inhibitors and angiotensin receptor blockers can reduce hospital readmissions and improve survival in people with heart failure with reduced ejection fraction. However, insufficient dosage is a common problem in primary care. Nurse-led titration clinics to optimise dosage of these medicines may reduce the risk of all-cause hospitalisations by 20% and all-cause mortality by 34% compared with usual primary care.²⁴ Interventions include:

- Patients attending a clinic primarily for the titration of beta-blockers, ACE inhibitors and angiotensin receptor blockers, based on a predetermined protocol, by a senior heart failure nurse
- Consumer and carer education about heart failure, management of heart failure at home, medicines and self-management
- Monitoring of medication adherence
- Patient assessment and symptom monitoring
- Liaison with GPs and community nurses.²⁴

Exercise and cardiac rehabilitation

Exercise and cardiac rehabilitation (which may include patient education and psychosocial support) may reduce heart failure hospitalisations by 41–43%, and all-cause hospitalisations by 23–30%.^{25,26} Barriers to providing cardiac rehabilitation in Australia include low referral rates, limited funding and geographic isolation.^{27,28}

A lack of knowledge about the benefits and safety of heart failure rehabilitation programs may contribute to low referral rates by medical professionals.²⁸ Poor transition from acute hospital care to community follow-up may also contribute to breakdown of the referral process.²⁸

Improving heart failure outcomes for Aboriginal and Torres Strait Islander people

Prevention

Complex social determinants underlie the disparities in health, including in heart failure rates and outcomes, between Aboriginal and Torres Strait Islander people and other Australians.^{29,30} Impacts of colonisation, including racism and intergenerational trauma, contribute to these determinants. To address health inequities, improvements in social factors are required – for example, in education, employment and living conditions.²⁹ In addition, the logistical and financial barriers to accessing timely and effective health care for Aboriginal and Torres Strait Islander people who live in remote areas must be addressed.²⁹

Rheumatic heart disease, which develops after acute rheumatic fever, can lead to heart failure.³¹ Approximately 90% of people living with rheumatic heart disease are Aboriginal and/or Torres Strait Islander people, and, of these, nearly 60% were under 25 years of age when diagnosed, according to 2018 data from four states and territories.³² Among people with rheumatic heart disease, 19% developed heart failure within 10 years of diagnosis, in a Northern Territory study.³¹ Acute rheumatic fever and rheumatic heart disease are preventable diseases, and improved living conditions reduce the risk.³³

Management

Earlier detection and management of cardiac conditions is likely to reduce the risk of heart failure among Aboriginal and Torres Strait Islander people, and cardiovascular disease assessments are now recommended from 18 years of age in these groups.³⁴ Other suggested strategies to improve heart failure management among Aboriginal and Torres Strait Islander people include:

- Increasing access to heart failure multidisciplinary disease management programs that include education, psychosocial support, exercise training and optimal pharmacotherapy¹¹
- Ensuring appropriate and timely follow-up of patients after discharge

- Incorporating family-based and outreach programs into models of care¹¹
- Improving prevention, early diagnosis and treatment of rheumatic fever³⁵
- Preventing progression of kidney disease
- Improving access to dialysis for Aboriginal and Torres Strait Islander communities.

Cardiac or heart failure rehabilitation programs are most likely to be successful if they are run collaboratively with local Aboriginal and Torres Strait Islander people, because developing community trust and working with local people are important for participation (see Case study: Work it Out – chronic disease management program for Aboriginal and Torres Strait Islander people' on page 96). Services that provide coordinated, holistic care and assist with navigating the health system would also benefit Aboriginal and Torres Strait Islander people with heart failure.

Cultural safety and culturally appropriate care

Misalignment of mainstream health services with Aboriginal and Torres Strait Islander culture is a barrier to accessing health care.³⁶ Increasing access to culturally safe health care will involve developing partnerships with the Aboriginal Community Controlled Health Service sector, increasing the Aboriginal and Torres Strait Islander health workforce, and improving cultural awareness and competency of mainstream health services.

Case study: Work it Out – chronic disease management program for Aboriginal and Torres Strait Islander people

Work it Out is a combined education and exercise program for chronic disease management for urban Aboriginal and Torres Strait Islander people.^{37,38} The program was designed, and is monitored, by an Aboriginal community controlled health organisation to be flexible and culturally accommodating. The program has been running since 2011, with Aboriginal and Torres Strait Islander participants who have, or are at risk of, cardiovascular disease. It is now running in 15 urban and regional city locations in south-east Queensland.

An Aboriginal health worker or other Aboriginal and Torres Strait Islander staff member is usually present, and works closely with an exercise physiologist and participants at each session. Sessions consist of a 45-minute 'yarning' (education) session, followed by an hour-long exercise program tailored to individual participants' chronic conditions. The program runs for 12 weeks, and has flexible entry and exit points to allow for family and community responsibilities. Participants can attend two or more sessions per week.

Over the four-year study period, 1,007 patients were referred to the program, and 406 participants who completed an initial assessment and one or more 12-weekly review assessments were included in the analysis. The participants had an average of six chronic conditions, and 68% were obese. Results were assessed after participants attended between one and 11 cycles of the program, and baseline assessments were compared with participants' last assessments. Participants achieved significant improvements in functional exercise capacity: six-minute walk distance increased by an average of 77 m. Reductions in waist and hip circumference were not significant in the group as a whole, but participants in the top tertile for waist circumference lost an average of 5.1 cm, and those in the top tertile for hip circumference lost an average of 3.2 cm.

More than half the participants attended the program for two or more 12-week cycles. Greater benefits were seen in those who attended for more than one cycle of the program. The improvement in functional exercise capacity is likely to have important clinical significance in improving health and reducing mortality risk among the participants, including those with heart failure, the authors commented.

Aboriginal staff were identified as an important factor in the success of the program: 'I have been to other exercise places before where they are all white, and wear leotards, and no one talks to you ... I felt so uncomfortable ... whereas we can come here, not worrying how we are looking, and we still feel good.'³⁹

Rates by local area

Figure 2.10: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2017–18



Notes:

Squares (III) and asterisks (*) indicate rates that are more volatile than other rates and should be interpreted with caution.

Triangles (a) indicate SA3s where only rates are published. The numbers of hospitalisations are not published (n.p.) for confidentiality reasons.

Crosses (+) indicate SA3s where rates should be interpreted with caution. The numbers of hospitalisations are not published (n.p.) for confidentiality reasons. Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018.

For further detail about the methods used, please refer to the Technical Supplement.

Rates across Australia

Figure 2.11: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2017–18



Notes:

Dotted areas indicate rates that are considered more volatile than other published rates and should be interpreted with caution. These rates are excluded from the calculation of the difference between the highest and lowest SA3 rates in Australia.

Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018. For further detail about the methods used, please refer to the Technical Supplement.

Rates across capital city areas

Figure 2.12: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2017–18



Notes:

Dotted areas indicate rates that are considered more volatile than other published rates and should be interpreted with caution. Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018. For further detail about the methods used, please refer to the Technical Supplement.

Rates by state and territory

Figure 2.13: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2017–18



Notes:

Squares (III) and asterisks (*) indicate rates that are more volatile than other rates and should be interpreted with caution.

Triangles (a) indicate SA3s where only rates are published. The numbers of hospitalisations are not published for confidentiality reasons. Crosses (+) indicate SA3s where rates should be interpreted with caution. The numbers of hospitalisations are not published for confidentiality reasons. Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018.

For further detail about the methods used, please refer to the Technical Supplement.

Rates by remoteness and socioeconomic status

Figure 2.14: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2017–18



Notes:

Squares (i) indicate rates that are more volatile than other rates and should be interpreted with caution.

Triangles (a) indicate SA3s where only rates are published. The numbers of hospitalisations are not published for confidentiality reasons. Crosses (+) indicate SA3s where rates should be interpreted with caution. The numbers of hospitalisations are not published for confidentiality reasons.

Population estimates as at 31 December 2017 are calculated as the average of the 30 June populations in 2017 and 2018.

For further detail about the methods used, please refer to the Technical Supplement.

Rates across years

Figure 2.15: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by state and territory of patient residence, 2014–15 to 2017–18



Notes:

The asterisks (*) indicate rates that are considered more volatile than others, and should be interpreted with caution. These rates are excluded from the calculation of the difference between the highest and lowest SA3 rates in Australia.

Population estimates as at 31 December of the relevant year are calculated as the average of the 30 June populations before and after the relevant December. For further detail about the methods used, please refer to the Technical Supplement.

Rates for Aboriginal and Torres Strait Islander people across years

Figure 2.16: Number of potentially preventable hospitalisations – heart failure per 100,000 people of all ages, age and sex standardised, by Aboriginal and Torres Strait Islander status, 2014–15 to 2017–18



Notes:

Data by Aboriginal and Torres Strait Islander status should be interpreted with caution as hospitalisations for Aboriginal and Torres Strait Islander people are under-enumerated, with variation among states and territories.

Population estimates as at 31 December of the relevant year are calculated as the average of the 30 June populations before and after the relevant December. For further detail about the methods used, please refer to the Technical Supplement.

Resources

- NSW Clinical Service Framework for Chronic Heart Failure
- Primary Health Tasmania Needs Assessment: Health intelligence report⁴⁰
- Improving cardiovascular outcomes among Aboriginal Australians: lessons from research for primary care⁴¹ (includes a management toolkit)
- Heart Online, clinician resources for cardiac rehabilitation and heart failure management, including access to evidence-based guidelines, templates, protocols, calculators, patient resources and videos (heartonline.org.au/)
- National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Guidelines for the prevention, detection, and management of heart failure in Australia 2018¹⁰
- Improving Health Outcomes for Aboriginal and Torres Strait Islander Peoples with Acute Coronary Syndrome: A practical toolkit for quality improvement⁴²
- NPS MedicineWise Heart failure: taking an active role – Clinical resources and tools, and information for consumers⁴³
- Recommendations arising from the inaugural Cardiac Society of Australia and New Zealand conference on Indigenous cardiovascular health³⁵

Available at

heartfoundation.org.au:

- Consumer resources for people with heart failure, including resources specific to Aboriginal and Torres Strait Islander Australians, translated resources, videos, and resources for people with low and higher health literacy
- Heart Failure Guidelines: A concise summary for the GP
- Pharmacological Management of Chronic Heart Failure with Reduced Left Ventricular Ejection Fraction (clinical fact sheet)
- Diagnosis and Classification of Heart Failure (clinical fact sheet).

Australian initiatives

The information in this chapter will complement work already underway to reduce the rate of hospitalisations for heart failure in Australia. At a national level, this work includes:

- NPS MedicineWise Heart failure: taking an active role – Clinical resources and tools, and information for consumers⁴³
- The Heart Foundation's Heart Failure Toolkit a targeted approach to reducing heart failure readmissions
- Essential Service Standards for Equitable National Cardiovascular Care (ESSENCE) for Aboriginal and Torres Strait Islander people
- Rheumatic fever strategy.

Many state and territory initiatives are also in place to reduce the rate of hospitalisations for heart failure, including:

- Heart Failure Care Initiative Development of Model of Care and Outcomes Framework, Capital Health Network, Australian Capital Territory
- Northern Territory Heart Failure Initiative Clinical Audit
- Queensland Heart Failure Services
- Telephone-based lifestyle coaching (My Health for Life, Get Healthy, COACH), Queensland
- Wellness Initiative, supporting consumers to participate in telephone-based lifestyle coaching programs before surgical procedures, Queensland
- Heart failure guides in HealthPathways, Tasmanian Cardiac Network
- Heart failure education program, Tasmanian
 Cardiac Network
- Delivering Connected Care for Complex Patients with Multiple Chronic Needs, Tasmania
- Community Rapid Response Service, Tasmania¹⁸
- Primary Health Tasmania Needs Assessment: Health intelligence report⁴⁰
- Heart Health: Improved Services and Better
 Outcomes for Victorians policy

- Reducing heart failure admissions program. Heart Foundation Victoria; Victorian Government
- HealthLinks: Chronic Care, Victoria
- PROMETHEUS (Patient Reported Outcome Measure Education Transitions Heart failure Expertise Unifying Systems), pilot implementation of the Heart Foundation Heart Failure Toolkit, Victorian Cardiac Clinical Network
- Reports on hospital readmission rates for heart failure, NSW Bureau of Health Information
- Bettering Aboriginal Heart Health in Western
 Australia project
- 1 Deadly Step program, NSW Health and the Australian Rugby League
- State and territory cardiac networks.

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