

6.7 Heart failure hospital admissions 40 years and over

Context

This data item examines hospital admission rates for heart failure for people 40 years and over. Hospital admission data are sourced from the Admitted Patient Care National Minimum Data Set. This includes both public and private hospitals. Rates are described as the number of admissions per 100,000 people. Repeat admissions for one person and transfers to other hospitals are both counted as separate admissions.

Heart failure refers to a clinical syndrome caused by underlying cardiac disease. The most common types of cardiac disease include coronary heart disease, hypertension, cardiomyopathy and valvular heart disease. Of these, coronary heart disease (usually accompanied by a history of heart attacks) is the most common.

A typical symptom of heart failure is shortness of breath, which may be associated with signs of congestion (fluid in the lungs, legs or abdomen). This is usually the result of abnormal functioning of the left ventricle, the heart's main pumping chamber.

Accurate diagnosis and early detection are important. The management of patients with heart failure aims to relieve symptoms and slow disease progression. This can reduce exacerbations, decrease hospitalisation and prolong survival.

Heart failure patients are at a particularly high risk of being readmitted to hospital. Coordinated management programs aim to reduce admission rates.

Effective management of heart failure involves multidisciplinary care across the acute and primary care sectors, and involves a combination of strategies including:

- non-pharmacological approaches (for example, physical activity programs and dietary or fluid management protocols)
- pharmacotherapy (for example, taking diuretics, angiotensin-converting enzyme inhibitors and beta blockers)
- surgical procedures and supportive devices (for example, coronary artery bypass graft surgery or cardiac resynchronisation therapy with or without insertion of an implantable cardiac defibrillator)

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- community heart failure management programs (for example, home- or clinic-based multidisciplinary interventions)
- palliative care (for example, advanced care directives specifying withdrawing defibrillator therapy at the end of life).

Magnitude of variation

In 2012–13, there were 50,983 heart failure admissions to hospital, representing 432 admissions per 100,000 people aged 40 years and over (the Australian rate).

The number of heart failure admissions to hospital across 322* local areas (SA3s) ranged from 192 to 1,397 per 100,000 people aged 40 years and over. The number of admissions was **7.3 times higher** in the area with the highest rate compared to the area with the lowest rate. The average number of admissions varied across states and territories, from 347 per 100,000 people aged 40 years and over in the Australian Capital Territory, to 705 in the Northern Territory.

After excluding the highest and lowest results, the heart failure hospital admission rate across the 300 remaining local areas was **2.7 times higher** in one local area compared to another.

Hospital admission rates were markedly higher in remote areas. Admission rates were also higher in outer regional areas than in inner regional areas and major cities, and were highest in areas of low socioeconomic status.

Interpretation

Potential reasons for the variation include differences in:

- hospital readmission rates, as readmission is common among heart failure patients. The quality of both hospital and community care has a significant impact on health outcomes and can be affected by sub-optimal communication between clinicians, and poor medicine adherence.

The data do not distinguish between first admission and readmissions, because individual patient identifiers were not used in the analysis

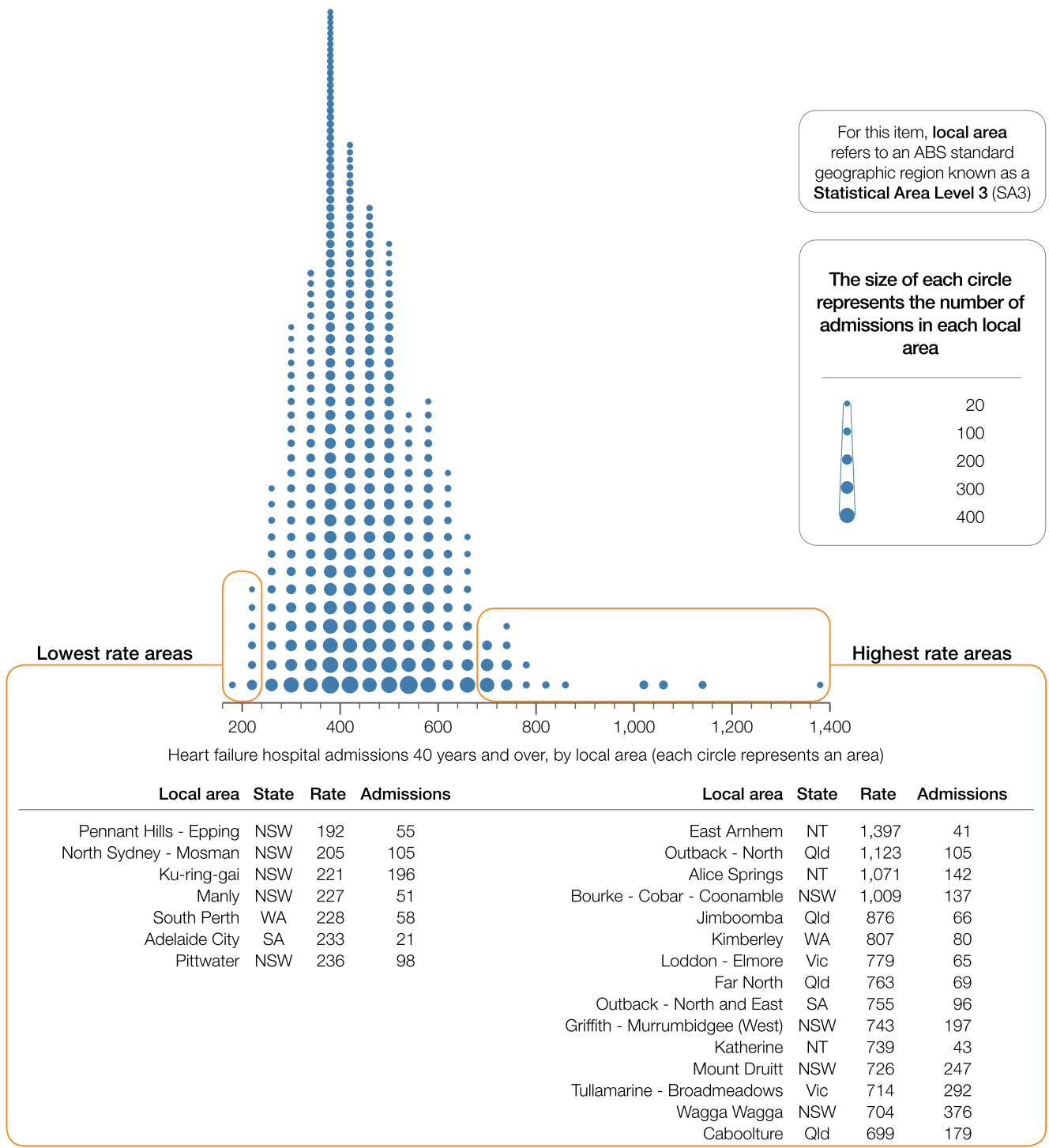
- the distribution of Aboriginal and Torres Strait Islander peoples, who are 1.7 times more likely to have heart failure¹ and three or more times more likely than non-Indigenous people to be admitted to hospital for heart failure¹
- socioeconomic status as heart failure appears to be more prevalent among people living in lower socioeconomic areas and in rural and remote areas²
- access to evidence-based multidisciplinary heart failure services, which has been shown to reduce heart failure hospitalisations.³ Only some regions in Australia have effective chronic heart failure services and fewer are available in rural locations.^{4,5}

To explore this variation, further analysis could focus on:

- using linked data to differentiate between first and subsequent admissions for patients with heart failure, and include data for all causes of readmission, not only those where heart failure was the reason for admission, as this significantly under-represents actual readmissions. The total readmission rate is a more appropriate marker of the overall quality of patient care
- identifying heart failure admission rates in two age cohorts – for example, those aged 40 to 60 and those over 60 years. A New Zealand study found heart failure hospitalisation rates for Maori people were up to five times higher than for non-Maori people among those aged 45 to 64 years⁶, while hospitalisation rates for Maori people were twice the rate of non-Maori people among those aged over 65.⁷ This may lead to improved health outcomes for Indigenous people.

*There are 333 SA3s. For this item, data were suppressed for 11 SA3s. This is because of confidentiality requirements given the small numbers of admissions in these areas.

Figure 131: Number of heart failure admissions to hospital per 100,000 people aged 40 years and over, age standardised, by local area, 2012–13



Notes:

Rates are standardised based on the age structure of the Australian population in 2001.

State/territory and national rates are based on the total number of admissions and people in the geographic area.

The term local area refers to an ABS standard geographic region known as a Statistical Area Level 3 (SA3).

Includes all public hospitals, private hospitals and day hospital facilities.

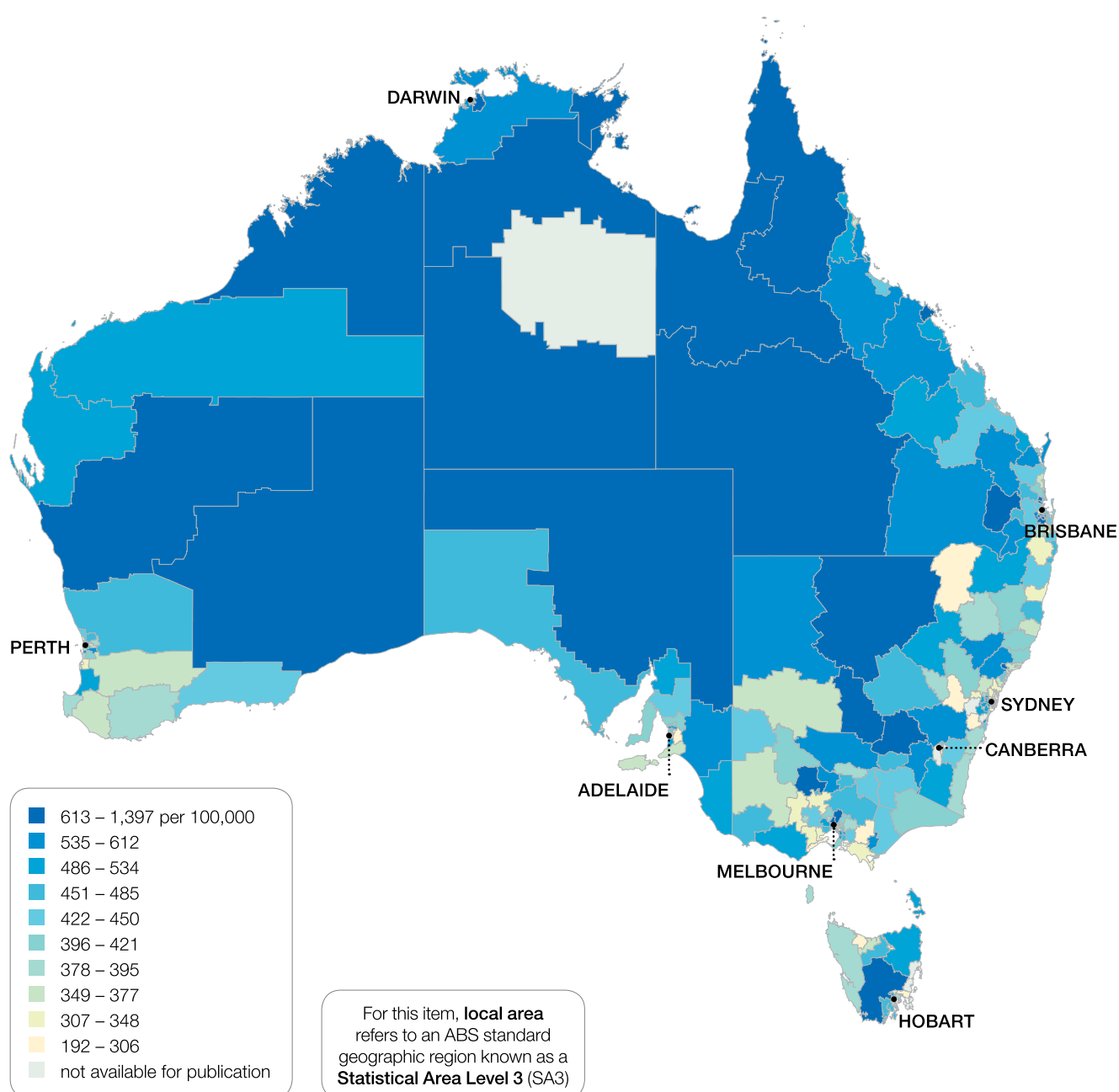
There is variation in administrative practices as to whether patients who attend emergency departments are admitted. This may influence the results for this item.

For more technical information please refer to the Technical Supplement.

Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

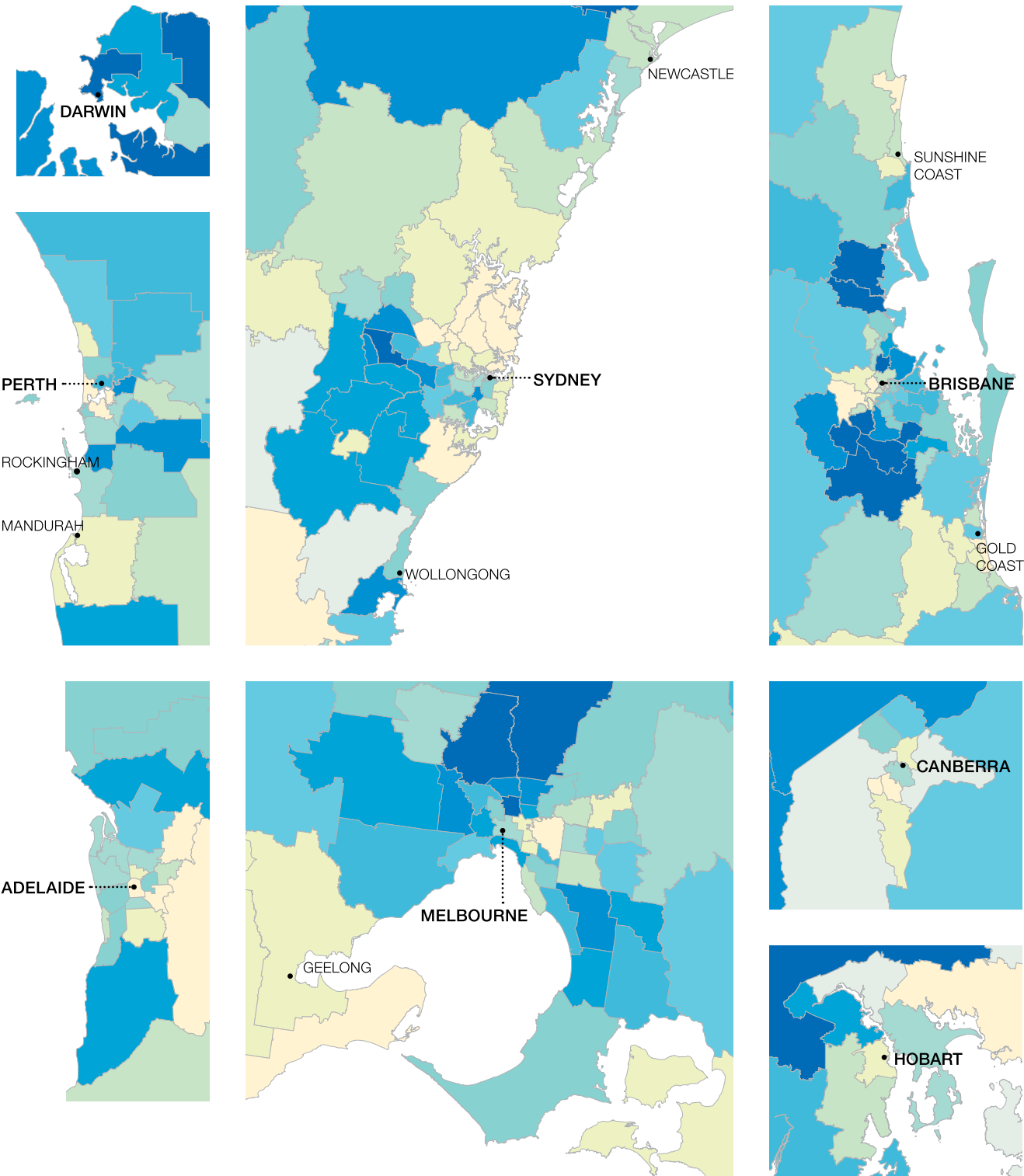
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Figure 132: Number of heart failure admissions to hospital per 100,000 people aged 40 years and over, age standardised, by local area, 2012–13



Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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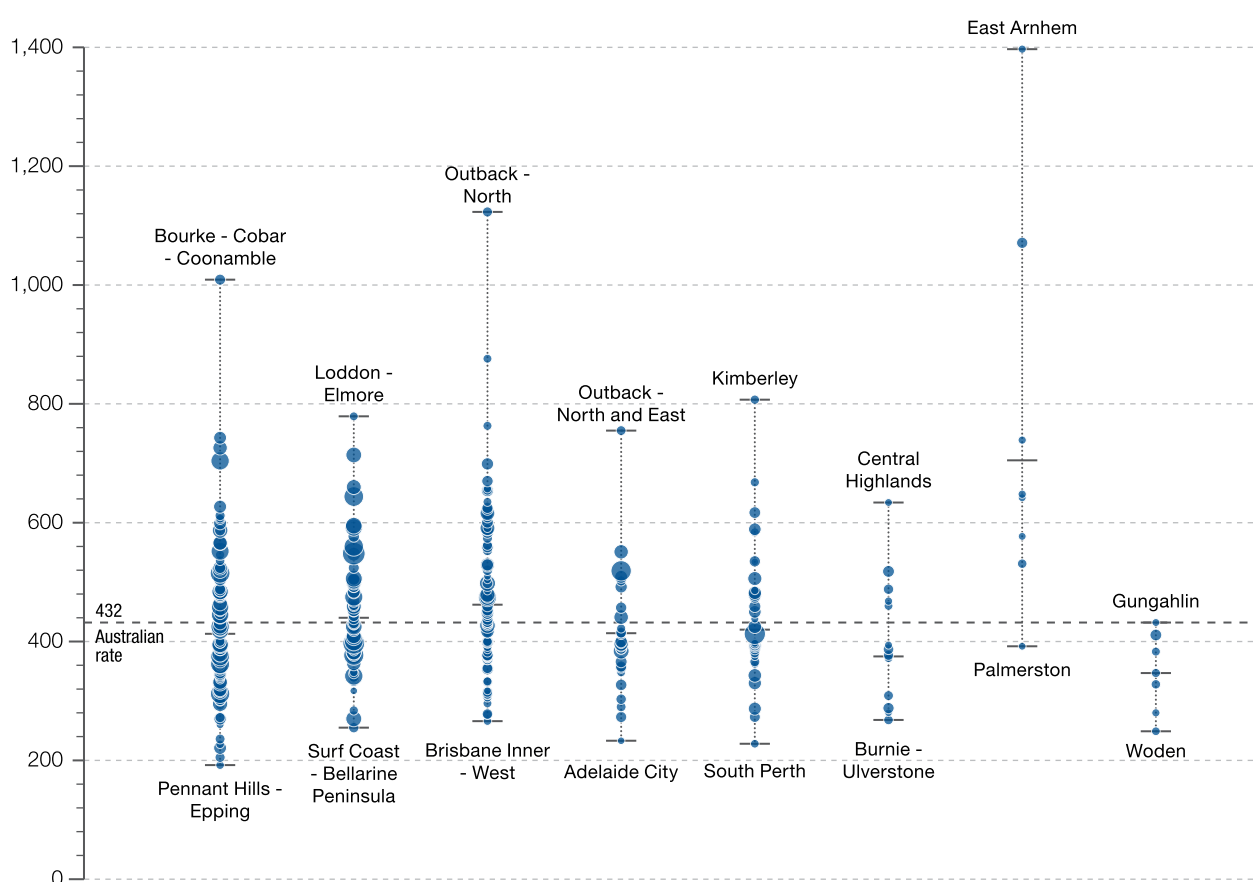


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Figure 133: Number of heart failure admissions to hospital per 100,000 people aged 40 years and over, age standardised, by local area, state and territory, 2012–13

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Highest rate	1,009	779	1,123	755	807	634	1,397	432
State/territory	413	440	462	414	420	375	705	347
Lowest rate	192	255	266	233	228	268	392	249
No. admissions	16,560	13,341	10,025	4,220	4,620	1,125	460	523



For this item, **local area** refers to an ABS standard geographic region known as a **Statistical Area Level 3 (SA3)**

The size of each circle represents the number of admissions in each local area

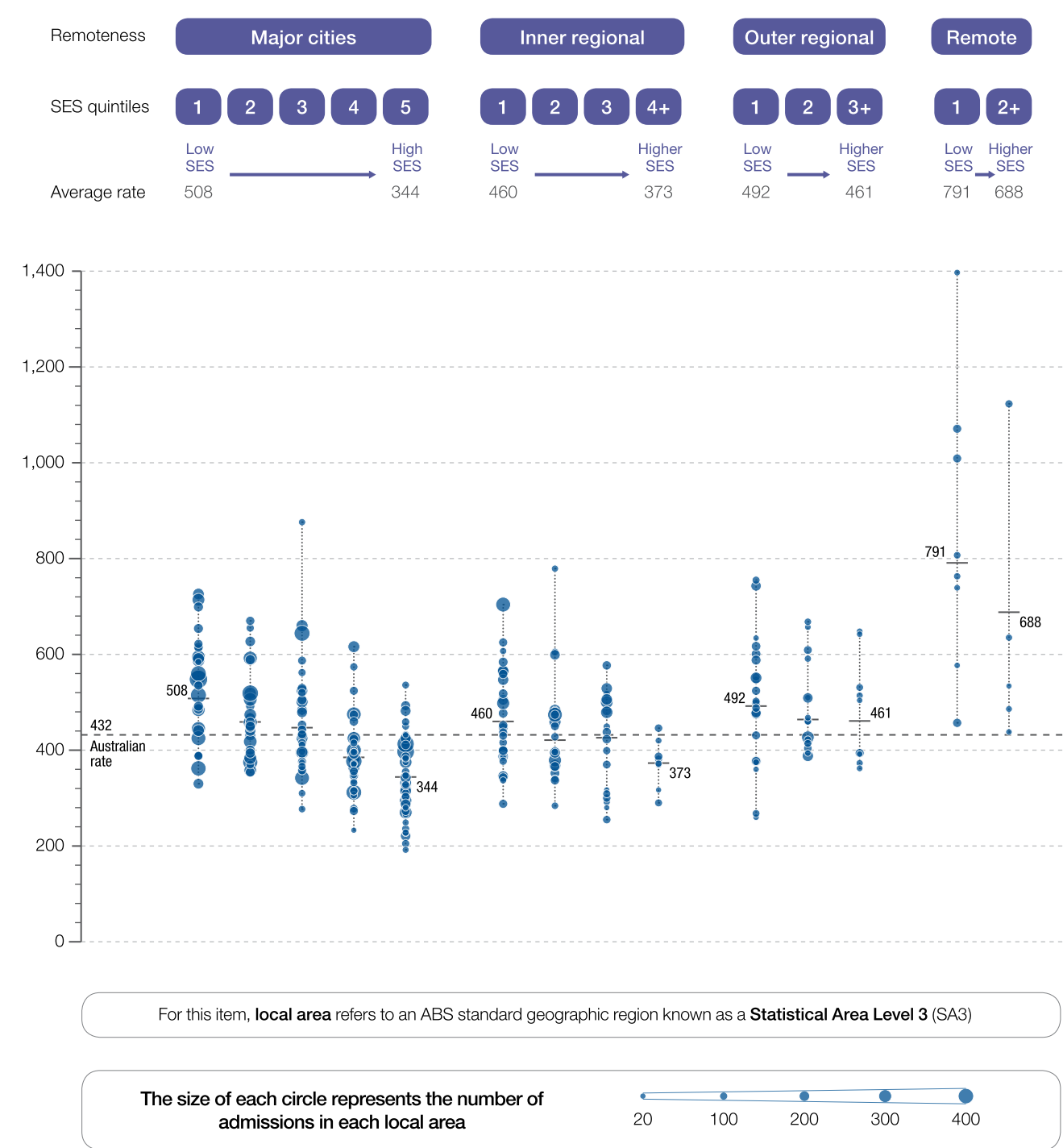


Notes:

Rates are standardised based on the age structure of the Australian population in 2001. State/territory and national rates are based on the total number of admissions and people in the geographic area.

Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

Figure 134: Number of heart failure admissions to hospital per 100,000 people aged 40 years and over, age standardised, by local area, remoteness and socioeconomic status (SES), 2012–13



Notes:
 Rates are standardised based on the age structure of the Australian population in 2001.
 The national rate is based on the total number of admissions and people in Australia.
 Average rates are based on the total number of admissions and people in the local areas within each group.

Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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Resources

- National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand (Chronic Heart Failure Guidelines Expert Writing Panel). *Guidelines for the prevention, detection and management of chronic heart failure in Australia*. 2011. Available at: www.heartfoundation.org.au/SiteCollectionDocuments/Chronic_Heart_Failure_Guidelines_2011.pdf.
- Krum H, Jelinek MV, Stewart S, Sindone A, Atherton JJ, Hawkes AL. *Guidelines for the prevention, detection and management of people with chronic heart failure in Australia*. MJA. 2006;185(10), 549. Available at: www.citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.151.5125&rep=rep1&type=pdf.
- Stewart S. Financial aspects of heart failure programs of care. *European Journal of Heart Failure*. 2005;7(3):423–8. Available at: www.onlinelibrary.wiley.com/doi/10.1016/j.ejheart.2005.01.001/epdf.

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- 1 Woods JA, Katzenellenbogen JM, Davidson PM, Thompson SC. Heart failure among Indigenous Australians: a systematic review. *BMC cardiovascular disorders* 2012;12: 99.
 - 2 Australian Bureau of Statistics. Australian Health Survey: First Results, 2011–12. Cat. No. 4364.0.55.001. Canberra: ABS, 2013.
 - 3 McAlister FA, Stewart S, Ferrua S, McMurray JJ. Multidisciplinary strategies for the management of heart failure patients at high risk for admission: a systematic review of randomized trials. *J Am Coll Cardiol* 2004;44(4):810–819.
 - 4 National Heart Foundation of Australia. A systematic approach to chronic heart failure care: a consensus statement. Melbourne: National Heart Foundation of Australia, 2013.
 - 5 Driscoll A, Worrall-Carter L, Hare DL, Davidson PM, Riegel B, Tonkin A et al. Evidence-based chronic heart-failure management programmes: reality or myth? *BMJ Qual Saf* 2011;20:31–7.
 - 6 Wall R, Bell A, Devlin G, Lawrenson R. Diagnosis and treatment of heart failure in Māori and New Zealand Europeans at the Waikato Hospital. *NZMJ* 2013;126(1368):35-44.
 - 7 Ministry of Health. Tatau Kura Tangata: Health of older Māori Chart Book. Wellington, New Zealand: MOH, 2011.