

6.5 Asthma hospital admissions 20–44 years

Context

This data item examines hospital admission rates for asthma for people aged 20 to 44 years. 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.

Asthma is an inflammatory condition of the airways characterised by reversible airway obstruction and bronchospasms, causing episodes of wheezing, breathlessness, coughing and chest tightness.

Emergency presentations to hospital for asthma are reasonably frequent but admissions are less so, as most symptoms are managed in the home through medicine and primary healthcare interventions.

Asthma exacerbations range in severity, with most being mild to moderate. Evidence suggests that adhering to inhaled preventer medicines reduces the frequency and severity of exacerbations. Severe, life-threatening exacerbations require emergency treatment and usually admission to hospital.

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A number of factors contribute to hospitalisation rates including:

- the severity of the exacerbation
- smoking prevalence
- asthma prevalence – the total number of asthma cases that exist in the community
- the appropriateness of asthma management, especially adherence to preventer medicines
- access to primary healthcare, hospital alternatives and emergency services
- hospital admission practices such as decisions about whether to admit patients or treat them as outpatients
- hospital bed availability
- the presence of co-morbidities that complicate management and increase the likelihood of hospitalisation, such as obesity and cardiovascular disease
- patient factors, such as the availability of carers and compliance with treatment.

Magnitude of variation

From 2010–11 to 2012–13, there were 6,558 asthma admissions to hospital on average per annum, representing 81 admissions per 100,000 people aged 20 to 44 years (the Australian rate).

The estimated annual number of asthma admissions to hospital across 310* local areas (SA3s) ranged from 18 to 530 per 100,000 people aged 20 to 44 years. The number of admissions was **29.4 times higher** in the area with the highest rate compared to the area with the lowest rate. The estimated annual average number of admissions varied across states and territories, from 54 per 100,000 people aged 20 to 44 years in Tasmania, to 124 in the Northern Territory.

After excluding the highest and lowest results, the asthma hospital admission rate across the 292 remaining local areas was **8.0 times higher** in one local area compared to another.

Hospital admission rates for asthma tended to be higher in remote areas. Some socioeconomic patterns were seen across all categories of remoteness, with admission rates highest in areas of low socioeconomic status and decreasing as socioeconomic status increased.

Interpretation

The number of admissions was relatively small at the local level, increasing the likelihood that the variations were due to chance. Other potential reasons for the variation include differences in:

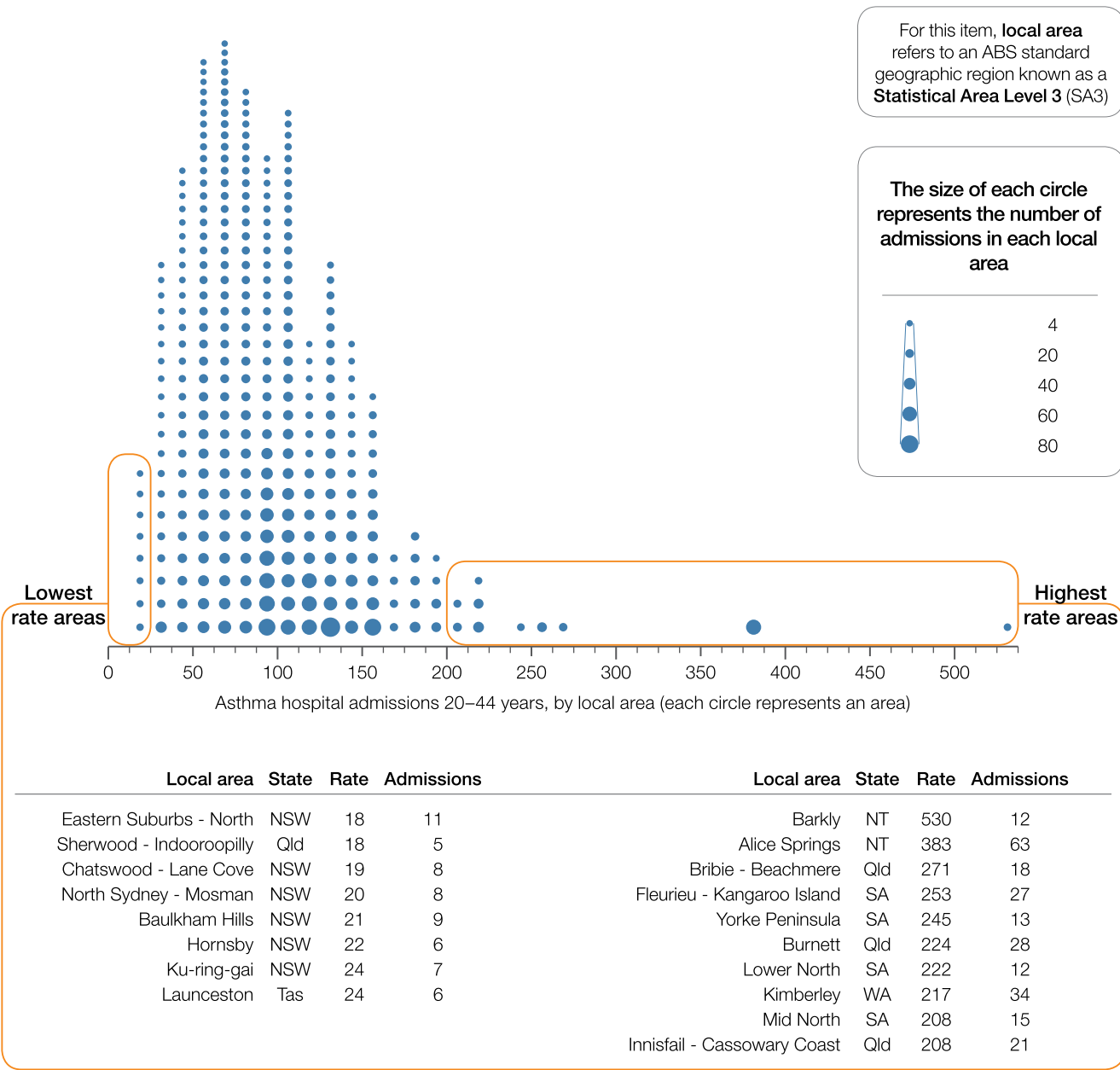
- the distribution of populations with high rates of asthma, particularly Aboriginal and Torres Strait Islander peoples, who are almost twice as likely as non-Indigenous people to report having asthma¹ and twice as likely to be hospitalised for asthma²
- levels of poorly controlled asthma, which has been observed in about 15 to 25 per cent of patients.³ Causes include not adhering to medicines; reduced prescribing of and/or adherence to regular preventer medicines; and overuse of reliever medicines, which are available over the counter at pharmacies
- geographical airborne allergens, particulate matter and cold weather extremes, which can trigger asthma attacks despite best-practice medicine use
- smoking rates
- structural reasons, such as unavailability of hospitals for treatment in remote areas.

To explore this variation, further analysis could focus on:

- the differences between states and territories
- access to primary care services in remote areas, where the admission rates are higher.

*There are 333 SA3s. For this item, data were suppressed for 23 SA3s. This is because of confidentiality requirements given the small numbers of admissions in these areas.

Figure 123: Estimated annual number of asthma admissions to hospital per 100,000 people aged 20 to 44 years, age standardised, by local area, 2010–11 to 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).

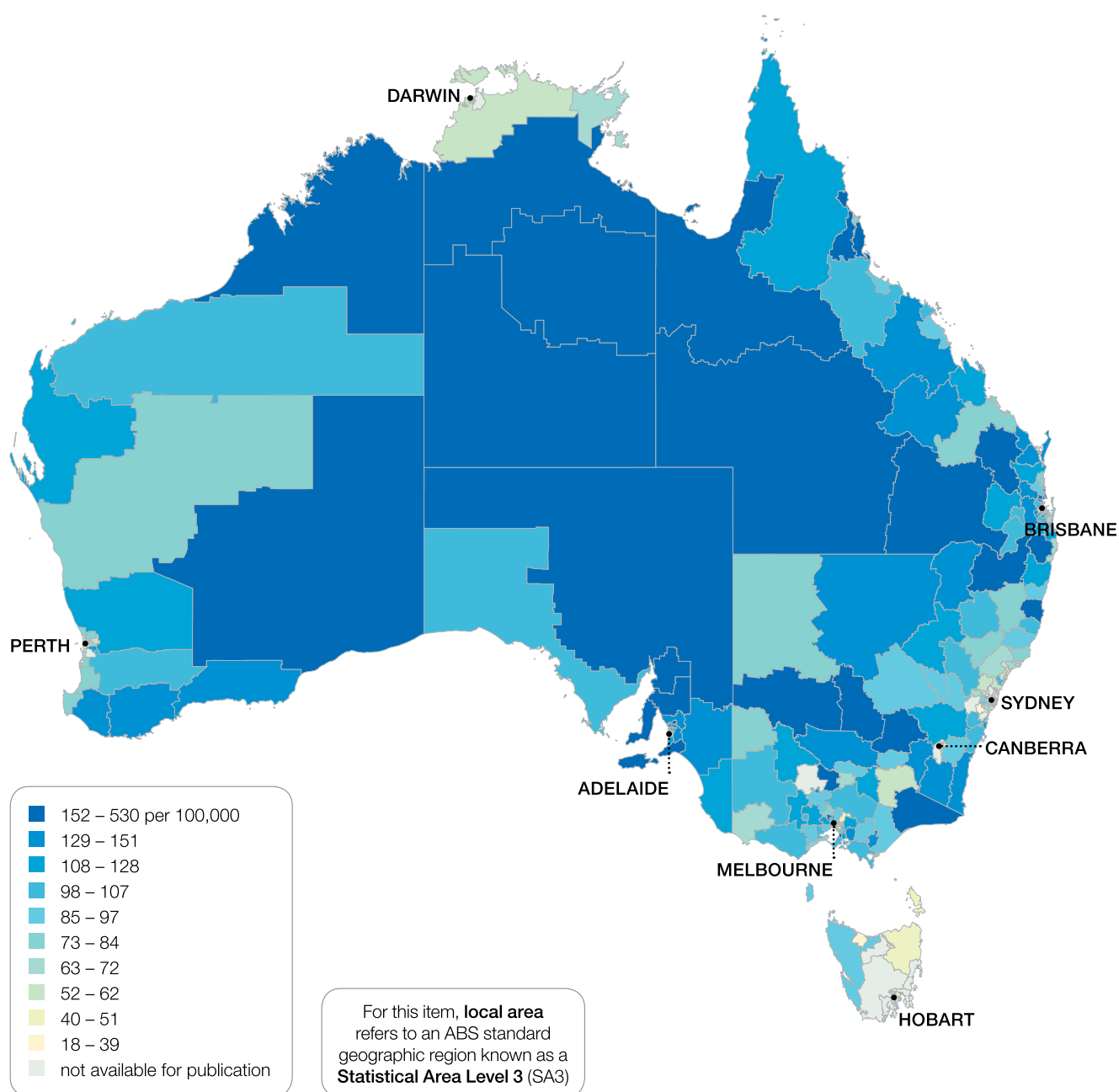
Includes all public hospitals, private hospitals and day hospital facilities.
The rate and number of admissions is the average per annum over three years.
There is variation in administrative practices as to whether patients who attend emergency departments are admitted. This may influence the results 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 Sets from 2010–11 to 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

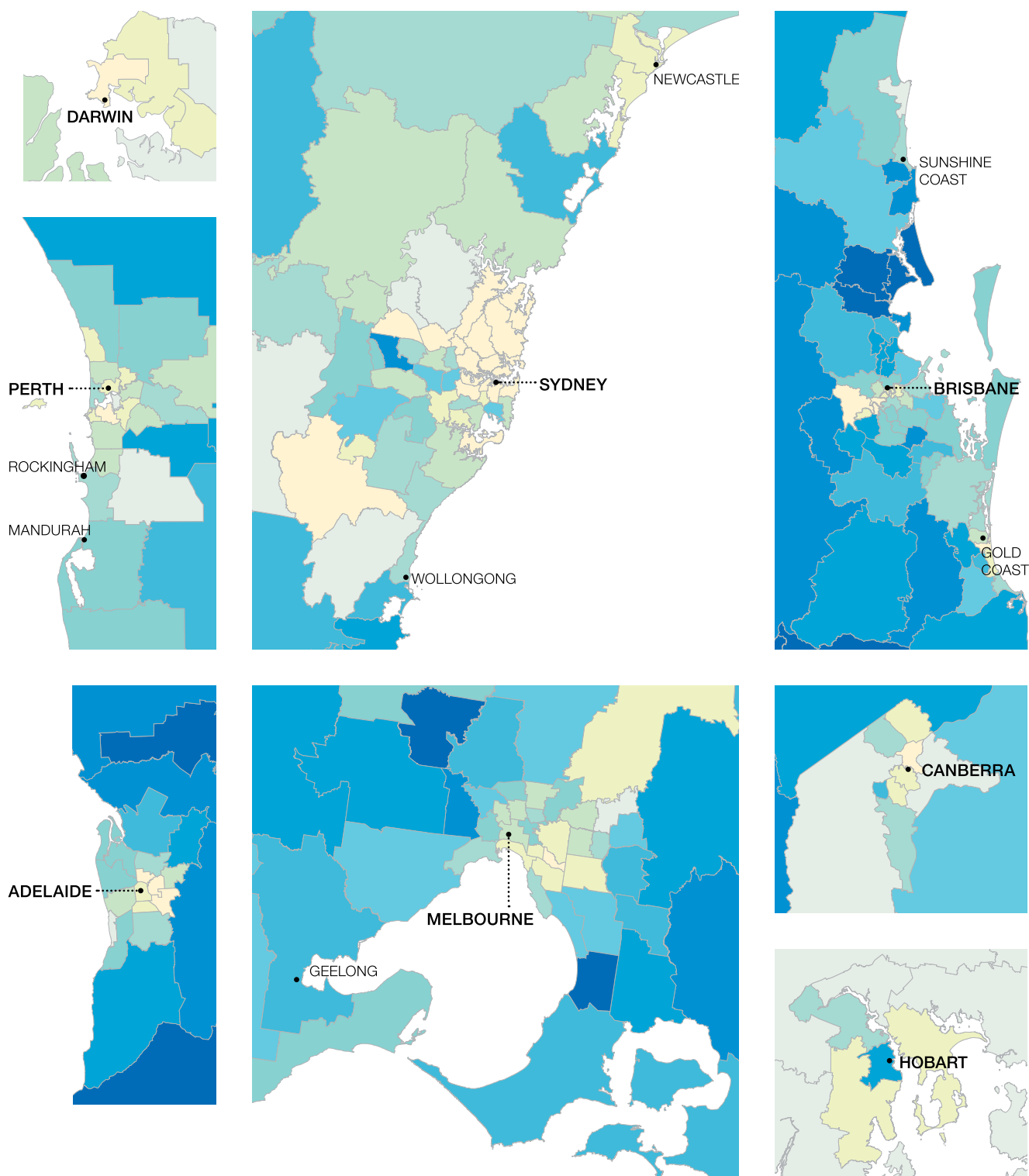
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Figure 124: Estimated annual number of asthma admissions to hospital per 100,000 people aged 20 to 44 years, age standardised, by local area, 2010–11 to 2012–13



Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Sets from 2010–11 to 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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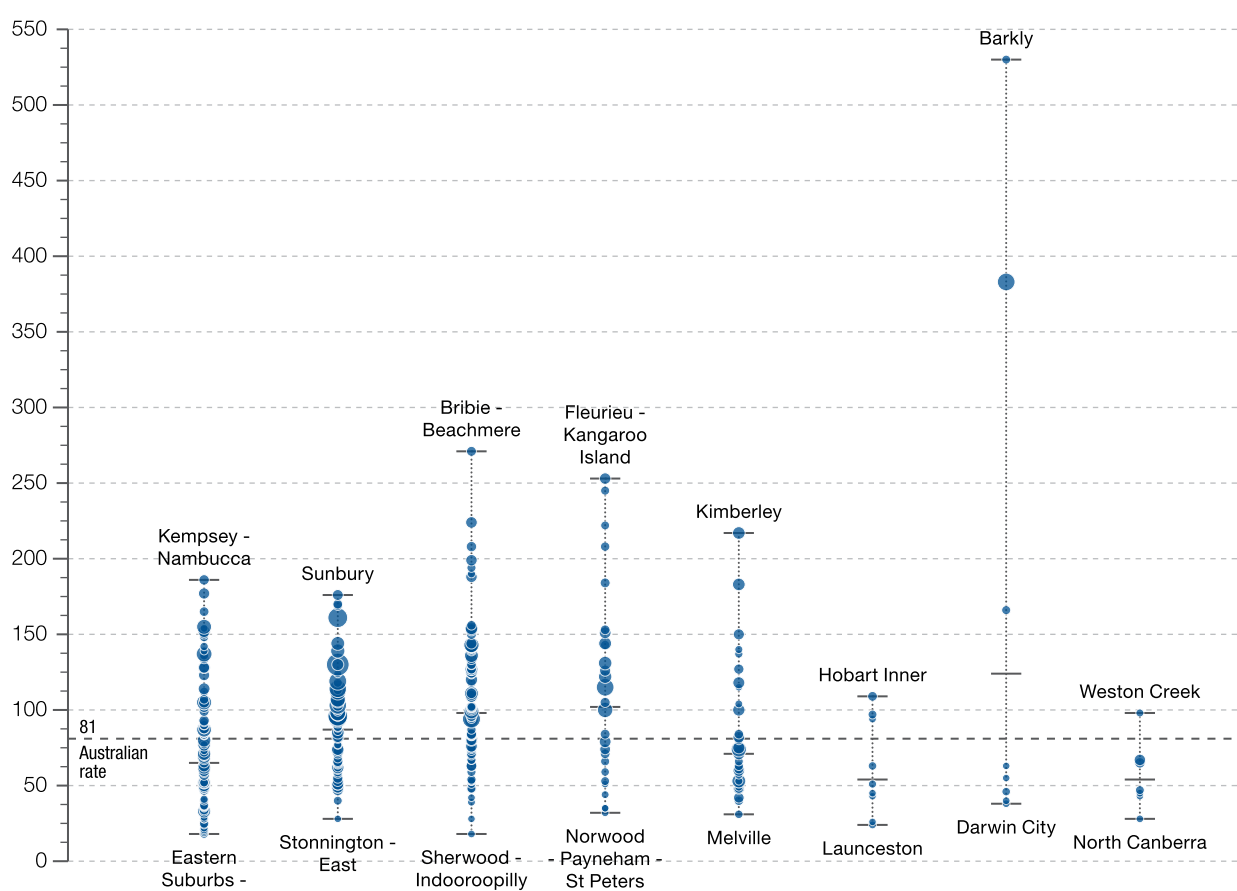


Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Sets from 2010–11 to 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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Figure 125: Estimated annual number of asthma admissions to hospital per 100,000 people aged 20 to 44 years, age standardised, by local area, state and territory, 2010–11 to 2012–13

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Highest rate	186	176	271	253	217	109	530	98
State/territory	65	87	98	102	71	54	124	54
Lowest rate	18	28	18	32	31	24	38	28
No. admissions	1,652	1,788	1,576	563	637	82	117	83



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

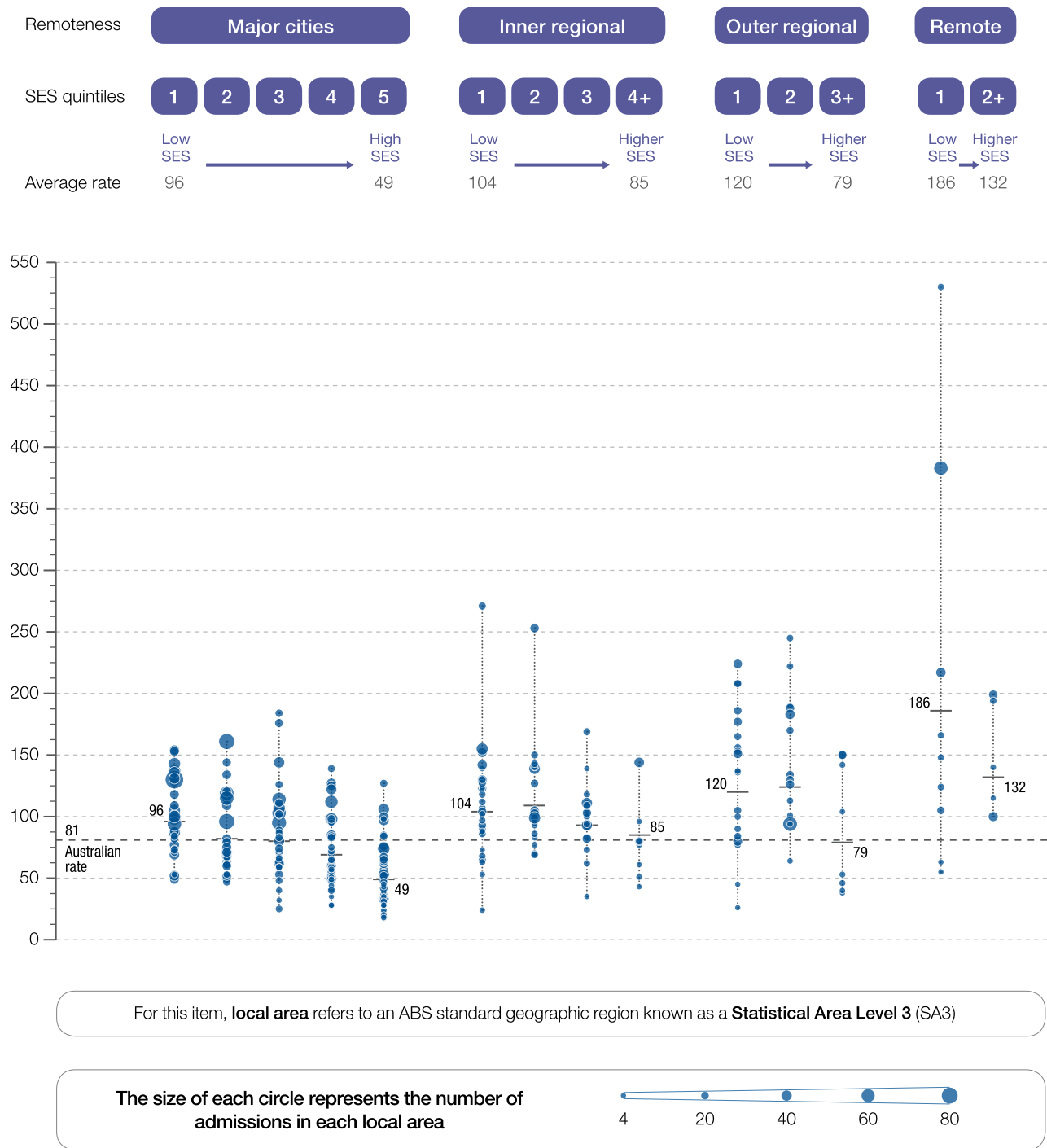


Notes:

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 Sets from 2010–11 to 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

Figure 126: Estimated annual number of asthma admissions to hospital per 100,000 people aged 20 to 44 years, age standardised, by local area, remoteness and socioeconomic status (SES), 2010–11 to 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 Sets from 2010–11 to 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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Resources

- Australian Institute of Health and Welfare.
Asthma hospitalisations in Australia 2010–11.
2013. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129544536.
- Australian Institute of Health and Welfare.
Geographic distribution of asthma and chronic obstructive pulmonary disease hospitalisations in Australia, 2007–08 to 2009–10. 2013. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129542788.

1 Jenkins CR, Chang AB, Poulos LM, Marks GB. Asthma in Indigenous Australians: so much yet to do for Indigenous lung health. *MJA* 2009. Vol. 190. No. 10.

2 Australian Bureau of Statistics. Australian Aboriginal and Torres Strait Islander health survey: first results, Australia, 2012–13. Cat. No. 4727.0.55.001. Canberra: ABS, 2013.

3 Woolcock Institute of Medical Research. Asthma control in Australia 1990–2011. 21 years since the introduction of asthma management guidelines – where are we now? Sydney: Woolcock Institute of Medical Research, University of Sydney, 2013.