

6.6 Asthma and chronic obstructive pulmonary disease hospital admissions 45 years and over

Context

This data item examines hospital admission rates for asthma and chronic obstructive pulmonary disease (COPD) for people aged 45 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.

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

COPD is a serious long-term lung disease. The term COPD encompasses chronic bronchitis and emphysema. It is characterised by airway narrowing that is not fully reversible with treatment. Symptoms include shortness of breath, coughing, phlegm and wheezing.

Presentations to hospital for asthma are reasonably frequent but admission is rarely required, as most symptoms are managed in the home through medication and primary healthcare interventions. In people aged 55 years and over most admissions are for COPD¹, with smaller numbers for asthma.

Patients with COPD may require hospital admission for severe exacerbations, which are most frequently caused by infections of the respiratory tract or the tracheobronchial tree. Potential indications for hospital admission for COPD include:

- a marked increase in the intensity of symptoms
- severe underlying COPD
- the onset of new physical signs, such as cyanosis and peripheral oedema
- initial medical treatments failing to relieve the exacerbation
- the presence of serious co-morbidities such as heart failure.²

Evidence shows that, despite early diagnosis of COPD improving outcomes, rates of under-diagnosis and misdiagnosis are high in Australia.³

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Magnitude of variation

In 2012–13, there were 70,932 asthma and COPD admissions to hospital, representing 759 admissions per 100,000 people aged 45 years and over (the Australian rate).

The number of asthma and COPD admissions to hospital across 325* local areas (SA3s) ranged from 201 to 3,893 per 100,000 people aged 45 years and over. The number of admissions was **19.4 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 620 per 100,000 people aged 45 years and over in the Australian Capital Territory, to 1,685 in the Northern Territory.

After excluding the highest and lowest results, the asthma and COPD hospital admission rate across the 309 remaining local areas was **5.3 times higher** in one local area compared to another.

A strong trend was seen towards higher hospital admission rates for asthma and COPD in remote areas. Socioeconomic patterning was also noted across all categories of remoteness, with admission rates highest in areas of low socioeconomic status and decreasing as socioeconomic status increased.

Interpretation

Potential reasons for the variation include differences in:

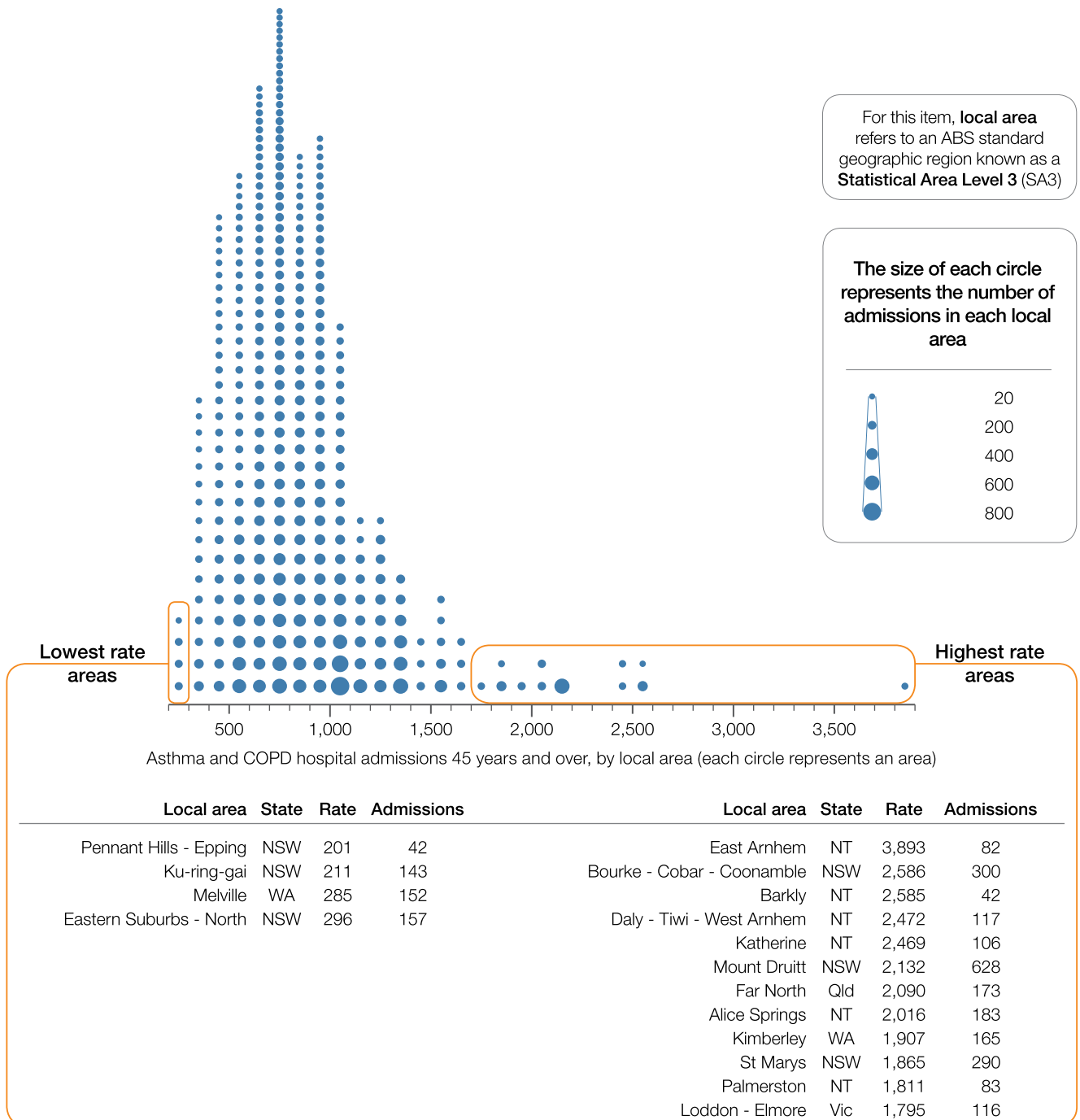
- the distribution of populations with high rates of asthma and COPD, particularly among Aboriginal and Torres Strait Islander people
- the distribution of Indigenous peoples who have higher rates of bronchiectasis⁴ resulting in increased hospital admission rates. This may account for the higher numbers in the Northern Territory and remote locations
- smoking rates
- availability of pulmonary rehabilitation services, especially in rural areas. COPD patients with shortness of breath when walking benefit from attending pulmonary rehabilitation programs, which can improve exercise tolerance and reduce fatigue and shortness of breath.² Pulmonary rehabilitation programs are also shown to reduce hospitalisation
- degrees of adherence to preventer medicines for asthma
- geographical airborne allergens, particulate matter and cold weather extremes, which can trigger asthma attacks despite best-practice medicine use.

To explore this variation, further analysis could focus on:

- whether the variation in admissions in rural and remote locations is due to lower access to pulmonary rehabilitation services.

*There are 333 SA3s. For this item, data were suppressed for 8 SA3s. This is because of confidentiality requirements given the small numbers of admissions in these areas.

Figure 127: Number of asthma and COPD admissions to hospital per 100,000 people aged 45 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.

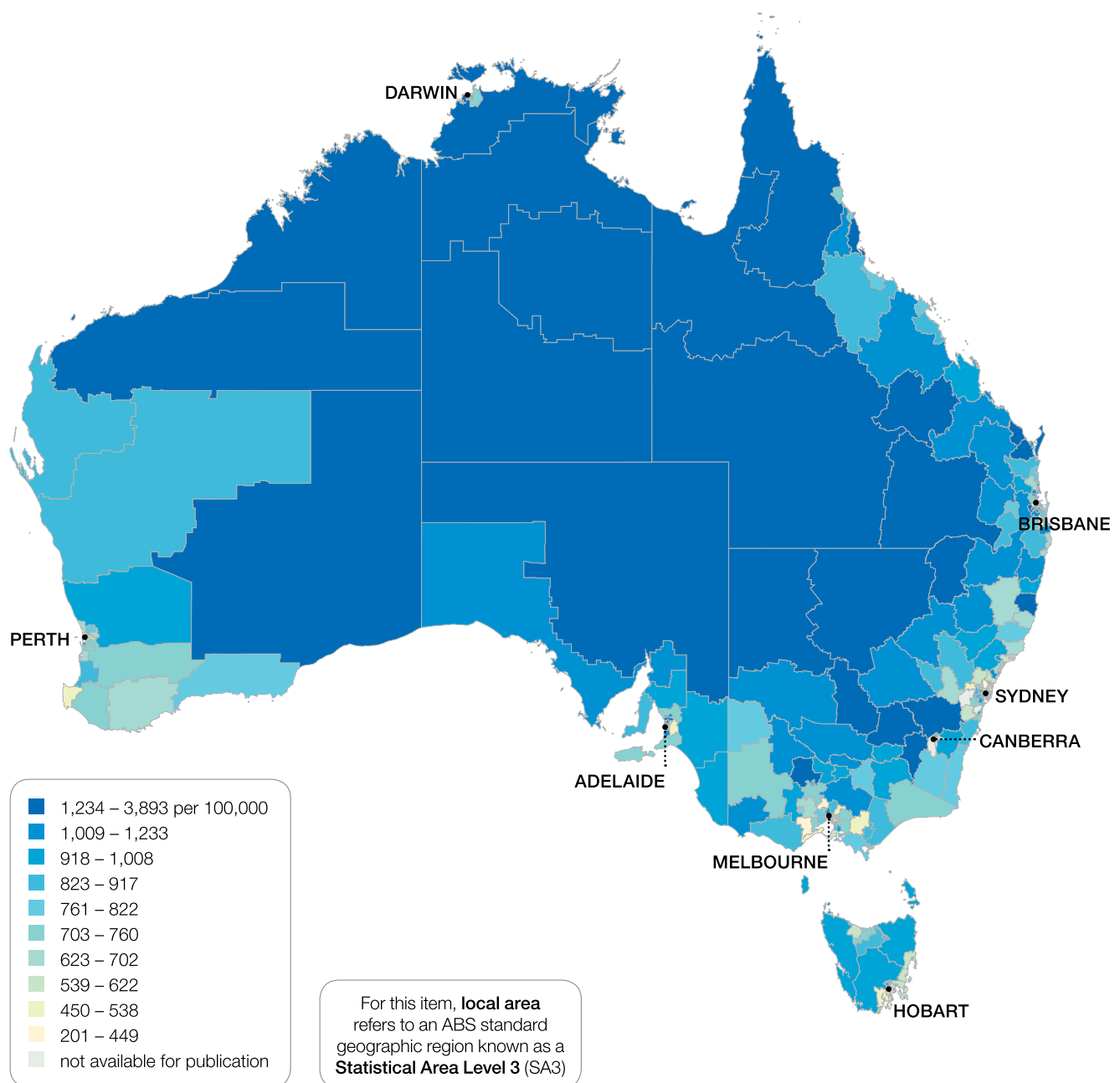
There is variation in administrative practices as to whether patients who attend emergency departments are admitted. This may influence the results for this item.

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.

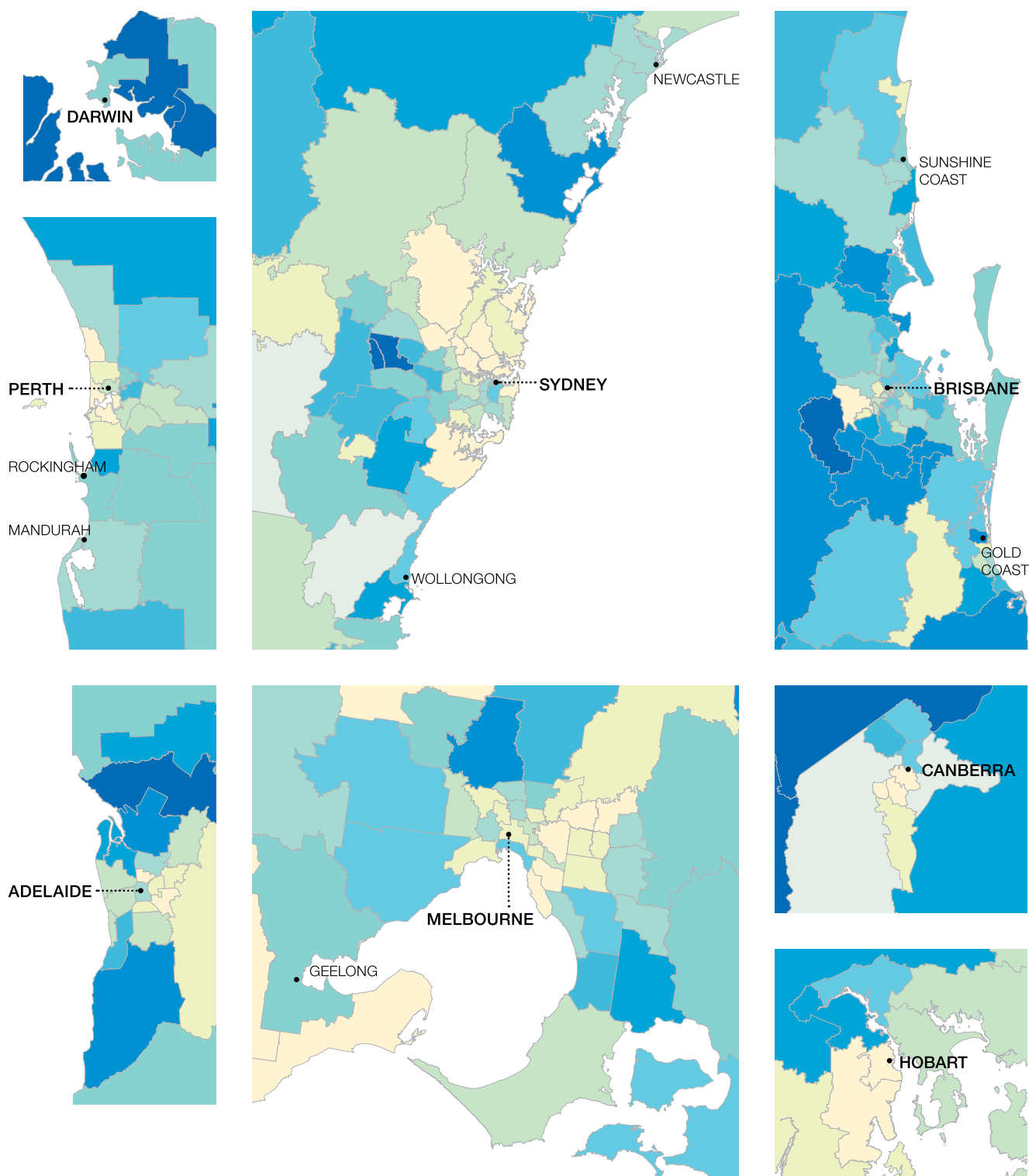
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Figure 128: Number of asthma and COPD admissions to hospital per 100,000 people aged 45 years and over, age standardised, by local area, 2012–13



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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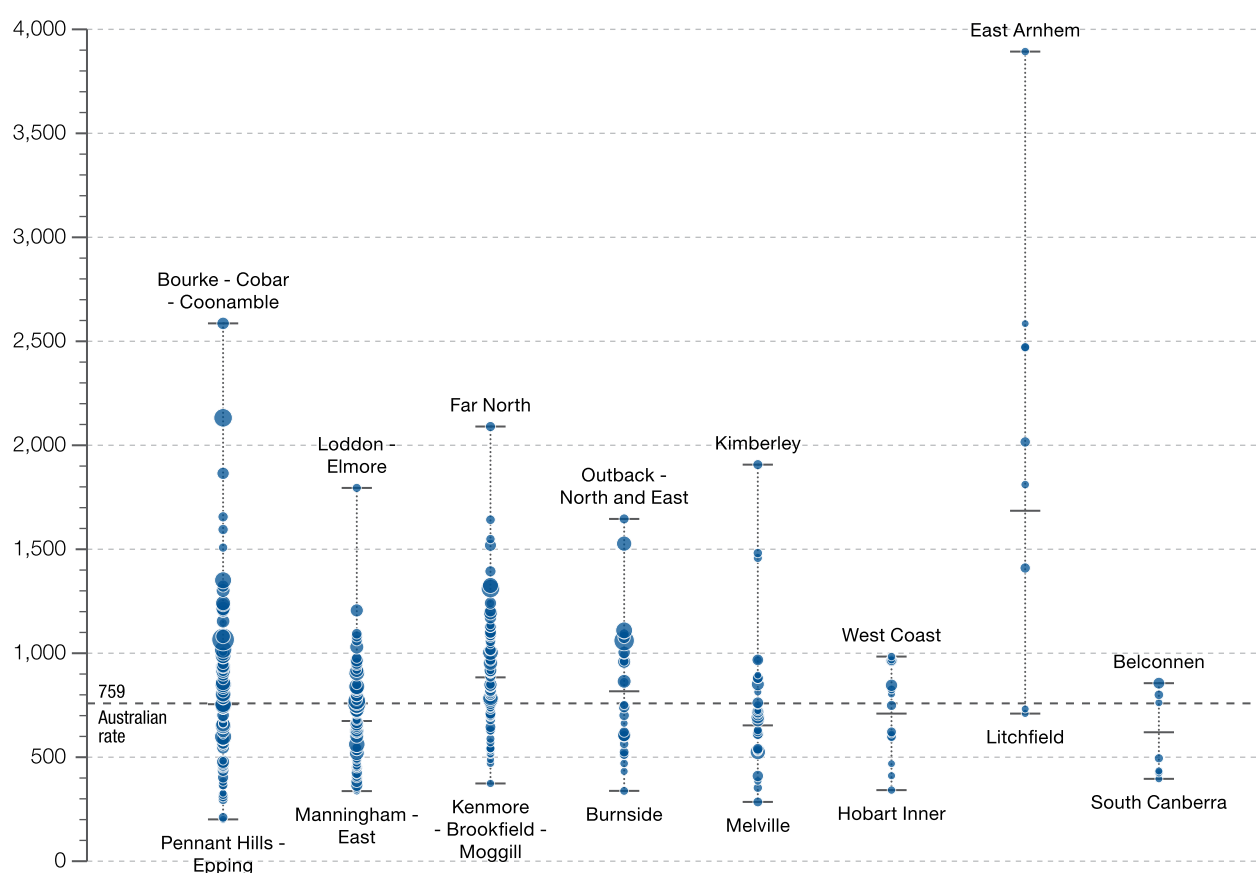


Sources: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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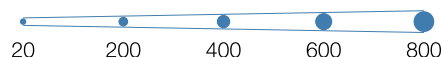
Figure 129: Number of asthma and COPD admissions to hospital per 100,000 people aged 45 years and over, age standardised, by local area, state and territory, 2012–13

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Highest rate	2,586	1,795	2,090	1,646	1,907	984	3,893	856
State/territory	755	674	884	817	653	710	1,685	620
Lowest rate	201	337	374	338	285	342	710	396
No. admissions	23,655	15,897	15,665	6,336	5,856	1,702	885	758



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

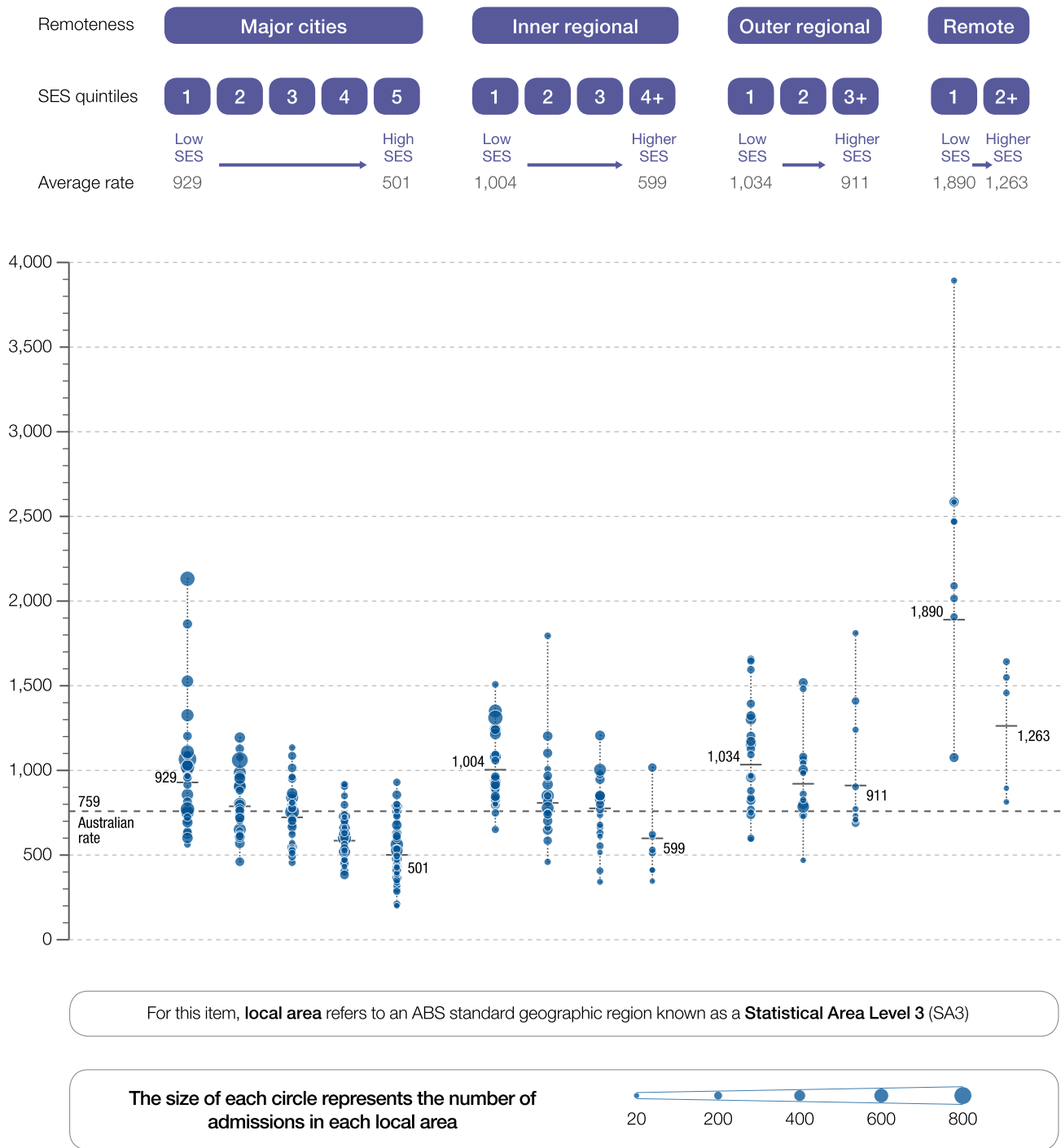


Notes:

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 130: Number of asthma and COPD admissions to hospital per 100,000 people aged 45 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

- Australian Institute of Health and Welfare. *Geographic distribution of asthma and chronic obstructive pulmonary disease hospitalisations in Australia*. 2013. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129542788.
- Lung Foundation Australia and the Thoracic Society of Australia and New Zealand. *The COPD-X plan Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease*. 2014. Available at: www.copdx.org.au/.
- Australian Centre for Asthma Monitoring, Australian Institute of Health and Welfare. *Asthma in Australia*. Asthma series no. 4. Cat. no. ACM 22. 201. Available at: www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=601295446771

1 Australian Institute of Health and Welfare. *Geographic distribution of asthma and chronic obstructive pulmonary disease hospitalisations in Australia, 2007–08 to 2009–10*. Cat. no. ACM 26. Canberra: AIHW, 2013.

2 Global Initiative for Chronic Obstructive Lung Disease. *Global strategy for the diagnosis, management and prevention of COPD*. GOLD, 2015.

3 The Australian Lung Foundation. *The Australian Lung Foundation position paper use of COPD screening devices in the community*. Milton: The Australian Lung Foundation, 2011.

4 Australian Institute of Health and Welfare. *Coronary heart disease and chronic obstructive pulmonary disease in Indigenous Australians*. Cat. no. AIHW 126. Canberra: AIHW, 2014.