

## 6.2 Asthma medicines dispensing 20–44 years

### Context

This data item examines dispensing rates of asthma medicine for people aged 20 to 44 years. The data are sourced from the PBS and relate to the number of prescriptions filled per 100,000 people.

Asthma is an inflammatory lung condition characterised by reversible airway obstruction and bronchospasms, causing episodes of wheezing, breathlessness, coughing and chest tightness. Medicines used to manage asthma include:

- short-acting bronchodilators (relievers), which open the airways by relaxing the smooth muscle; and long-acting bronchodilators, which provide control rather than quick relief
- oral and inhaled corticosteroids (preventers), which suppress inflammation and are typically used for acute exacerbations or prevention respectively
- leukotriene receptor antagonists, which inhibit the release of leukotrienes, a substance that constricts airways and increases mucus production, swelling and inflammation in the lungs.

The recommended management for adults with asthma is:

- for very mild symptoms, using a short-acting reliever
- for persistent and mild symptoms, using a reliever as well as regular low-dose preventer inhaled corticosteroids
- for moderate symptoms, building up the reliever and preventer dosage to the level required to control symptoms
- for persistent and frequent symptoms, adding a long-acting reliever. Patients should have a written Asthma Action Plan to help them recognise and manage worsening asthma. In most cases, preventers may help during periods of exacerbation.

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## Magnitude of variation

In 2013–14, there were 1,659,993 PBS prescriptions dispensed for asthma medicines, representing 20,425 prescriptions per 100,000 people aged 20 to 44 years (the Australian rate).

The number of PBS prescriptions dispensed for asthma medicines across 325\* local areas (SA3s) ranged from 2,244 to 44,092 per 100,000 people aged 20 to 44 years. The number of prescriptions was **19.6 times higher** in the area with the highest rate compared to the area with the lowest rate. The average number of prescriptions dispensed varied across states and territories, from 9,521 per 100,000 people aged 20 to 44 years in the Northern Territory, to 32,260 in Tasmania.

After excluding the highest and lowest results, the asthma medicine prescription rate across the 306 remaining local areas was **3.4 times higher** in one local area compared to another.

Dispensing rates tended to be higher in inner and outer regional areas than in major cities and were lowest in remote communities.

There was a clear relationship with socioeconomic status in all categories of remoteness, with dispensing rates highest in areas of low socioeconomic status and decreasing as the socioeconomic status increased.

## Interpretation

Potential reasons for the variation include differences in:

- rates of smoking, which is a known trigger for asthma. Higher rates of smoking are evident in those from low socioeconomic groups<sup>1</sup>, and among Aboriginal and Torres Strait Islander people<sup>2</sup>
- distribution of Indigenous people, who are almost twice as likely as non-Indigenous people to report having asthma<sup>3</sup>
- levels of adherence to medicines – poor adherence to preventive medicines results in poor asthma control<sup>4,5</sup>
- clinicians' prescribing preferences, including for combination products or single-agent products
- distribution of concession cardholders as current PBS arrangements result in a cost gap for buying asthma relievers but not preventers
- use of spirometric assessments by general practitioners to determine asthma severity
- levels of access to, and costs of, over-the-counter reliever medications.

It is also important to note that the dispensing of medicines in remote areas by some Aboriginal Health Services is not captured in the PBS.

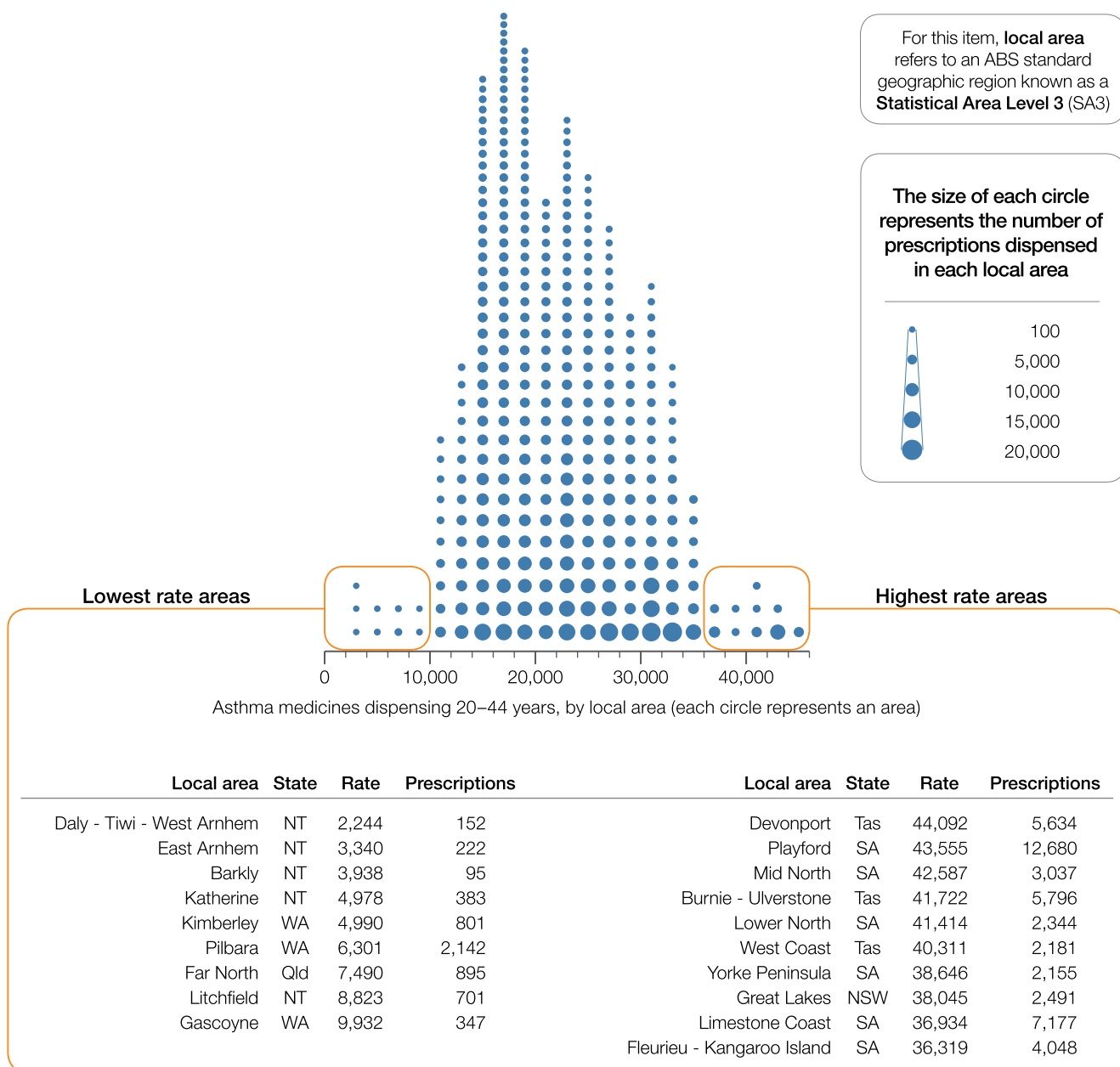
To explore this variation, further analysis could focus on:

- the variation in dispensing rates of relievers and preventers for asthma across states and territories
- the extent to which higher smoking rates are linked to locations with higher asthma medicine dispensing rates.

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

**Figure 111: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 20 to 44 years, age standardised, by local area, 2013–14**



**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 prescriptions 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).

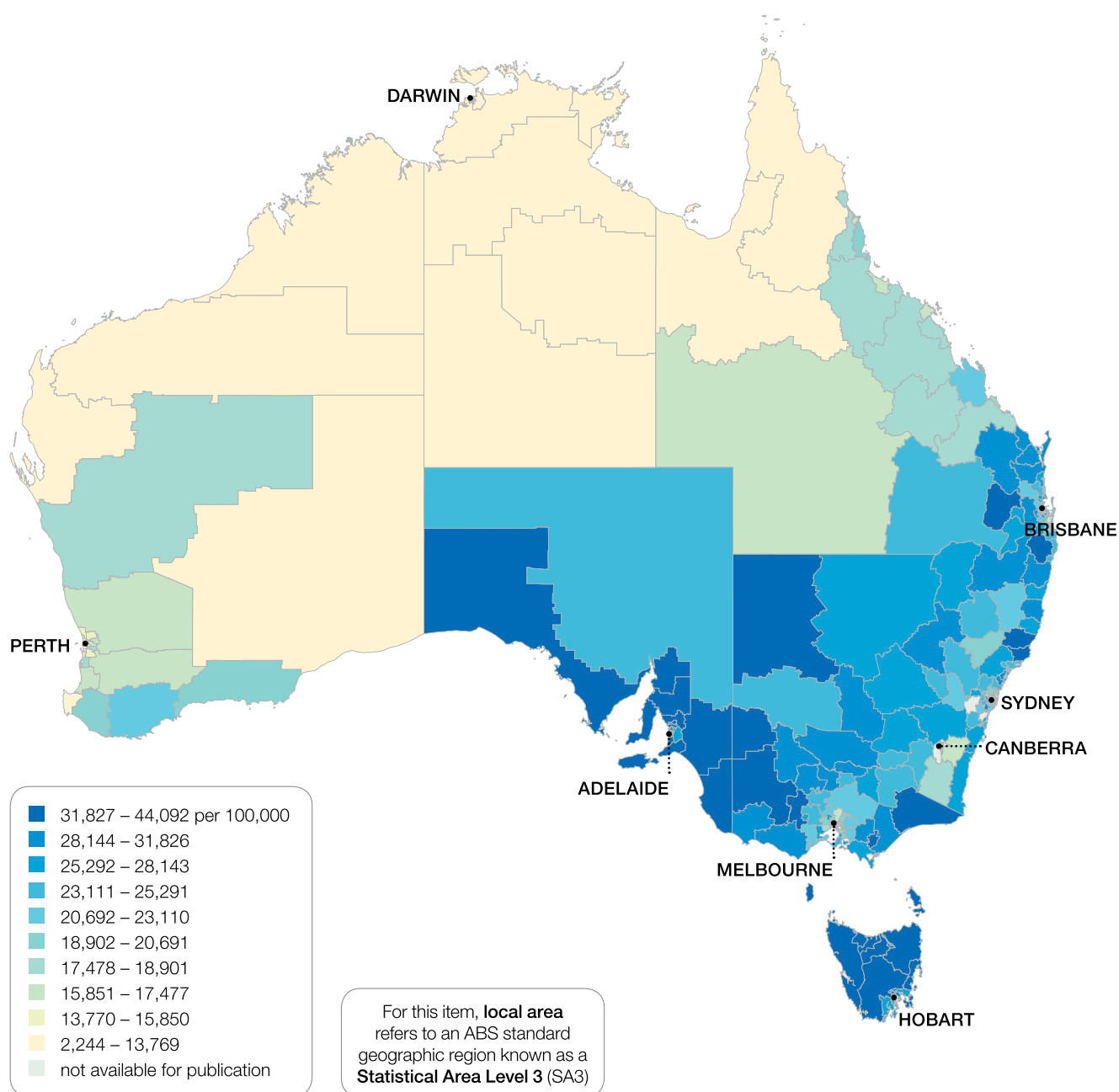
PBS prescriptions include all medicines dispensed under the PBS or RPBS, including medicines that do not receive a Commonwealth subsidy. They exclude a large proportion of public hospital drug usage, direct supply to remote Aboriginal Health Services, over-the-counter purchases and private prescriptions. SA3 analysis excludes approximately 4,800 prescriptions from GPO postcodes 2001, 2124, 3001, 4001, 5001, 6843 but these data are included in state/territory and national level analysis.

For more technical information please refer to the Technical Supplement.

**Sources:** National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

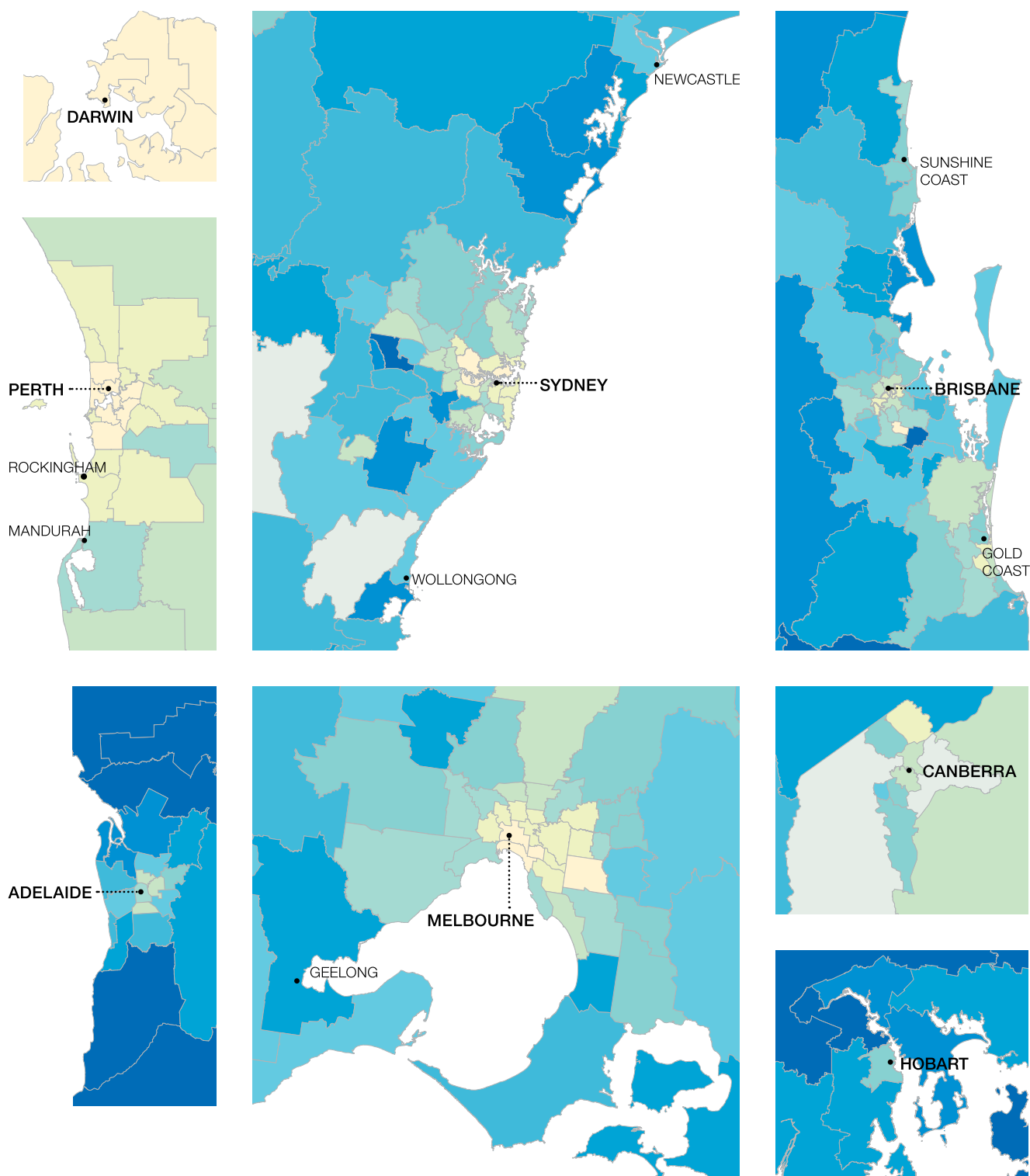
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**Figure 112: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 20 to 44 years, age standardised, by local area, 2013–14**



**Sources:** National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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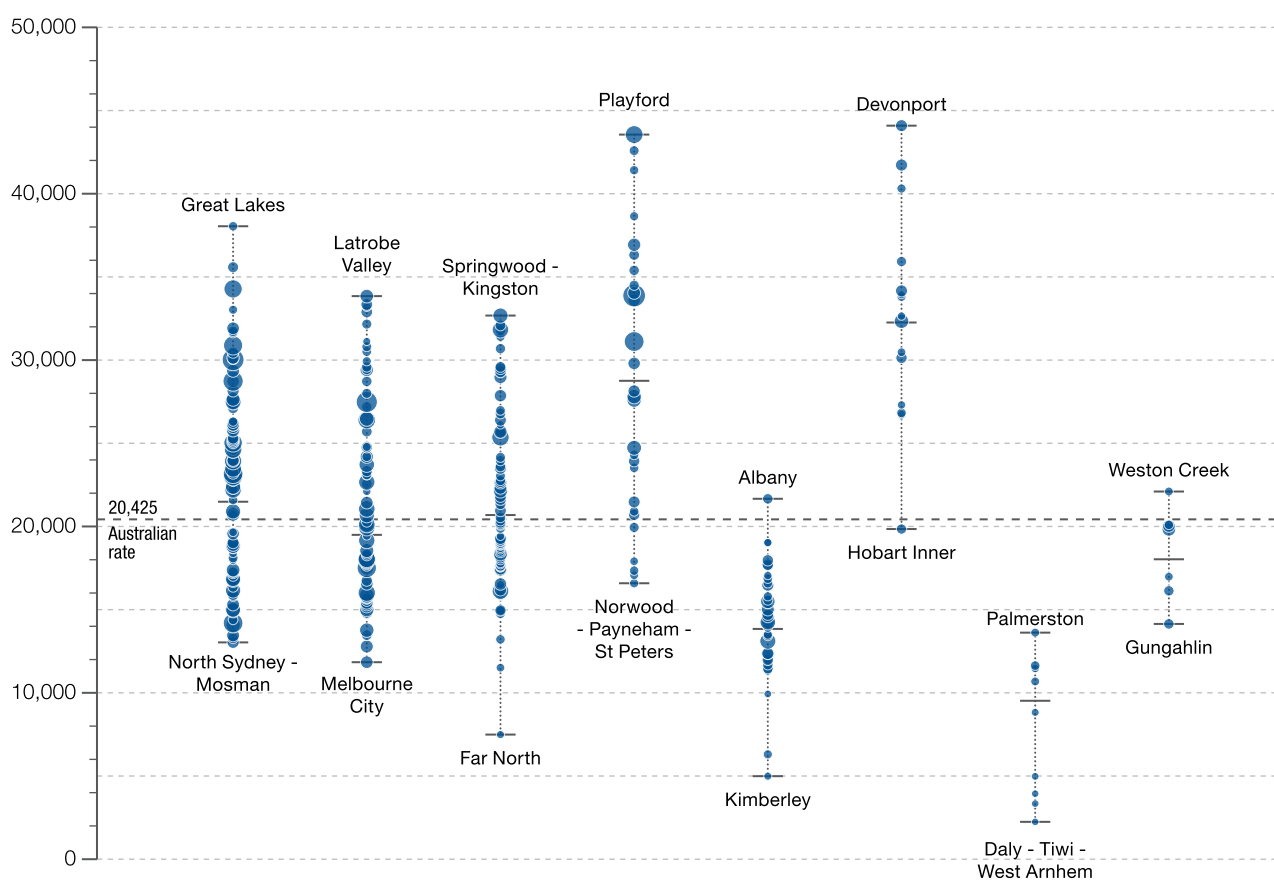


**Sources:** National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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**Figure 113: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 20 to 44 years, age standardised, by local area, state and territory, 2013–14**

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Highest rate	38,045	33,845	32,676	43,555	21,662	44,092	13,620	22,102
State/territory	21,487	19,496	20,685	28,754	13,841	32,260	9,521	18,027
Lowest rate	13,033	11,840	7,490	16,587	4,990	19,845	2,244	14,143
No. prescriptions	549,637	402,013	335,723	157,733	128,653	49,754	9,215	26,980



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 prescriptions dispensed in each local area

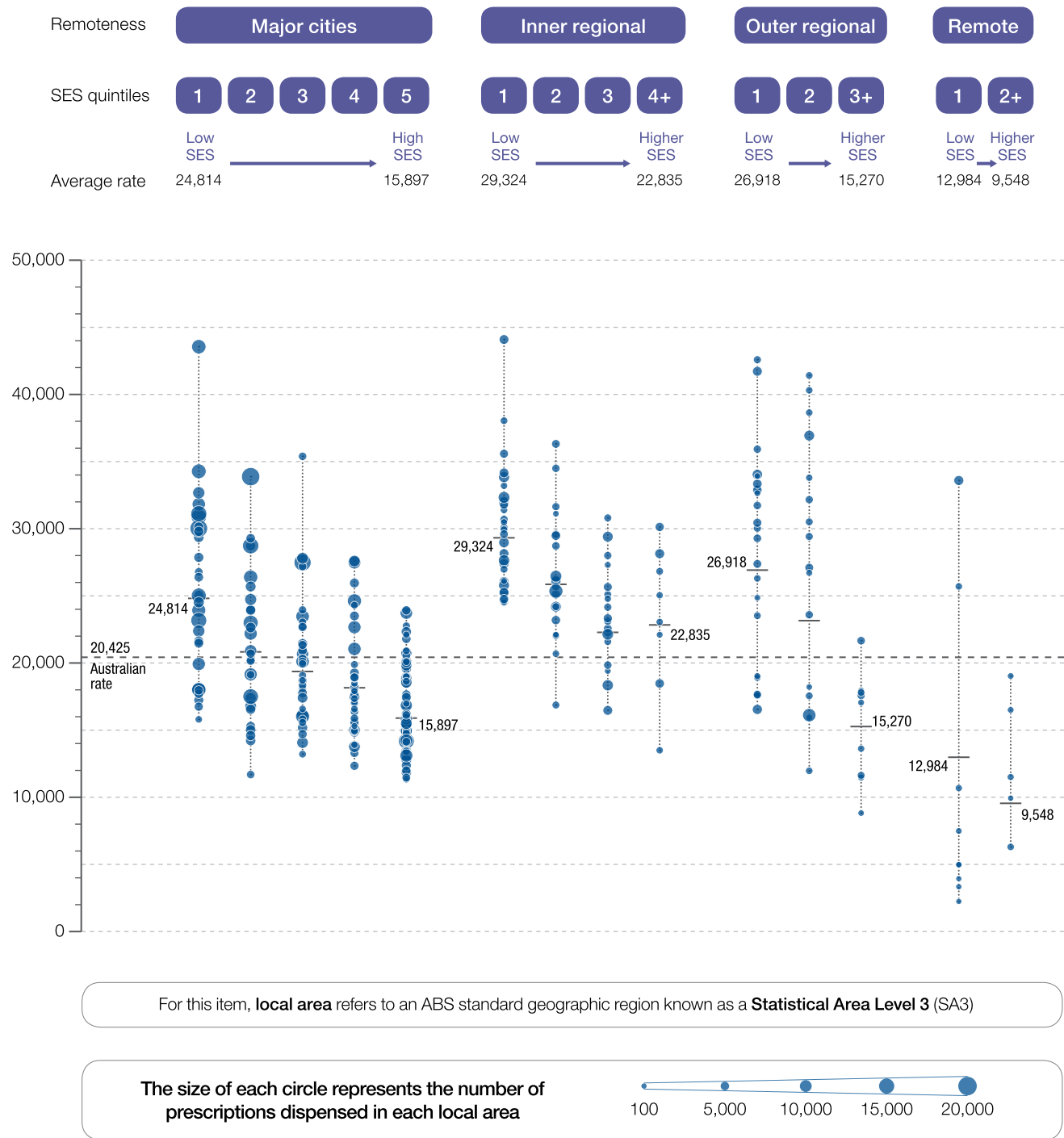


## Notes:

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 prescriptions and people in the geographic area.

**Sources:** National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

**Figure 114: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 20 to 44 years, age standardised, by local area, remoteness and socioeconomic status (SES), 2013–14**



**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 prescriptions and people in Australia.  
Average rates are based on the total number of prescriptions and people in the local areas within each group.

**Sources:** National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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## Resources

- National Asthma Council of Australia. *Australian Asthma Handbook*. 2015. Available at: [www.astmahandbook.org.au/](http://www.astmahandbook.org.au/).
- Pharmaceutical Benefits Scheme. *Australian Statistics on Medicines*. 2015. Available at: [www.pbs.gov.au/info/browse/statistics](http://www.pbs.gov.au/info/browse/statistics).

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- 1 Australian National Preventive Health Agency. Smoking and disadvantage evidence brief. 2013. (Accessed 25 August 2015 at [www.health.gov.au/internet/anpha/publishing.nsf/Content/smoking-disadvantage-evidence-brief](http://www.health.gov.au/internet/anpha/publishing.nsf/Content/smoking-disadvantage-evidence-brief)).
  - 2 Australian Institute of Health and Welfare. Indigenous health. 2014. (Accessed 25 August 2015 at: [www.aihw.gov.au/australias-health/2014/indigenous-health/](http://www.aihw.gov.au/australias-health/2014/indigenous-health/)).
  - 3 Australian Bureau of Statistics. Asthma: Australian Aboriginal and Torres Strait Islander health survey: first results, Australia, 2012–13. Cat. No. 4727.0.55.001. 2013. (Accessed 25 August 2015 at: [www.abs.gov.au/ausstats/abs@.nsf/Lookup/82D0F5F67DDB24F5CA257C2F00145871?opendocument#](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/82D0F5F67DDB24F5CA257C2F00145871?opendocument#)).
  - 4 Horne R, Weinman J. Self-regulation and self-management in asthma: exploring the role of illness perceptions and treatment beliefs in explaining non-adherence to preventive medicine. *Psychol Health* 2002;17:17–32.
  - 5 Reddel HK, Sawyer SM, Everett PW, Flood PV, Peters MJ. Asthma control in Australia: a cross-sectional web-based survey in a nationally representative population. *MJA* 2015;202(9):492–96.