

6.3 Asthma and chronic obstructive pulmonary disease medicines dispensing 45 years and over

Context

This data item examines dispensing rates of asthma and chronic obstructive pulmonary disease (COPD) medicines for people aged 45 years and over. The data are sourced from the PBS and relate to the number of prescriptions filled per 100,000 people.

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 that mainly affects middle-aged and older adults. It is characterised by airway narrowing that is not fully reversible with treatment. Symptoms include shortness of breath, coughing, phlegm and wheezing. Tobacco smoking is the main cause of COPD.¹

The same medicines are used to treat asthma and COPD, but the management is different for each condition. The two primary classes of medicine used to treat asthma and COPD are bronchodilators (relievers) and inhaled corticosteroids (preventers).

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 a low-dose inhaled preventer
- for moderate symptoms, building up the reliever and preventer dosages 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.

The recommended management for COPD is:

- for minimal symptoms, stopping smoking, engaging in regular physical activity and receiving regular flu and pneumococcal vaccinations
- for increased symptoms, adding pulmonary rehabilitation and short-acting relievers
- for frequent exacerbations, adding a low-dose inhaled preventer.

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Magnitude of variation

In 2013–14, there were 7,276,843 PBS prescriptions dispensed for asthma and COPD medicines, representing 78,463 prescriptions per 100,000 people aged 45 years and over (the Australian rate).

The number of PBS prescriptions dispensed for asthma and COPD medicines across 325* local areas (SA3s) ranged from 17,415 to 146,961 per 100,000 people aged 45 years and over. The number of prescriptions was **8.4 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 56,420 per 100,000 people aged 45 years and over in the Northern Territory, to 87,929 in Tasmania.

After excluding the highest and lowest results, the asthma and COPD medicine prescription rate across the 299 remaining local areas was **2.2 times higher** in one local area compared to another.

Dispensing rates were generally highest in major cities and lowest in remote communities. Dispensing rates were highest in areas of low socioeconomic status and decreased as the socioeconomic status increased.

Interpretation

Potential reasons for the variation include differences in:

- smoking rates, because smoking is the main cause of COPD and a trigger for asthma. Higher smoking rates are evident in people from low socioeconomic groups², regional areas and among Aboriginal and Torres Strait Islander people³

- the distribution of Indigenous people, who are almost twice as likely as non-Indigenous people to report having asthma⁴ and 2.5 times as likely to report having COPD⁵
- the distribution of concession cardholders, with more living in areas of lower socioeconomic status – current PBS arrangements result in a cost gap for buying relievers but not preventers
- understanding the optimal treatment for asthma and COPD, and the need to adhere to medicines
- practitioner factors and preferences, including preference for combination products or single-agent products
- the exclusion of data on long-acting bronchodilators of the long-acting muscarinic antagonist class, which are used almost exclusively for COPD
- levels of access to, and costs of, over-the-counter reliever medications.

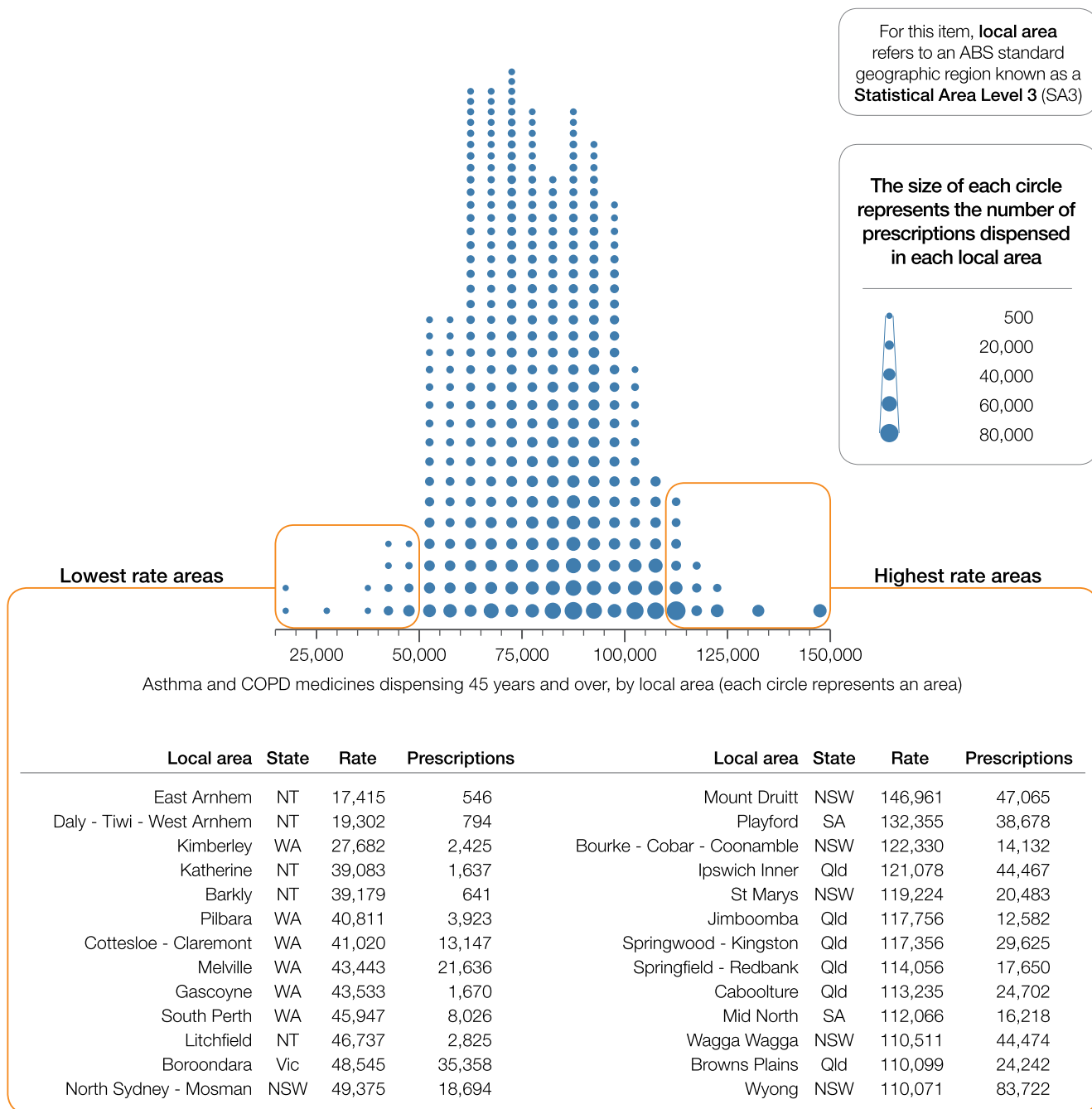
It is also important to note that the dispensing of medicines in remote areas by some Aboriginal Health Services is not captured in the PBS.

To explore this variation, further analysis could focus on:

- dispensing rates for asthma and COPD medicines, particularly to distinguish between prescribing for asthma and COPD, and mapping prescription rates against smoking rates in the population.

*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 115: Number of PBS prescriptions dispensed for asthma and COPD medicines per 100,000 people aged 45 years and over, 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).

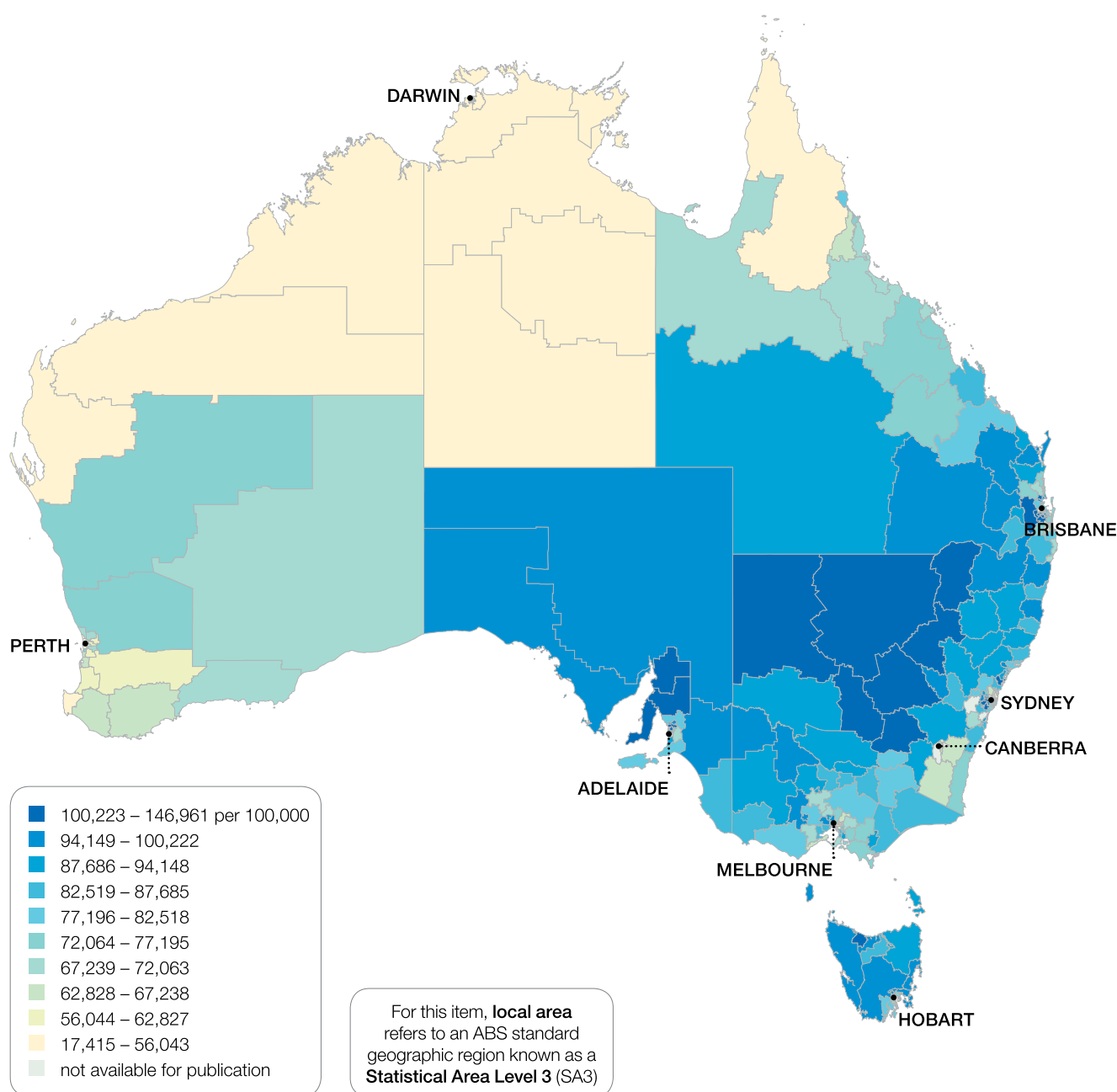
PBS prescriptions include all medicines dispensed under the PBS or RPBS, including medicines that do not receive a Commonwealth subsidy. They exclude a large proportion of public hospital drug usage, direct supply to remote Aboriginal Health Services, over-the-counter purchases and private prescriptions. SA3 analysis excludes approximately 18,550 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.

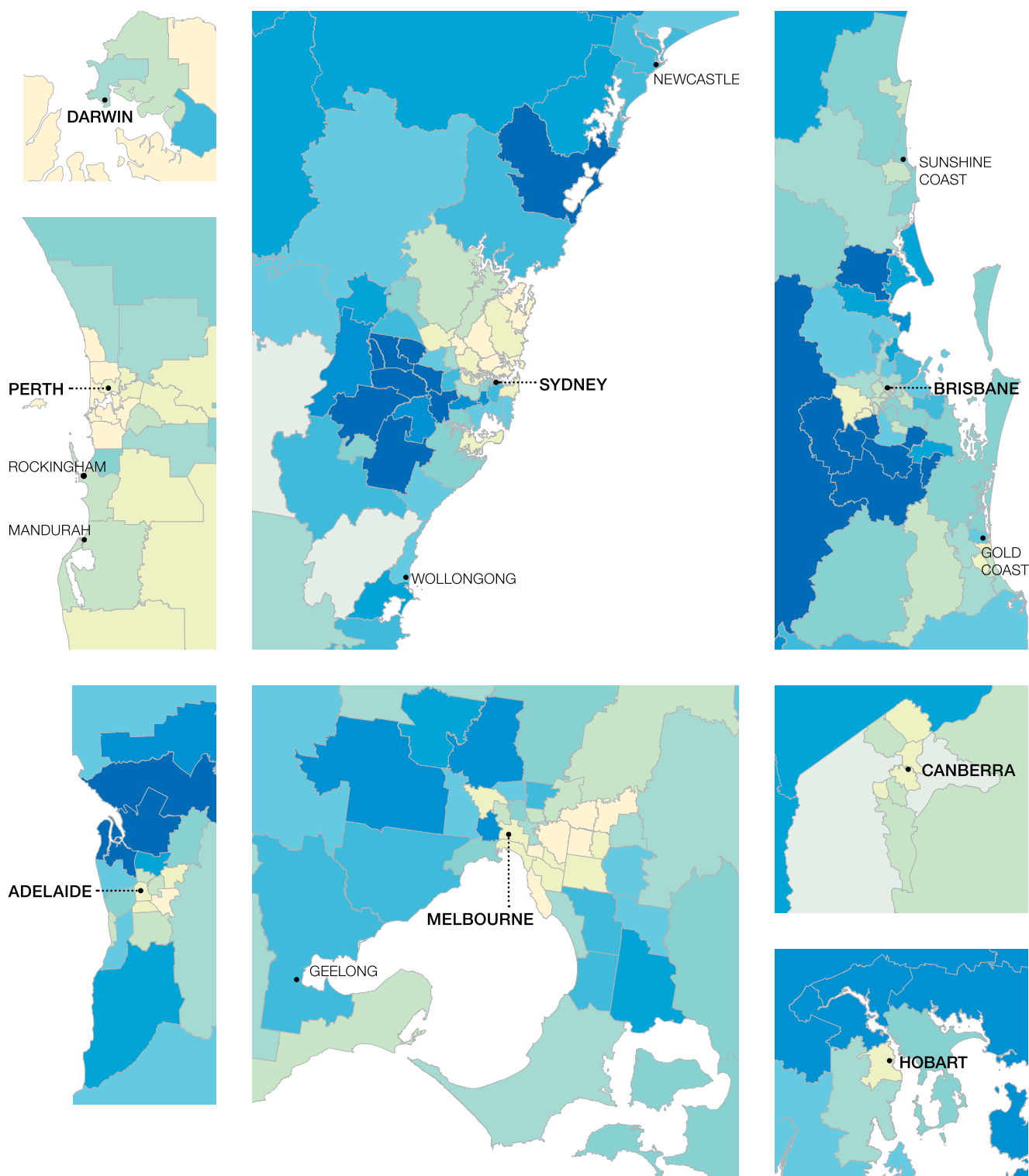
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Figure 116: Number of PBS prescriptions dispensed for asthma and COPD medicines per 100,000 people aged 45 years and over, age standardised, by local area, 2013–14



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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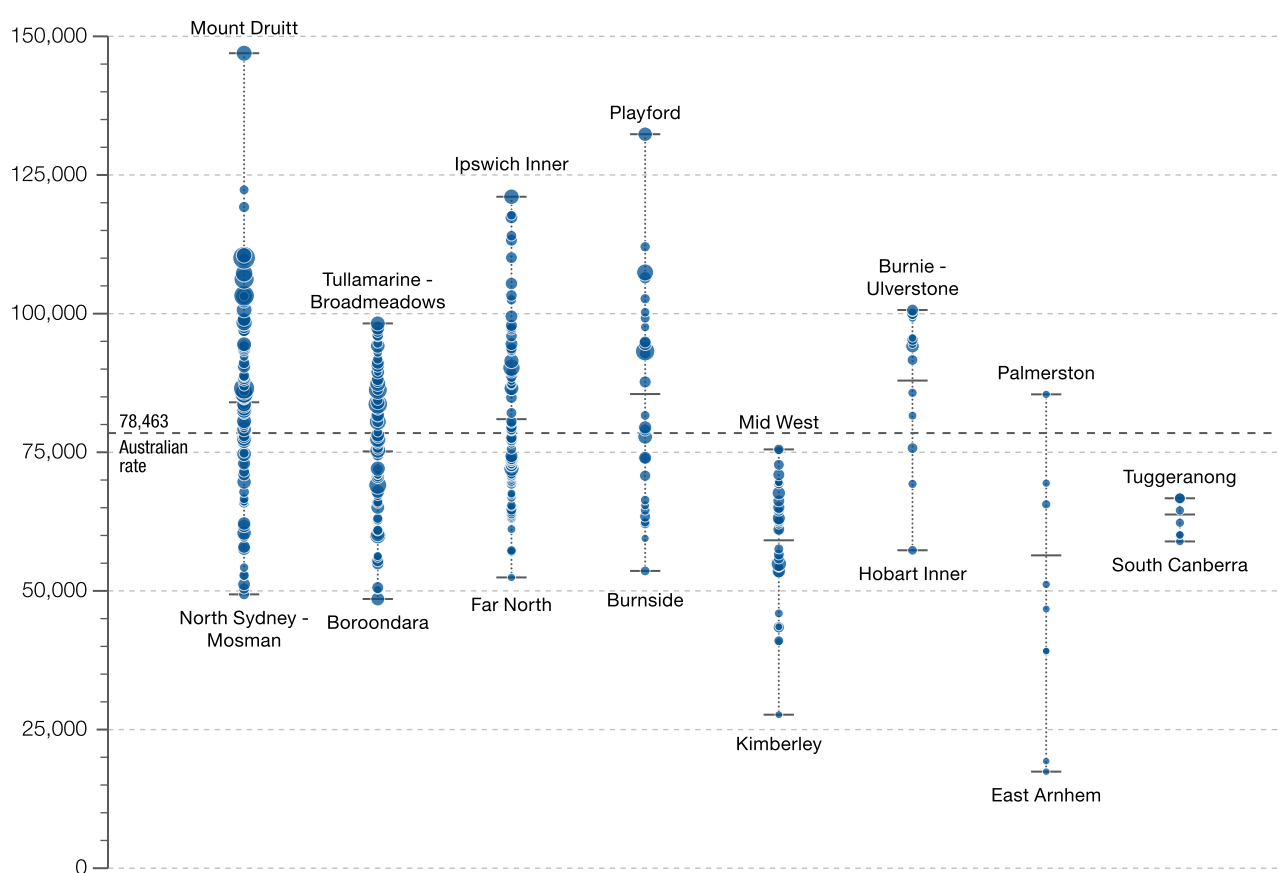


Sources: National Health Performance Authority analysis of Pharmaceutical Benefits Scheme (PBS) statistics 2013–14 (data supplied 10/04/2015) and Australian Bureau of Statistics Estimated Resident Population 30 June 2013.

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Figure 117: Number of PBS prescriptions dispensed for asthma and COPD medicines per 100,000 people aged 45 years and over, age standardised, by local area, state and territory, 2013–14

| | NSW | Vic | Qld | SA | WA | Tas | NT | ACT |
|-------------------|-----------|-----------|-----------|---------|---------|---------|--------|--------|
| Highest rate | 146,961 | 98,243 | 121,078 | 132,355 | 75,520 | 100,646 | 85,441 | 66,713 |
| State/territory | 84,020 | 75,164 | 80,979 | 85,504 | 59,129 | 87,929 | 56,420 | 63,780 |
| Lowest rate | 49,375 | 48,545 | 52,429 | 53,604 | 27,682 | 57,326 | 17,415 | 58,922 |
| No. prescriptions | 2,585,114 | 1,740,727 | 1,449,540 | 638,663 | 538,779 | 210,116 | 31,379 | 81,729 |



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



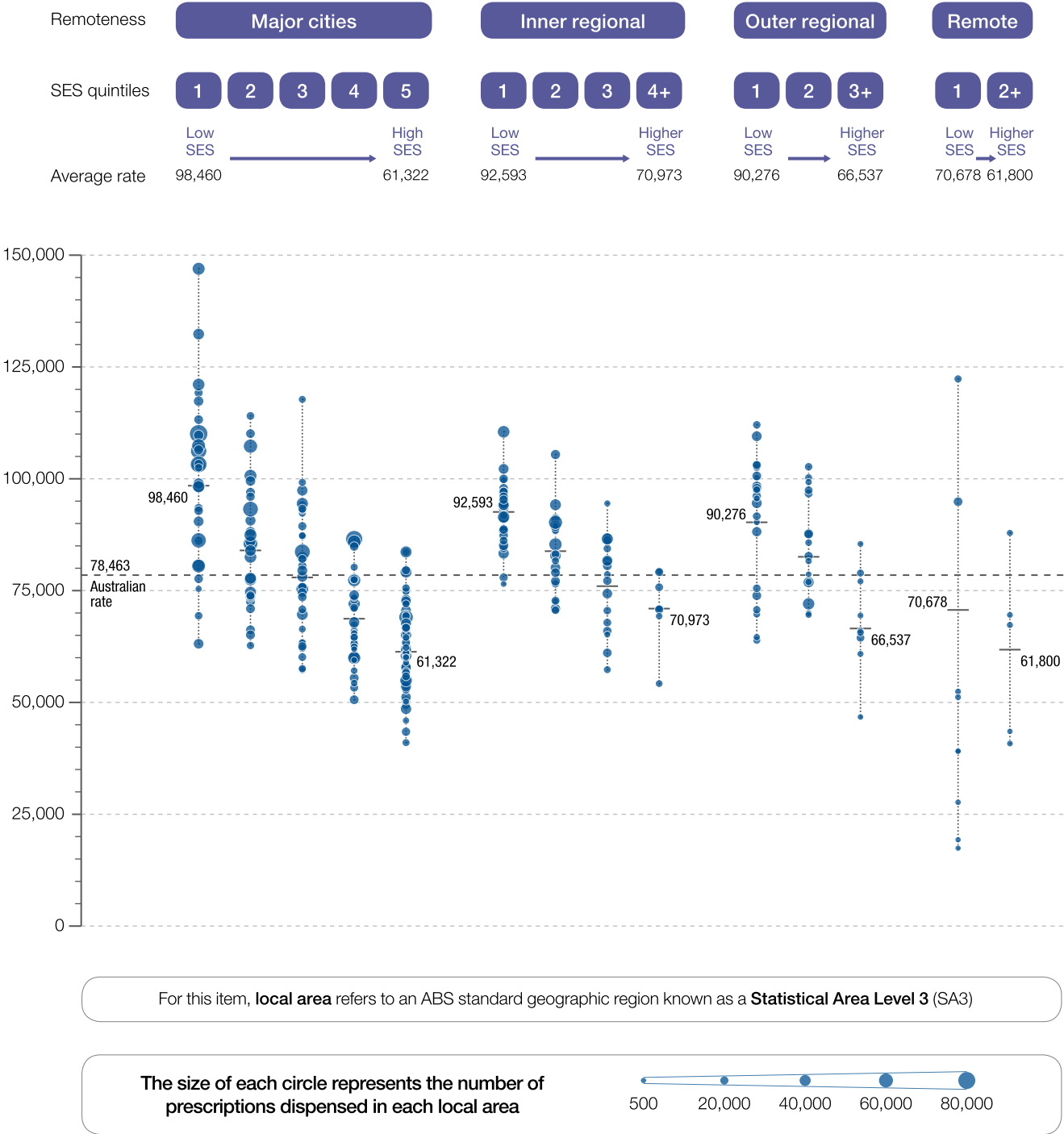
Notes:

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 118: Number of PBS prescriptions dispensed for asthma and COPD medicines per 100,000 people aged 45 years and over, 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.asthmahandbook.org.au/.
- Pharmaceutical Benefits Scheme. *Australian Statistics on Medicines*. 2015. Available at: www.pbs.gov.au/info/browse/statistics.
- Global initiative for chronic obstructive lung disease. *Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease*. 2015. Available at: www.goldcopd.org/uploads/users/files/GOLD_Report_2015_Apr2.pdf.

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- 1 Forey B, Thornton A, Lee P. Systematic review with meta-analysis of the epidemiological evidence relating smoking to COPD, chronic bronchitis and emphysema. *BMC Pulm Med* 2011;11(1):1–61.
 - 2 Australian National Preventive Health Agency. Smoking & disadvantage evidence brief. 2013. (Accessed 25 August 2015 at: www.health.gov.au/internet/anpha/publishing.nsf/Content/smoking-disadvantage-evidence-brief).
 - 3 Australian Institute of Health and Welfare. Indigenous health. 2014. (Accessed 25 August 2015 at: www.aihw.gov.au/australias-health/2014/indigenous-health/).
 - 4 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.
 - 5 Australian Institute of Health and Welfare. Coronary heart disease and chronic obstructive pulmonary disease in Indigenous Australians. Cat. no. IHW 126. Canberra: AIHW, 2014.