Context

This data item examines asthma medicines dispensing for people aged three to 19 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. Asthma is the most common long-term medical condition diagnosed in Australian children, with almost 21 per cent between birth and age 15 being identified as having asthma.¹ Asthma is not curable; however, treatments can control symptoms and improve quality of life. Some children grow out of asthma.

Medicines used to manage asthma include²:

- 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.

Clinical practice guidelines for young people with asthma allow treatments to be adjusted according to their level of asthma control. Management is recommended as follows:

- All children should have a reliever medicine to use as needed.
- Children with interval or persistent symptoms should also have regular low-dose preventer inhaled corticosteroids.
- For some children, a leukotriene receptor antagonist may be used as an alternative preventer medicine.³

Magnitude of variation

In 2013–14, there were 1,270,400 PBS prescriptions dispensed for asthma medicines, representing 25,750 prescriptions per 100,000 people aged 3 to 19 years (the Australian rate).

The number of PBS prescriptions dispensed for asthma medicines across 325* local areas (SA3s) ranged from 1,298 to 53,379 per 100,000 people aged 3 to 19 years. The number of prescriptions was **41.1 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 8,754 per 100,000 people aged 3 to 19 years in the Northern Territory, to 32,456 in Tasmania.

After excluding the highest and lowest results, the asthma medicine prescription rate across the 304 remaining local areas was **3.2 times higher** in one local area compared to another.

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

Interpretation

Potential reasons for the variation include differences in:

- clinical decision making and clinicians' adherence to clinical guidelines
- risk factors, including low socioeconomic status¹, low income, remoteness¹, parental smoking¹, environmental allergens⁵, humidity and crowded housing⁶, which are more prevalent in disadvantaged communities⁷
- patient factors, such as taking appropriate asthma preventer medicine and seeking health care early in the progression of asthma. Both of these may be less prevalent in disadvantaged communities
- practitioner factors and preferences, including the preference for combination products or single-agent products
- levels of access to, and the 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 family, provider and system factors that increase variations in prescribing and dispensing asthma medicine to those aged three to 19
- comparing the dispensing of asthma preventer and reliever medicines overall, and by levels of socioeconomic disadvantage to examine whether variation is greater with preventers than with relievers
- the variability of dispensing for young children versus school-aged children.

^{*}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 107: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 3 to 19 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 540 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.

Figure 108: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 3 to 19 years, age standardised, by local area, 2013–14



The number of PBS prescriptions dispensed for asthma medicines across 325 local areas (SA3s) ranged from 1,298 to 53,379 per 100,000 people aged 3 to 19 years. The number of prescriptions was **41.1 times higher** in the area with the highest rate compared to the area with the lowest rate.



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 109: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 3 to 19 years, age standardised, by local area, state and territory, 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.

Figure 110: Number of PBS prescriptions dispensed for asthma medicines per 100,000 people aged 3 to 19 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.

Resources

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