

5.6 ADHD medicines dispensing, 17 years and under

Context

This section examines dispensing rates of medicines for attention deficit hyperactivity disorder (ADHD) for children and adolescents aged 17 years and under between 2013–14 and 2016–17.

It is estimated that ADHD affects about 7% of Australian children.¹ Children with ADHD often experience changes in behaviour, concentration and attention, and have problems with inattention, impulsivity or overactivity. The condition is also associated with higher rates of accidents and injuries, learning difficulties, drug and alcohol abuse, and family conflict.^{2,3}

A comprehensive assessment involving the child or adolescent and their family and teachers is important in developing an individualised management plan that addresses the specific needs of the child or adolescent in managing ADHD.^{2,4}

Management of ADHD can include a range of interventions, either alone or in combination. Interventions are commonly psychological, pharmacological or educational in nature. Milder forms of ADHD can be treated with non-pharmacological interventions, and medicines should not be used as first-line treatment in children of preschool age. Medicines should only be used when symptoms significantly impair academic, social or behavioural functions.^{2,5}

The rate of ADHD medicines dispensing per 100,000 people aged 17 years and under was mapped in the first *Australian Atlas of Healthcare Variation*, published in November 2015.² The first Atlas reported that, in 2013–14, just over 500,000 Pharmaceutical Benefits Scheme (PBS) prescriptions for ADHD medicines were dispensed in Australia to people aged 17 years and under. Variation in use was marked, with a 75-fold difference in rates of dispensing between local areas. Rates were higher in inner and outer regional areas than in major cities, and lower again in remote communities. Dispensing rates were also higher in areas with socioeconomic disadvantage. Lower dispensing rates of ADHD medicines in remote communities were attributed to medicines dispensed by remote-area Aboriginal health services not being captured in the PBS database.²

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Why is it important to monitor ADHD medicines use nationally?

Improving the use of ADHD medicines is of national importance because of the wide variation in use, and uncertainties about appropriate use.² Although ADHD medicines can be very effective in reducing symptoms of ADHD, not all children experience benefit.

Some children may experience uncomfortable or harmful side effects. It is therefore essential that these medicines are prescribed appropriately to ensure that the benefits outweigh the risks.

What initiatives have taken place since 2015?

Since 2015, initiatives to improve use of ADHD medicines in this age group have been undertaken as part of a wider strategy to improve the management of mental health conditions in Australia. The National Mental Health Commission, which was established in 2012, continues to provide advice on ways to improve Australia's mental health and acts as a catalyst for change.⁶ In 2016, the Australian Bureau of Statistics published *Patterns of Use of Mental Health Services and Prescription Medications, 2011*.⁷ In 2016, the Australian ADHD Professionals Association was formed to specifically promote evidence-based research, diagnosis and management of ADHD across Australia.⁸

About the data

Data are sourced from the PBS dataset. This dataset includes all prescriptions dispensed under the PBS or Repatriation Pharmaceutical Benefits Scheme, including prescriptions that do not receive an Australian Government subsidy. Note that some dispensed medicines may not be consumed by the patient.

The dataset does not include prescriptions dispensed for patients during their hospitalisation in public hospitals, discharge prescriptions dispensed from public hospitals in New South Wales and the Australian Capital Territory, direct supply of medicines to remote Aboriginal health services, over-the-counter purchase of medicines, doctor's bag medicines and private prescriptions.

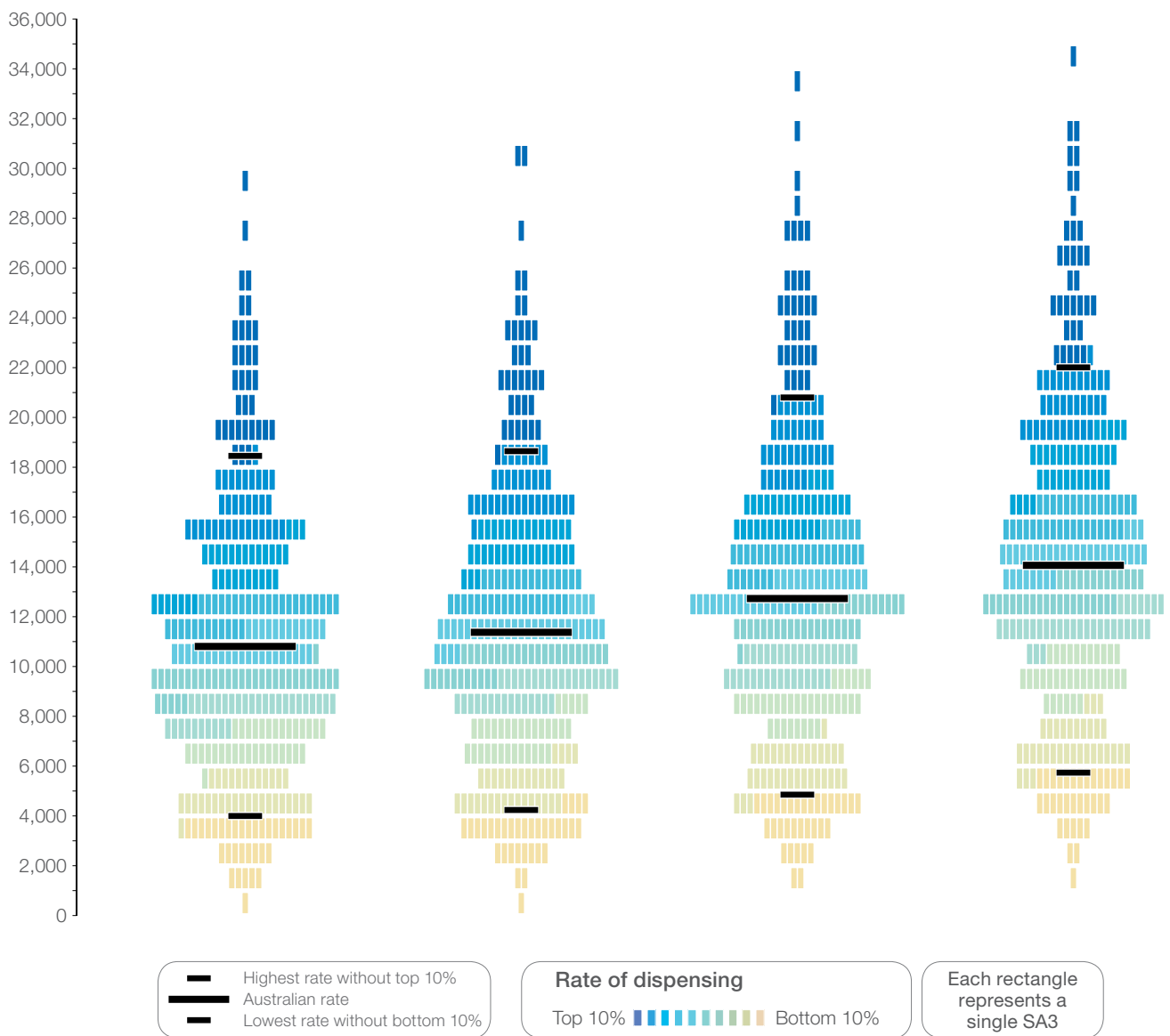
This analysis was not undertaken by Aboriginal and Torres Strait Islander status because this information was not available for PBS data at the time of publication.

Changes have been made to the data specification used in the first Atlas to improve the robustness of comparing rates over time. The main change is the addition of sex standardisation, as the data specification for the first Atlas standardised for age only. These changes have resulted in small differences in the rates reported for 2013–14 in the first Atlas and this Atlas. The rates reported in this Atlas should be used to monitor changes over time.

Rates across years

Figure 5.20: Number of PBS prescriptions dispensed for ADHD medicines per 100,000 people aged 17 years and under, age and sex standardised, by Statistical Area Level 3 (SA3) of patient residence, 2013–14 to 2016–17

	2013–14	2014–15	2015–16	2016–17
Highest rate	29,817	30,839	33,712	34,465
Australian rate	10,805	11,373	12,730	14,061
Lowest rate	401	768	1,226	1,981
Magnitude of variation	74.4	40.2	27.5	17.4
Magnitude of variation without top & bottom 10%	4.6	4.4	4.3	3.8



Notes:

For further detail about the methods used, please refer to the Technical Supplement.

Sources: AIHW analysis of Pharmaceutical Benefits Scheme data and ABS Estimated Resident Population 30 June 2013 to 2016.

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What do the data show?

Magnitude of variation

In 2016–17, the rate of dispensing of ADHD medicine prescriptions in people aged 17 years and under was **17.4 times as high** in the area (Statistical Area Level 3 – SA3) with the highest rate as in the SA3 with the lowest rate. The magnitude of variation **decreased** from 2013–14, when there was a 74.4-fold difference between the highest and lowest rates (Figure 5.20).

Rate of prescriptions dispensed

In 2016–17, there were 737,037 PBS prescriptions dispensed for ADHD medicines to people aged 17 years and under, representing an Australian rate of **14,061** prescriptions dispensed per 100,000 people aged 17 years and under. The Australian rate **increased** during the four years from 2013–14, when 10,805 prescriptions per 100,000 people aged 17 years and under were dispensed (Figure 5.20).

People dispensed at least one prescription

In 2016–17, there were **1,940** people per 100,000 people aged 17 years and under nationally who had at least one ADHD medicine prescription dispensed. The number of people who had at least one prescription dispensed in a year **increased** during the four years from 2013–14, when 1,540 people aged 17 years and under nationally had at least one ADHD medicine prescription dispensed (Table 5.21).

Table 5.21: Number of people dispensed at least one prescription for an ADHD medicine per 100,000 people aged 17 years and under, age and sex standardised, 2013–14 to 2016–17

	2013–14	2014–15	2015–16	2016–17
Australian rate	1,540	1,620	1,784	1,940

Volume of ADHD medicines used in people aged 17 years and under

In 2016–17, there were 13.75 defined daily doses* (DDDs) of ADHD medicines per 1,000 people aged 17 years and under dispensed on any given day. The national DDD rate per 1,000 people per day **increased** during the four years from 2013–14, when it was 10.52 (Table 5.22).

Table 5.22: Number of defined daily doses of ADHD medicines dispensed per 1,000 people aged 17 years and under per day, age and sex standardised, 2013–14 to 2016–17

	2013–14	2014–15	2015–16	2016–17
Australian rate	10.52	11.03	12.35	13.75

Interpretation

Between 2013–14 and 2016–17, the rate of ADHD medicines dispensed per 100,000 people aged 17 years and under increased by 30% in Australia during the four-year period. The rate of people dispensed at least one prescription also increased during the four years from 2013–14. The volume of ADHD medicines used in the Australian community in this age group, as indicated by the rate of DDD per 1,000 people per day, increased, indicating that the overall amount of ADHD medicines supplied increased during the four-year period. Although the magnitude of variation in dispensing rates fell substantially, this might indicate changes in medicine use in some areas but not others.

* A defined daily dose (DDD) is a measure of medicines use that allows comparison between different therapeutic groups, and between countries. The DDD is based on the average dose per day of the medicine when used for its main indication by adults. Refer to the Technical Supplement for more information.

Potential reasons for this pattern include:

- Changes in prevalence of mental health conditions in this age group
- Changes in the number of people seeking care in this age group
- Changes in access to psychosocial services, mental health services, or psychiatric and psychological services
- People in this age group using these treatments for longer durations.

To explore this, further analysis could potentially focus on:

- Dispensing rates based on practitioner type, to determine whether there is variation in prescribing between primary care and specialist care providers (currently under analysis by the Australian Commission on Safety and Quality in Health Care – the Commission)
- Dispensing rates by state and territory, and local area, to determine whether there has been a change in prescribing in some areas and not others
- Whether dispensing rates differ between age groups – for example, pre- and post-puberty
- The relationship between dispensing rates and the location of youth correction centres.

Is there more to be done?

Dispensing rates and the volume of ADHD medicines in the community continued to increase during the four years from 2013–14. It is unclear whether this reflects increased incidence of ADHD and diagnosis, improved access to medicines and specialised services, differences in models of care, or increased inappropriate use. Although the magnitude of variation in dispensing rates fell substantially over the four-year period, it is still high. Further investigation is required to identify whether these patterns are unwarranted, and what ongoing vigilance is needed to promote safe and appropriate use of these medicines.

The Commission will publish a further analysis of these data in 2019, including analyses by state and territory, and local area; and an analysis by practitioner type. This information will help better understand whether targeted interventions are needed to promote the safe and appropriate use of these medicines.

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References

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