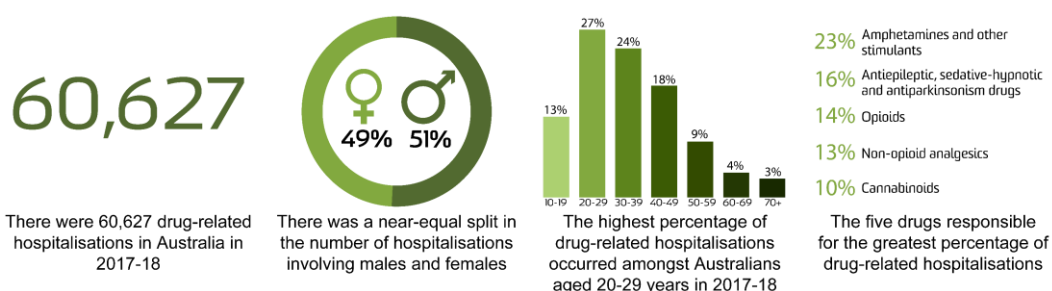


TRENDS IN DRUG-RELATED HOSPITAL SEPARATIONS IN AUSTRALIA, 1999-2018

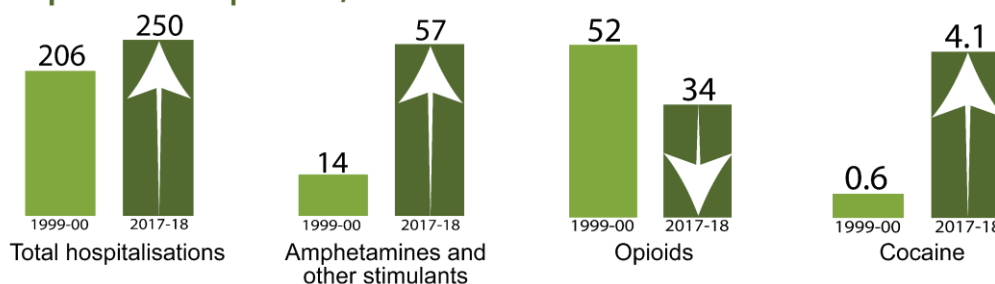
Authors: Agata Chrzanowska, Nicola Man, Louisa Degenhardt, Timothy Dobbins and Amy Peacock

National Drug and Alcohol Research Centre

University of New South Wales Sydney



Hospitalisations per 100,000 Australians



Key Findings

- There were 60,627 drug-related hospital separations among Australians in 2017-18, equivalent to 0.5% of all hospital separations in Australia.
- The age-standardised rate of drug-related hospital separations was relatively stable between 1999-00 and 2009-10, increasing subsequently from 199 hospitalisations per 100,000 people in 2010-11 to 272 in 2015-16 and 2016-17. The rate in 2017-18 (250 hospitalisations per 100,000 people) represents a decline relative to the previous two years yet remains higher than rates observed in earlier years of monitoring.
- In 2017-18, males accounted for 51% of drug-related hospitalisations. This is a reversal of findings up until 2014-15 where drug-related hospitalisations more commonly involved females than males.
- In 2017-18, the highest rates of drug-related hospital separations were observed among the 20-29 and the 30-39 age groups.
- In 2017-18, the greater proportion of drug-related hospital separations was attributable to amphetamines and other stimulants (57 hospitalisations per 100,000 people, 23% of drug-related hospitalisations).

- In 2017-18, natural and semi-synthetic opioids (e.g., oxycodone, morphine) were responsible for over 50% of all hospitalisations due to opioid poisoning. The rate of hospitalisations involving natural and semi-synthetic opioids more than doubled from 1999-00 to 2017-18 (3.5 to 8.1 hospitalisations per 100,000 people, respectively).
- The rate of cannabinoid-related hospitalisations increased from 11 to 25 per 100,000 people from 1999-00 to 2017-18.
- Jurisdictional-level data suggest important differences in hospitalisations by drug type.

Background

This bulletin reports on drug-related hospital separations in Australia from 1999-00 to 2017-18. Data were extracted from the [National Hospital Morbidity Database](#) held by the [Australian Institute of Health and Welfare](#) (AIHW). Full details of [methods](#) are available for download and should be read alongside this bulletin.

Panel A. Terminology

A **hospital separation** (hospitalisation) refers to a completed episode of admitted patient's care in a hospital ending with discharge, death, transfer or a portion of a hospital stay beginning or ending in a change to another type of care.

The **principal diagnosis** is defined as the diagnosis determined after study to be chiefly responsible for occasioning the patient's episode of admitted patient care.

A **drug-related hospital separation** refers to hospital care where the principal diagnosis indicates a substance-use disorder or direct harm due to selected substances.

At the time of separation, a principal diagnosis and up to 99 additional diagnoses may be recorded using diagnosis codes from the World Health Organization's (WHO) International Statistical Classification of Diseases (ICD) Australian Modification. Data presented here describe hospital separations only where the principal diagnosis was directly attributable to use of *illicit drugs* (e.g., heroin), *prescription medicines* (e.g. antidepressants) and *medicines available over-the-counter* (e.g. paracetamol). Consequently, the data presented will be an underestimate of the total number of drug-related hospital admissions.

We have not included hospital separations where the principal diagnosis is related to tobacco or alcohol use as they fall outside the scope of our monitoring (see **Panel A**). We acknowledge the significant harm arising from these substances, and encourage readers to refer to the [National Alcohol Indicators Project](#) and [AIHW reporting](#). Many drug-related hospitalisations involve more than one drug (including alcohol), and sometimes it is not possible to determine one substance as the primary drug leading to hospitalisation.

We present key findings for all Australians unless otherwise indicated. State of hospitalisation equals the state of usual residence as cross border separations were not provided. Separations with a care type of 'newborn' (without qualified days), and records for 'hospital borders' and 'posthumous organ procurement' have been excluded. For Tasmania, provision of data between 2010-11 and 2015-16 was limited. Estimates of drug-related hospitalisations for this period are likely to be underestimated as a consequence.

We provide numbers of separations, age-standardised rates of hospital separations per 100,000 people, computed as [direct standardised rates](#) using the [Australian Standard Population](#) at 30 June 2001, and crude rates (calculated using the Australian Bureau of Statistics' estimated resident population figures as at 30 June each year). Estimates presented for specific age-groups are computed only as crude rates per 100,000 people. Values for small numbers of hospitalisations (less than 10) are suppressed.

An accompanying online [interactive data visualisation](#) allows viewers to disaggregate data in many different ways, and to download these images. This visualisation allows viewers to look at trends by drug, jurisdiction, sex, age group and diagnosis, and as numbers or crude or age-standardised rates per 100,000 population (with 95% confidence intervals).

Findings

Trends in Drug-Related Hospital Separations among Australians

In 2017-18 there were 11.3 million [hospital separations](#) in Australia's public and private hospitals. We have identified 60,627 hospital separations with a drug-related principal diagnosis among all Australians of all ages in 2017-18, equivalent to 0.5% of all hospital separations. Relative to population size and adjusting for age distribution, we estimate that there were 250 drug-related hospital separations per 100,000 people in the total population in 2017-18 ([Figure 1](#)).

AGE-STANDARDISED RATES (PER 100,000 PEOPLE)



Figure 1. Age-standardised rate (per 100,000 people) of drug-related hospital separations for the total Australian population and for males and females, 1999-00 – 2017-18.

The age-standardised rate of drug-related hospital separations was relatively stable between 1999-00 and 2009-10. From 2010-11, we observed an increase in the age-standardised rate of drug-related hospitalisations from 199 hospitalisations per 100,000 people to 272 hospitalisations per 100,000 people in 2015-16. The rate then declined from 272 hospitalisations per 100,000 people in 2016-17 to 250 hospitalisations per 100,000 people in 2017-18 ([Figure 1](#)).

Age and Sex Profile of Drug-Induced Deaths

In 2017-18, the age-standardised rate of drug-related hospitalisations was higher for males compared to females (254 versus 247 hospitalisations per 100,000 people, respectively), with 51% of hospitalisations occurring among males. This is a reversal of findings up until 2014-15 where the rate of drug-related hospitalisations was higher for females than males.

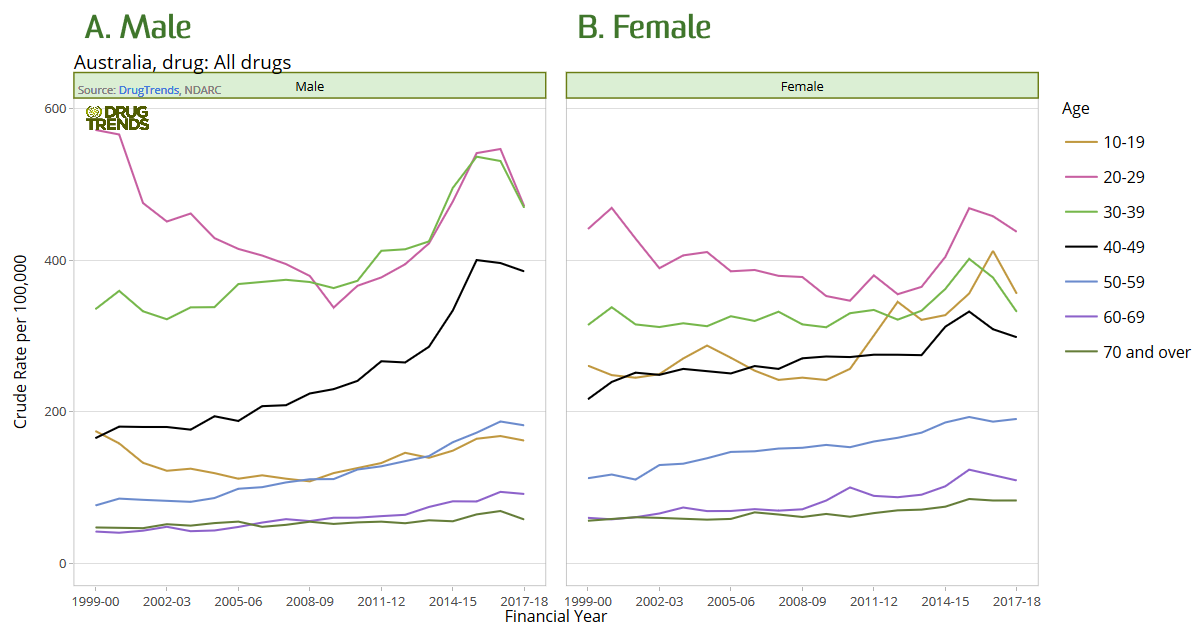


Figure 2. Crude rate (per 100,000 people) of drug-related hospital separations, by age group and sex, 1999-00 – 2017-18.

The highest crude rate of hospitalisations has consistently been observed amongst the 20-29 age group, followed by the 30-39 age group (455 and 400 hospitalisations per 100,000 people in 2017-18, respectively). In 2017-18, these age groups accounted for the greatest percentage of drug-related hospitalisations (27% and 24%), followed by the 40-49 (18%), 10-19 (13%) and 50-59 (9%) age groups.

There have been increases in the crude rate of drug-related hospitalisations across most age groups for both males and females from 1999-00 to 2017-18. The greatest increase has been observed in males aged 40-49 and 50-59, with rates of drug-related hospitalisations two times higher in 2017-18 than in 1999-00. However, the highest rate of drug-induced hospitalisations in 2017-18 occurred amongst the male 20-29 and 30-39 age groups, followed by the female 20-29 age group (471, 469, and 438 hospitalisations per 100,000 people; [Figure 2](#)).

Drug-Related Hospital Separations by Drug

In 2017-18, the largest number of drug-related hospital separations in the Australian population was attributable to amphetamines and other stimulants (13,797 hospitalisations, 57 per 100,000 people, 23% of all drug-related hospitalisations), followed by antiepileptic/sedative-hypnotic/antiparkinsonism drugs (e.g., benzodiazepines; 16%), opioids (14%), non-opioid analgesics (e.g., paracetamol, 13%), and cannabinoids (10%), with the remaining drug classes linked with 5,000 hospitalisations or less ([Figure 3](#)).

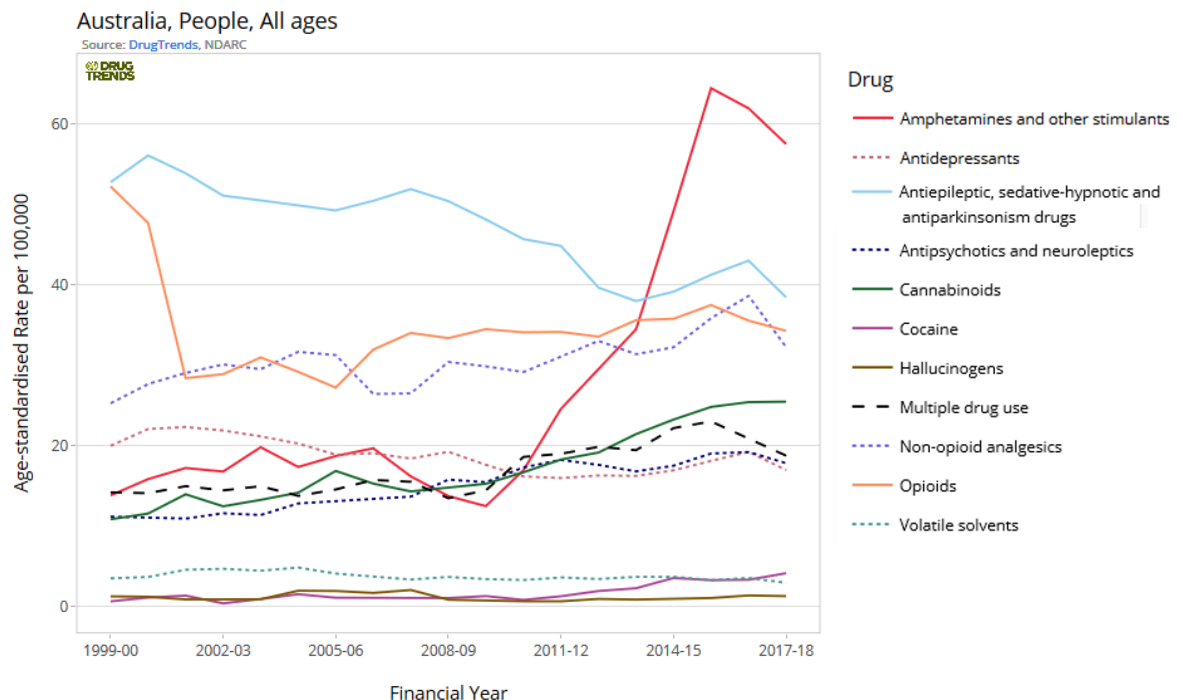


Figure 3. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, 1999-00 – 2017-18.

From 1990-00 to 2013-14, the highest age-standardised rate of drug-related separations was observed for a principal diagnosis indicating antiepileptic/sedative-hypnotic/antiparkinsonism drugs, followed typically by opioids. Increases in the rate of hospitalisations with a principal diagnosis indicating amphetamines and other stimulants (e.g., methamphetamine, MDMA) were observed from 2009-10 to 2015-16. The rate reached 64 separations per 100,000 in 2015-16, which was five times the rate in 2009-10 (13 separations per 100,000 people). Since 2014-15, the rate of hospitalisations for amphetamines and other stimulants has surpassed the rate observed for opioids.

There has been a decline in the rate of hospitalisations with a principal diagnosis related to antiepileptic, sedative-hypnotic and antiparkinsonism drugs, from a peak of 56 hospitalisations per 100,000 people in 2000-01 to 38 hospitalisations per 100,000 people in 2017-18. In 2017-18, over half of hospitalisations related to antiepileptic, sedative-hypnotic and antiparkinsonism drugs involved benzodiazepines (56%, 5,318 separations, 21 separations per 100,000 people). By contrast, the rate of non-opioid analgesic hospitalisations have shown a small increase over time.

The rate of cannabinoid-related hospitalisations increased from 1999-00 to 2017-18 (from 11 to 25 hospitalisations per 100,000 people, respectively). Other drug classes that have increased since 1999-00 are antipsychotics and neuroleptics, cocaine, and those coded as ‘multiple drug use’ (noting that the latter cases are likely to be a significant underestimate of hospitalisations involving multiple drugs). Although the number of hospital separations related to cocaine remained relatively small (1,001 in 2017-18), the rate in 2017-18 was over five times the rate in 2010-11 (4.1 versus 0.8 per 100,000 people, respectively).

Opioid-Related Hospital Separations

The following findings describe opioid-related hospital separations due to illicit opioids (e.g. heroin), opioids used for the treatment of pain (e.g., oxycodone) and opioids used for the treatment of opioid dependence (e.g., methadone). In 2017-18, there were 8,467 hospitalisation separations with a principal diagnosis related to [opioids](#) (34 hospitalisations per 100,000 people).

Opioid poisoning-related hospital separations by opioid type

The structure of the International Classification of Diseases allows for identifying opioid types only for diagnosis related to opioid poisoning. In this section we present results of analysis of opioid-related separations with diagnosis coded to opioid poisoning (comprising 46% of all opioid-related hospital separations; see page 8).

Natural and semi-synthetic opioids (e.g., oxycodone, morphine) were responsible for over 50% of all hospitalisations due to opioid poisoning in 2017-18. The rate of hospitalisations for natural and semi-synthetic poisoning more than doubled from 1999-00 to 2017-18 (3.5 to 8.1 hospitalisations per 100,000 people, or 674 to 2,051 hospitalisations, respectively; [Figure 4](#)).

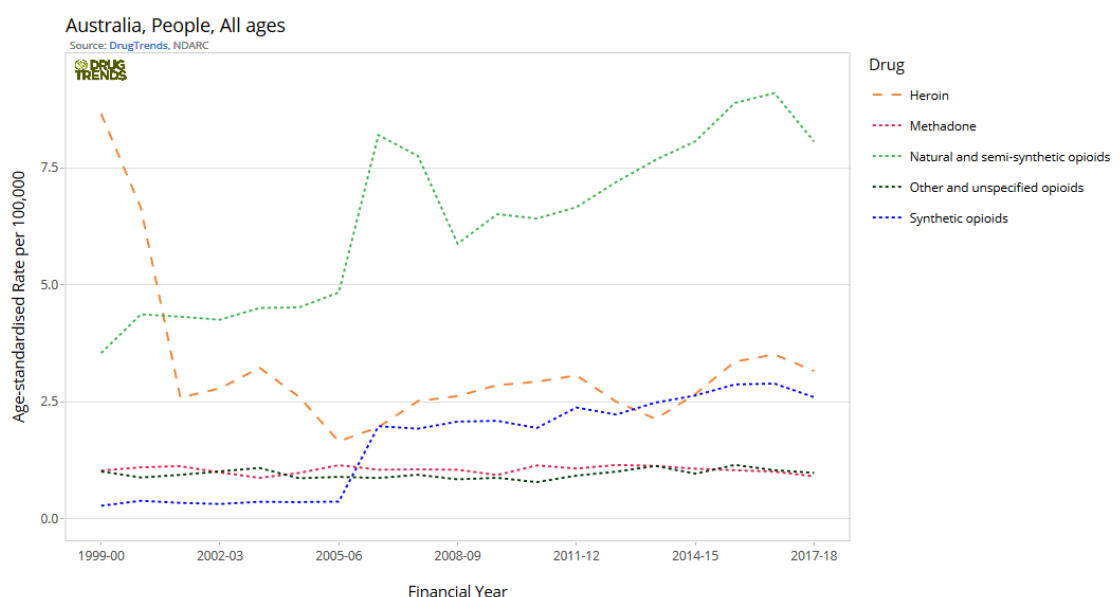


Figure 4. Age-standardised rate (per 100,000 people) of opioid poisoning-related hospital separations for the Australian population, by opioid type, 1999-00 – 2017-18.

The secondly most commonly cited opioid in 2017-18 was heroin, comprising 20% of all opioid poisoning-related separations. The rate of hospitalisations due to heroin poisoning was highest in 1999-00 (8.7 hospitalisations per 100,000 people), decreasing 70% by 2001-02 (2.6 per 100,000 people). Since 2001-02, the annual rate of hospitalisations where heroin poisoning is the principal diagnosis has comprised 3.5 or fewer hospitalisations per 100,000 people.

The third most common opioid type responsible for 16% of hospital separations due to opioid poisoning in 2017-18 was synthetic opioids (e.g., fentanyl, tramadol). The rate of hospitalisations where poisoning involving synthetic opioids was the principal diagnosis increased from 0.3 per 100,000 people in 1999-00 to 2.6 per 100,000 people in 2017-18. Methadone and 'other and unspecified opioids' have comprised a small percentage of hospitalisations for opioid poisoning over the period of monitoring, with even fewer hospitalisations involving opium (data are not shown to protect confidentiality).

Age and sex profile of opioid-related hospital separations

There were more opioid-related hospital separations among males than females in 2017-18 (38 per versus 30 hospitalisations per 100,000 people, respectively), with 55% of opioid-related hospitalisations occurring among males. This trend has been consistent over time, although the difference in the age-standardised rate of opioid-related hospitalisations between males and females is smaller now than observed in 1999-00.

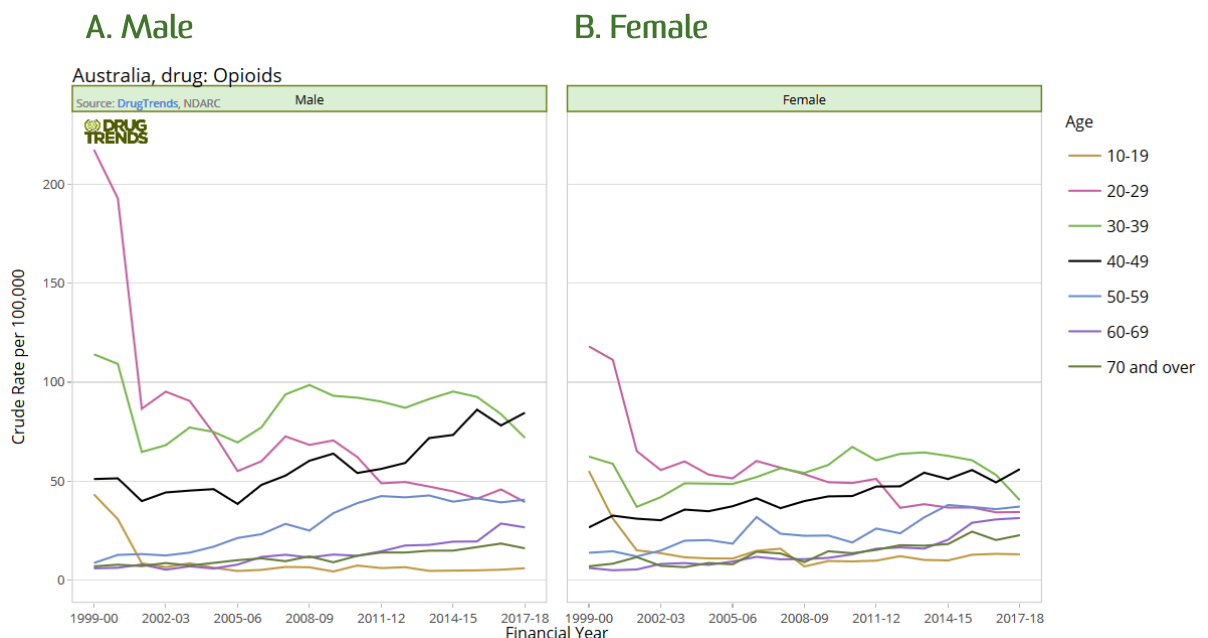


Figure 5. Crude rate (per 100,000 people) of opioid-related hospital separations for the Australian population for males (A) and females (B), by age group, 1999-00 – 2017-18.

In 2017-18, 27% of opioid hospitalisations occurred among the 40-49 age group (2,291 hospitalisations; 70 hospitalisations per 100,000 people), followed by the 30-39 age group (2,007 hospitalisations; 24%; rate of 56 hospitalisations per 100,000 people), 20-29 age group (1,335; 16%; rate of 37 hospitalisations per 100,000 people), 50-59 age group (1,189; 14%; rate of 39 hospitalisations per 100,000 people), and 60-69 age group (745; 9%; rate of 29 hospitalisations per 100,000 people).

There have been shifts in the age groups experiencing the greatest rate of opioid-related hospitalisations. In 1999-00, crude rates were highest in the 20-29 and 30-39 age groups (168 and 88 hospitalisations per 100,000 people, respectively). The rate of hospitalisations has, however, declined in these age groups over the course of monitoring. By contrast, opioid-related hospitalisations have increased among older Australians. The rate of opioid-related hospitalisation is three and half times higher in 2017-18 compared to 1999-00 for the 50-59 age group (39 versus 11 hospitalisations per 100,000 people), nearly five times higher for the 60-69 age group (29 versus 6 hospitalisations per 100,000 people) and almost three times higher for those aged 70 and older (20 versus 7 hospitalisations per 100,000 people). Trends in opioid-related hospital separations for males and females by age group follow a similar pattern ([Figure 5](#)).

Opioid-related hospital separations by diagnosis

In 2017-18, nearly half (46%) of all opioid-related hospital separations were due to opioid poisoning, 37% were due to opioid dependence and 17% were coded to other reasons (e.g., withdrawal, psychosis, harmful use or acute intoxication; [Figure 6](#)). It is important to note changes over time in diagnosis may partly reflect changes in coding practices.

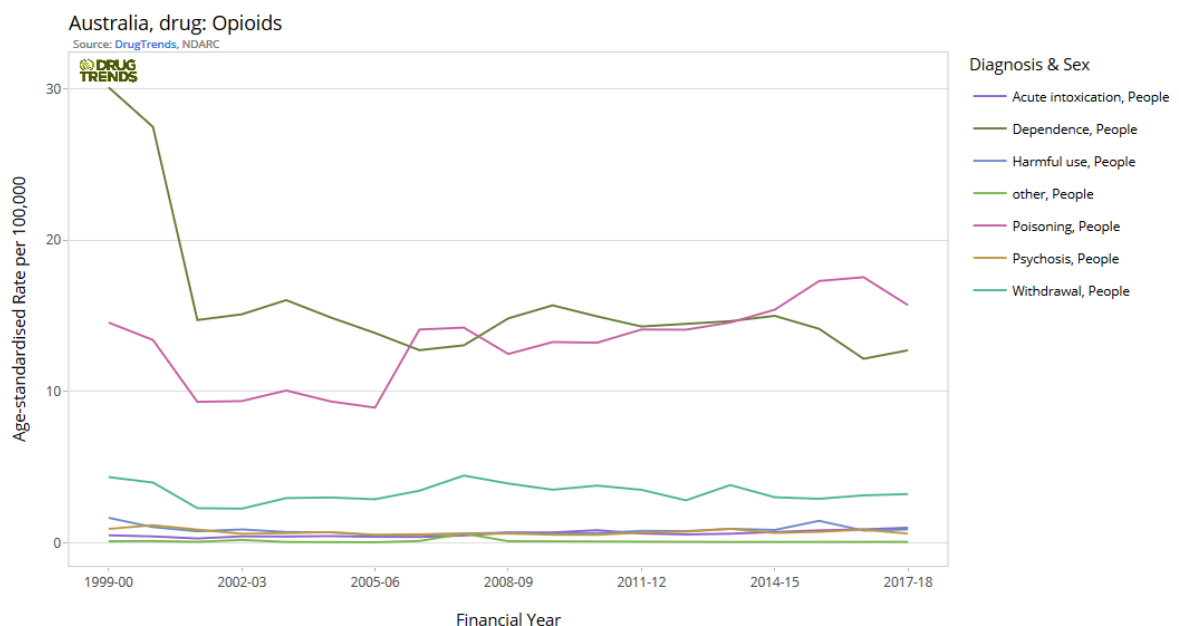


Figure 6. Age-standardised rate (per 100,000 people) of opioid-related hospital separations for the Australian population, by diagnosis, 1999-00 – 2017-18.

Amphetamine and Other Stimulant-Related Hospital Separations

The following findings describe amphetamine and other stimulant-related hospital separations. Due to coding system used, these hospitalisations may relate to methamphetamines, 3,4-methylenedioxymethamphetamine (MDMA, 'ecstasy'), pharmaceutical stimulants such as dexamphetamine, and other stimulants (e.g., caffeine).

In 2017-18, there were 13,797 separations (57 hospitalisations per 100,000 people) with a principal diagnosis related to [amphetamines and other stimulants](#). There was a substantial increase in the rate of hospitalisations observed from 2009-10 to 2015-16. The rate in 2015-16 was five times the rate recorded in 2009-10 (64 compared to 13 separations per 100,000 people). The rate of hospitalisations in 2017-18 represented a decline relative to 2015-16 yet remained elevated relative to rates observed from 1999-00 through 2014-15.

Age and sex profile of amphetamine and other stimulant-related hospital separations

In 2017-18, the rate of hospitalisations related to amphetamines and other stimulants in Australian males was nearly double the rate of females (75 versus 41 per 100,000 people), with 65% of hospitalisations occurring among males. Despite the changes in rates over time, the magnitude of the difference between males and females has remained similar.

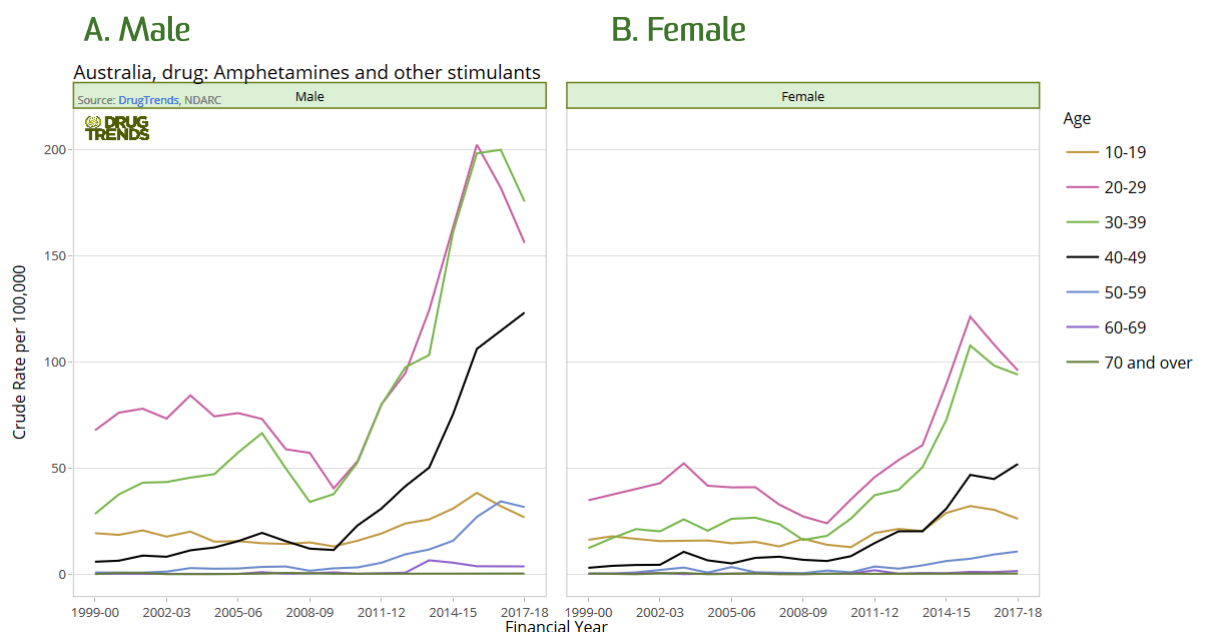


Figure 7. Crude rate (per 100,000 people) of amphetamine and other stimulant-related hospital separations for the Australian population for males (A) and females (B), by age group, 1999-00 – 2017-18.

Numbers for age groups 60-69 and 70 and over are small and thus rates are suppressed to protect confidentiality.

In 2017-18, hospital separations related to amphetamines and other stimulants were **most common** among Australians aged 30-39 (35%; 4,818 separations; 134 per 100,000 people), followed by the 20-29 age group (33%; 4,567 separations; 126 per 100,000 people), and the 40-49 age group (21%; 2,845 separations; 87 per 100,000 people). The greater rate of amphetamine and other stimulant-related hospitalisations were observed among the 20-29 age group prior to 2016-17, now surpassed by the 30-39 age group. This change has been driven by males, with a higher rate in the younger age group (20-29 years) still recorded for females ([Figure 7](#)).

Amphetamine and other stimulant-related hospital separations by diagnosis

In 2017-18, psychosis was the leading cause of amphetamine and other stimulant-related hospital separations (43%; 5,970 separations, 25 per 100,000 people), followed by dependence (20%; 2,734 separations, 11 per 100,000 people, [Figure 8](#)). It is important to note changes over time in diagnosis may partly reflect changes in coding practices.

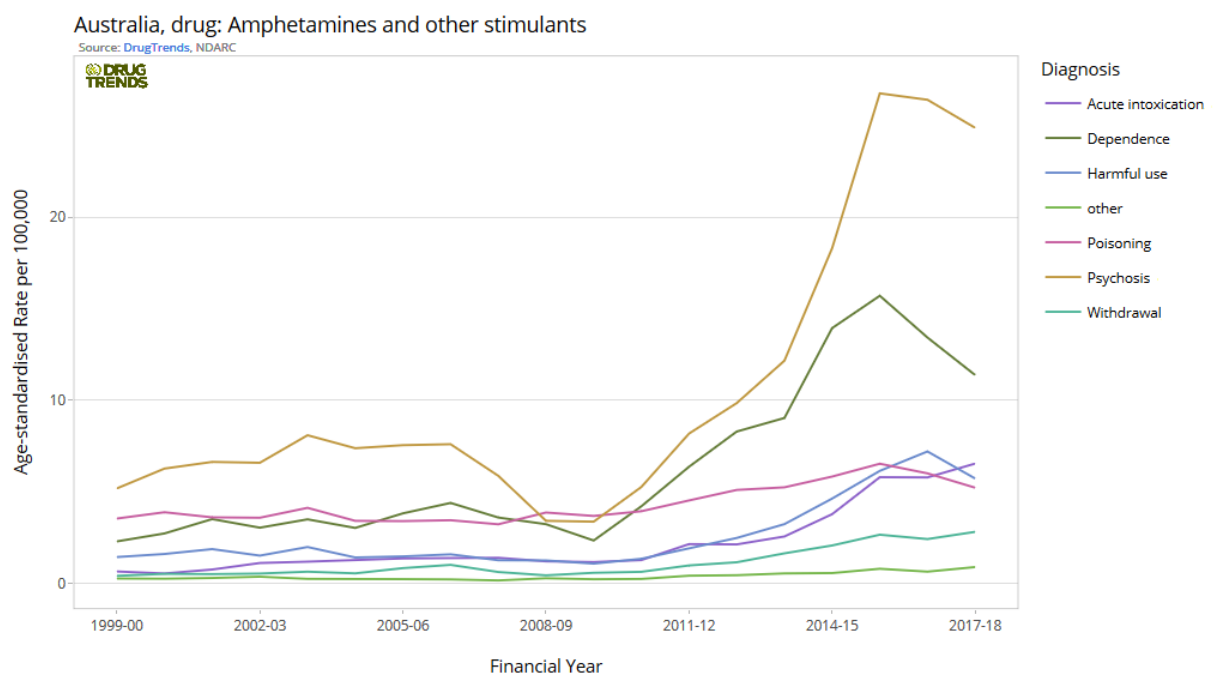


Figure 8. Age-standardised rate (per 100,000 people) of amphetamine and other stimulant-related hospital separations for the Australian population, by diagnosis, 1999-00 – 2017-18.

Cannabinoid-Related Hospital Separations

Cannabinoids (including cannabis and synthetic cannabinoids) were identified as the principal diagnosis for 6,205 hospital separations in 2017-18 (25 per 100,000 people). This represents an increase from 2,084 hospitalisations in 1999-00. The rate in 2017-18 was greater than two times the rate in 1999-00 (11 hospitalisations per 100,000 people).

Age and sex profile of cannabinoid-related hospital separations

In 2017-18, males presented to hospital with a cannabinoid-related principal diagnosis twice as often as females (4,038 versus 2,167 separations; 65% male). This trend has been relatively consistent over time.

In 2017-18, the highest rate of cannabinoid-related hospitalisations was recorded for the 20-29 age group (72 separations per 100,000 people; 42%), followed by 30-39 (39 separations per 100,000 people; 22%) and 10-19 (28 separations per 100,000 people; 14%) age group.

All age groups have recorded an increase in cannabinoid-related hospitalisations, with the greatest increase observed in the 20-29 age group (36 versus 72 hospitalisations per 100,000 people in 1999-00 versus 2017-18, respectively; **Figure 9**). There were only a small numbers of separations each year for the age group 70 and over; thus, data for this age group are not shown to protect confidentiality. These age group trends are mostly consistent when studying males and females separately.

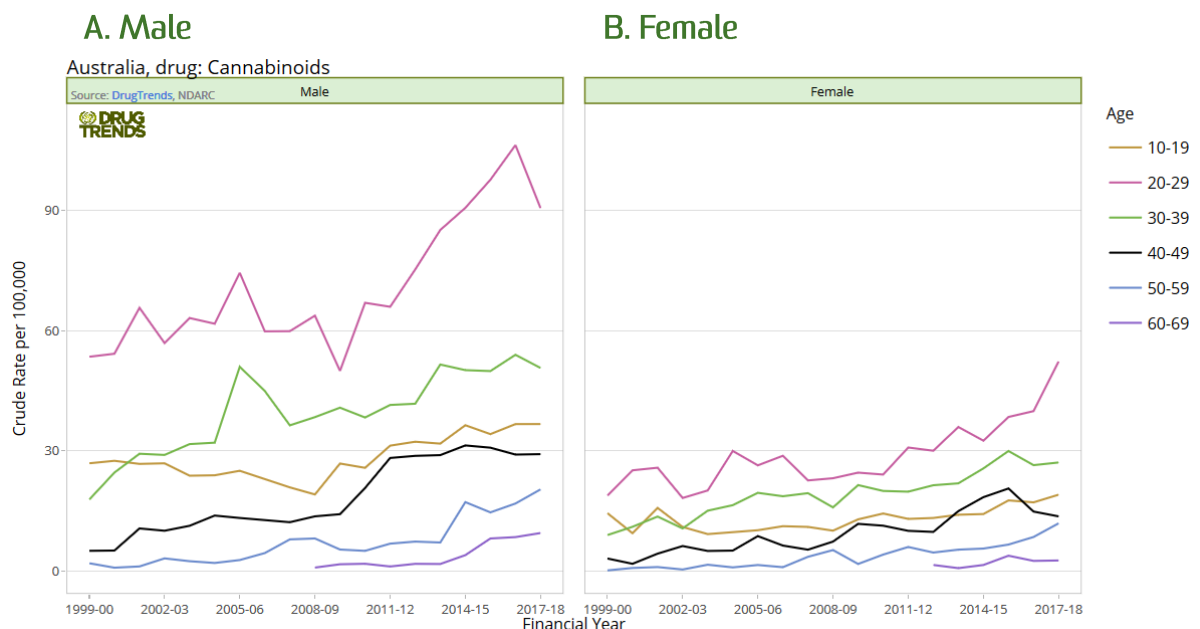


Figure 9. Crude rate (per 100,000 people) of cannabinoid-related hospital separations for the Australian population for males (A) and females (B), by age group, 1999-00 – 2017-18.

Numbers for age groups 60-69 (before 2012-13) and 70 and over are small and thus rates are suppressed to protect confidentiality.

Cannabinoid-related hospital separations by diagnosis

In 2017-18, the vast majority of all cannabinoid-related hospital separations were coded as psychosis (35%; 8.9 hospitalisations per 100,000 people) and dependence (33%; 8.4 hospitalisations per 100,000 people; [Figure 10](#)).

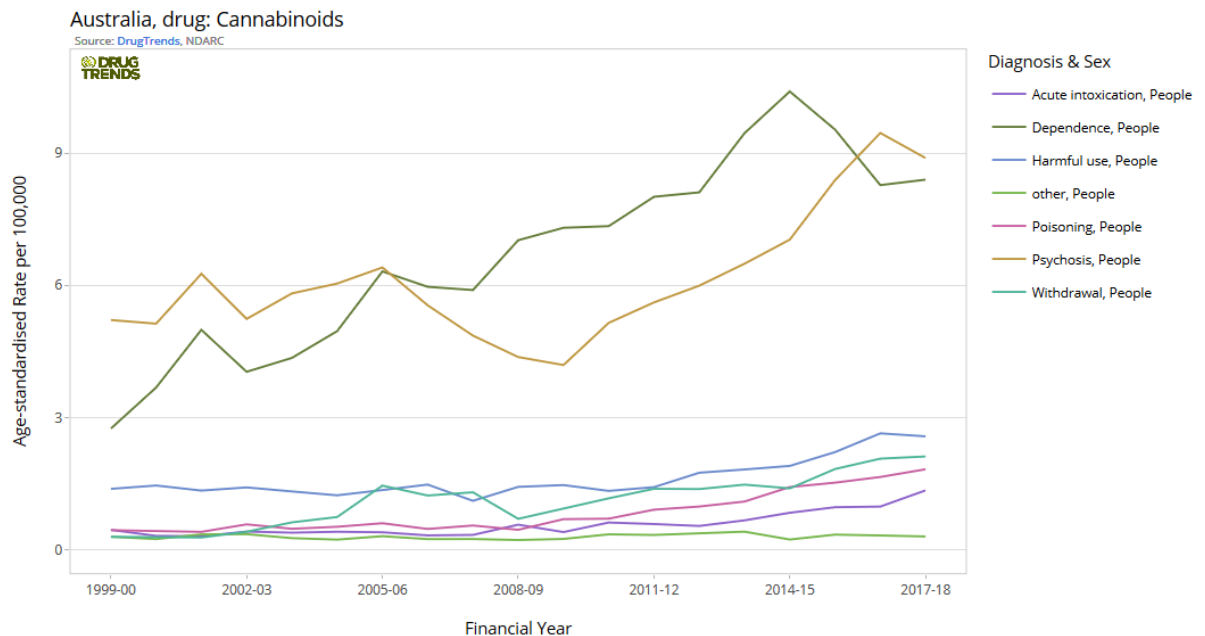


Figure 10. Age-standardised rate (per 100,000 people) of cannabinoid-related hospital separations for the Australian population, by diagnosis, 1999-00 – 2017-18.

Cocaine-Related Hospital Separations

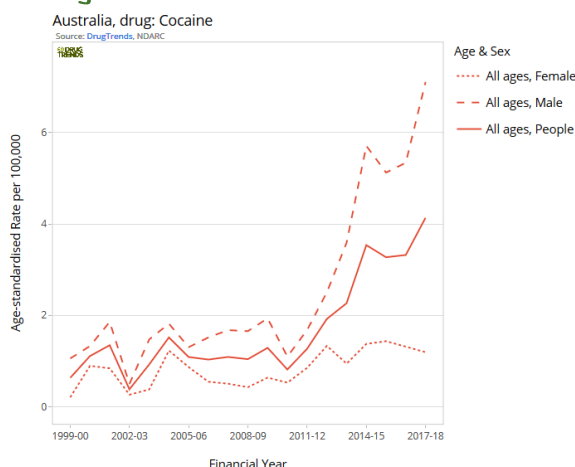
The following findings relate to hospital separations due to cocaine. There were [4.1 hospitalisations per 100,000 people](#) (1,001 separations) in 2017-18, with an upwards trend over the course of monitoring that was particularly prominent from 2010-11 (0.8 hospitalisations per 100,000 people).

Age and sex profile of cocaine-related hospital separations

In 2017-18, there were 7.1 cocaine-related hospitalisations per 100,000 males relative to 1.2 hospitalisations per 100,000 females (855 versus 146 hospitalisations; 85% male). The aforementioned increase in the rate of cocaine-related hospitalisations was driven mostly by hospitalisations arising among males ([Figure 11A](#)).

In 2017-18, the majority of cocaine-related hospitalisations occurred among people aged 30-39 (37%) or 20-29 (31%), with particular increases in the rate of cocaine-related hospitalisations over time in these age groups ([Figure 11B](#)).

A. By sex



B. By age group

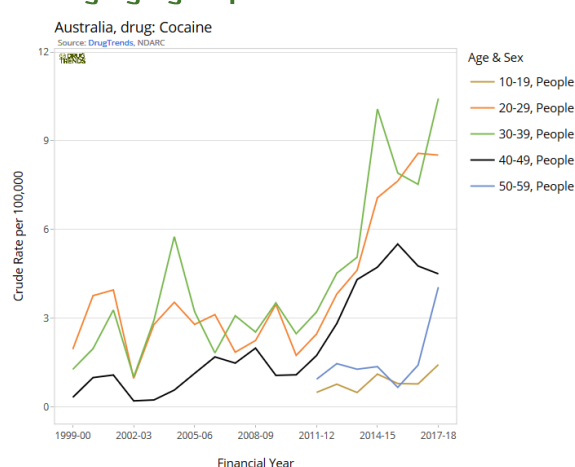


Figure 11. Age-standardised rate (per 100,000 people) of cocaine-related hospital separations for the Australian population by sex, 1999-00 – 2017-18 (A) and crude rate (per 100,000 people) of cocaine-related hospital separations for the Australian population by age group, 2008-09 – 2017-18 (B).

Numbers for age groups 10-19, 50-59, 60-69 and 70 and over are small and thus rates are suppressed to protect confidentiality.

Drug-Related Hospital Separations by Jurisdiction

The below figures show trends in the age-standardised rate of drug-related hospitalisations per 100,000 people by drug type from 1999-00 to 2017-18. We encourage caution in interpretation of some of these figures given the small number of hospitalisations for some drug types in certain jurisdictions (e.g., Northern Territory, Tasmania).

Data can be obtained on the number and rate (crude and/or age-standardised) of hospitalisations by age, gender and drug for each jurisdiction from the publicly-accessible online [interactive data visualisation](#). Data on hospitalisations by diagnosis type are not available for jurisdictional analysis.

Australian Capital Territory

- There were 910 hospital separations with a drug-related principal diagnosis in ACT in 2017-18.
- This is equivalent to 216 hospitalisations per 100,000 people, as compared to 125 hospitalisations per 100,000 people in 1999-00 (Figure 12).
- The rate of hospitalisations was higher among females than males in 2017-18 (271 versus 160 hospitalisations per 100,000 people).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19 and 30-39 age groups (398, 387, and 268 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating non-opioid analgesics (53 hospitalisations per 100,000 people; Figure 13).

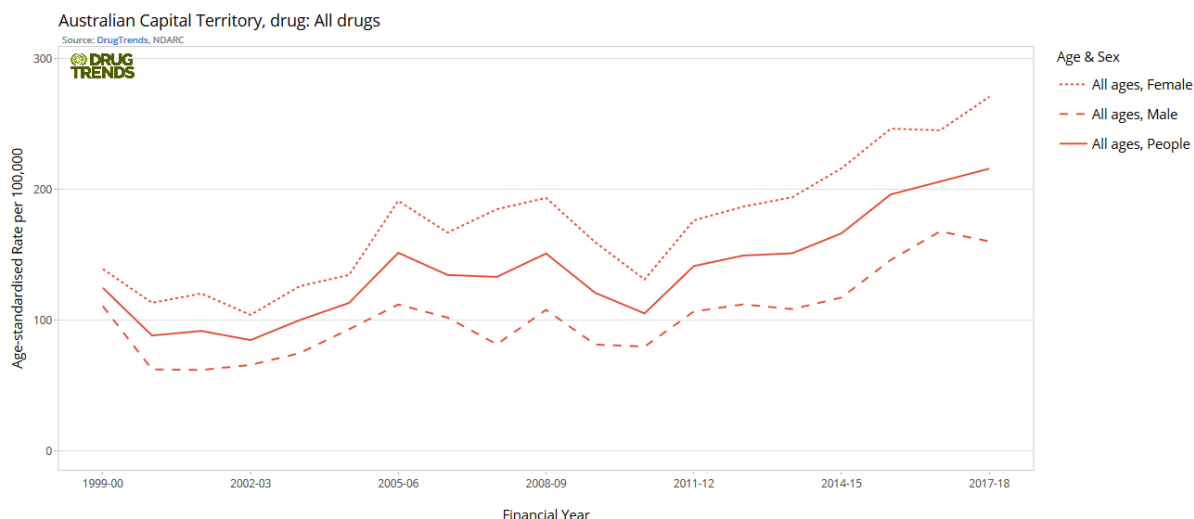


Figure 12. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Australian Capital Territory, 1999-00 – 2017-18.

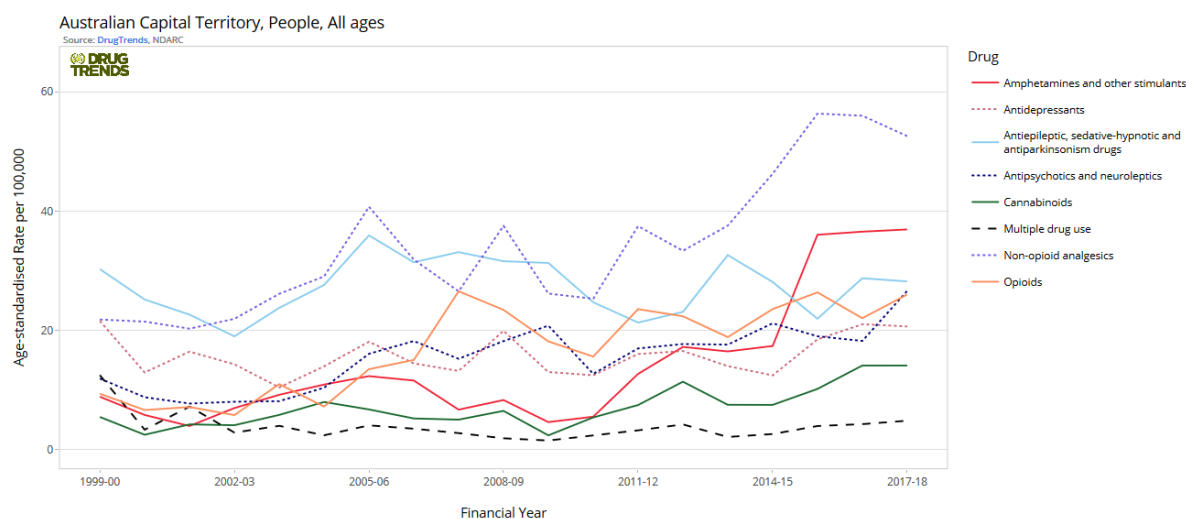


Figure 13. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Australian Capital Territory, 1999-00 – 2017-18. Numbers for cocaine, hallucinogens and volatile solvents are small and thus rates are suppressed to protect confidentiality.

New South Wales

- There were 20,844 hospital separations with a drug-related principal diagnosis in New South Wales in 2017-18.
- This is equivalent to 269 hospitalisations per 100,000 people, as compared to 223 hospitalisations per 100,000 people in 1999-00 (Figure 14).
- The rate of hospitalisations was higher among males than females in 2017-18 (301 versus 238 hospitalisations per 100,000 people).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 40-49 age groups (484, 455, and 406 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamines and other stimulants (64 hospitalisations per 100,000 people; Figure 15).

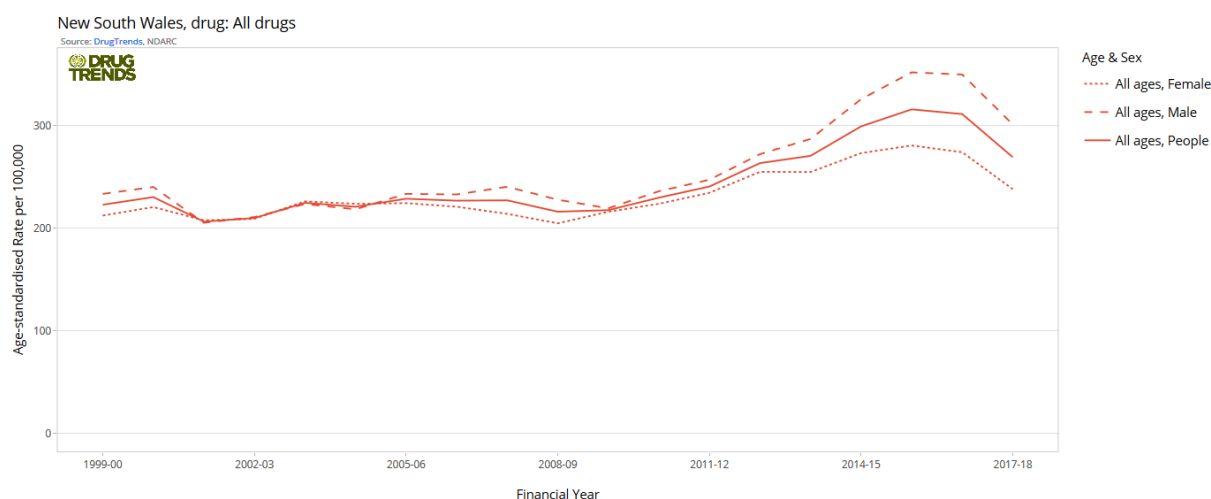


Figure 14. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, New South Wales, 1999-00 – 2017-18.

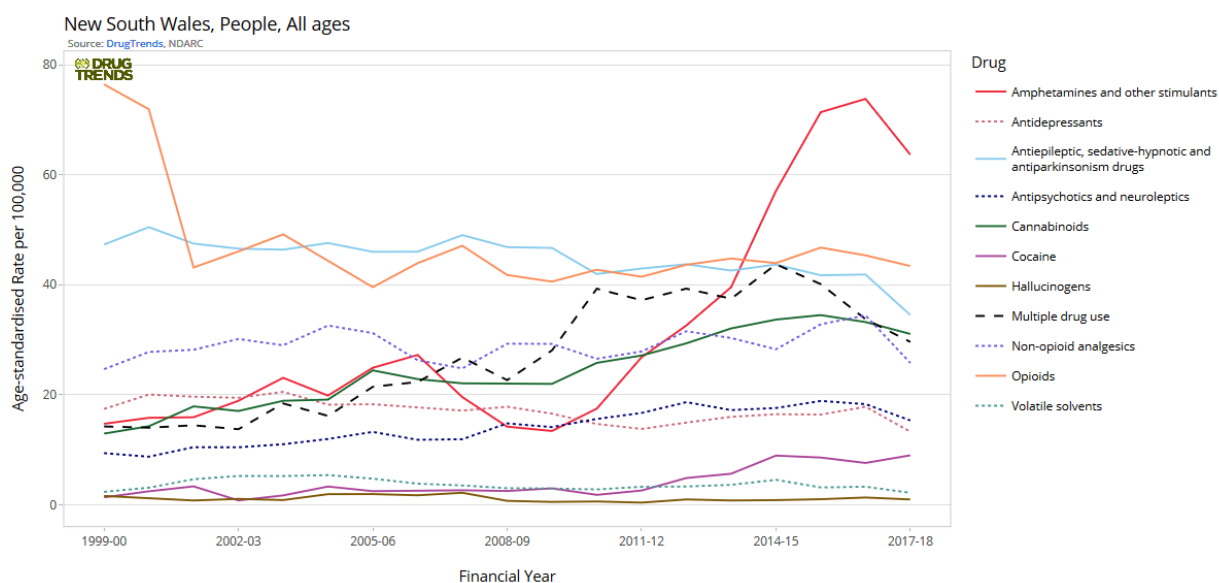


Figure 15. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, New South Wales, 1999-00 – 2017-18.

Northern Territory

- There were **707 hospital separations** with a drug-related principal diagnosis in the Northern Territory in 2017-18.
- This is equivalent to 275 hospitalisations per 100,000 people, as compared to 90 hospitalisations per 100,000 people in 1999-00 (**Figure 16**).
- The rate of hospitalisations was higher among males than females in 2017-18 (294 versus 256 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the **20-29 year old age group**, followed by the 10-19 age group (560 and 487 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating cannabinoids (78 hospitalisations per 100,000 people; **Figure 17**).

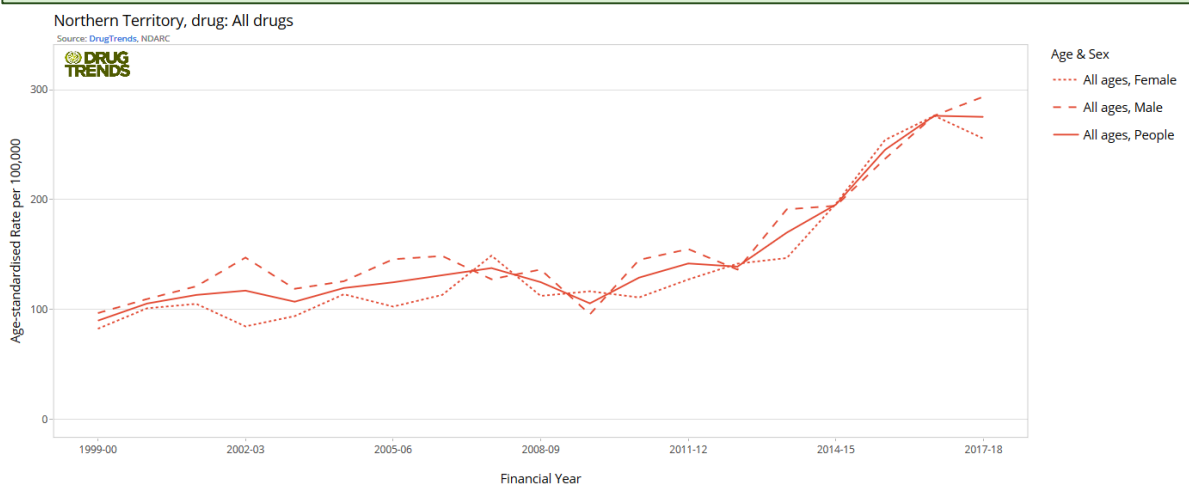


Figure 16. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Northern Territory, 1999-00 – 2017-18.

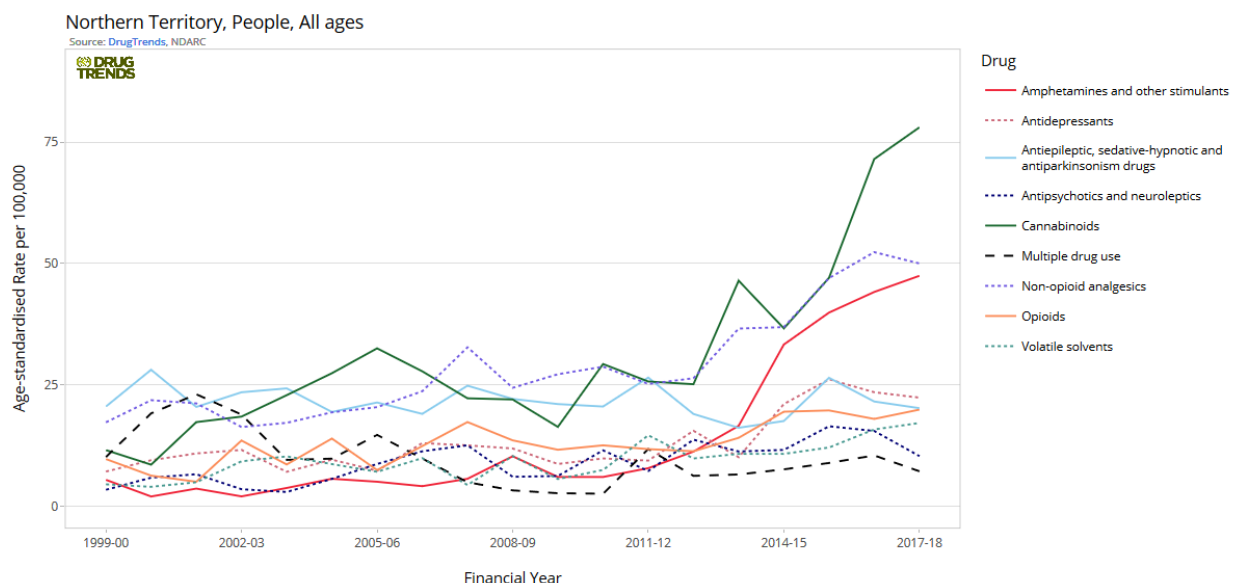


Figure 17. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Northern Territory, 1999-00 – 2017-18.
Numbers for cocaine and hallucinogens are small and thus rates are suppressed to protect confidentiality.

Queensland

- There were 13,628 hospital separations with a drug-related principal diagnosis in Queensland in 2017-18.
- This is equivalent to 282 hospitalisations per 100,000 people, as compared to 218 hospitalisations per 100,000 people in 1999-00 ([Figure 18](#)).
- The rate of hospitalisations was higher among females than males in 2017-18 (297 versus 268 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 age group (492 and 450 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamines and other stimulants, followed by anti-epileptic/sedative-hypnotic/antiparkinsonism drugs and non-opioid analgesics (62, 51 and 44 hospitalisations per 100,000 people; [Figure 19](#)).

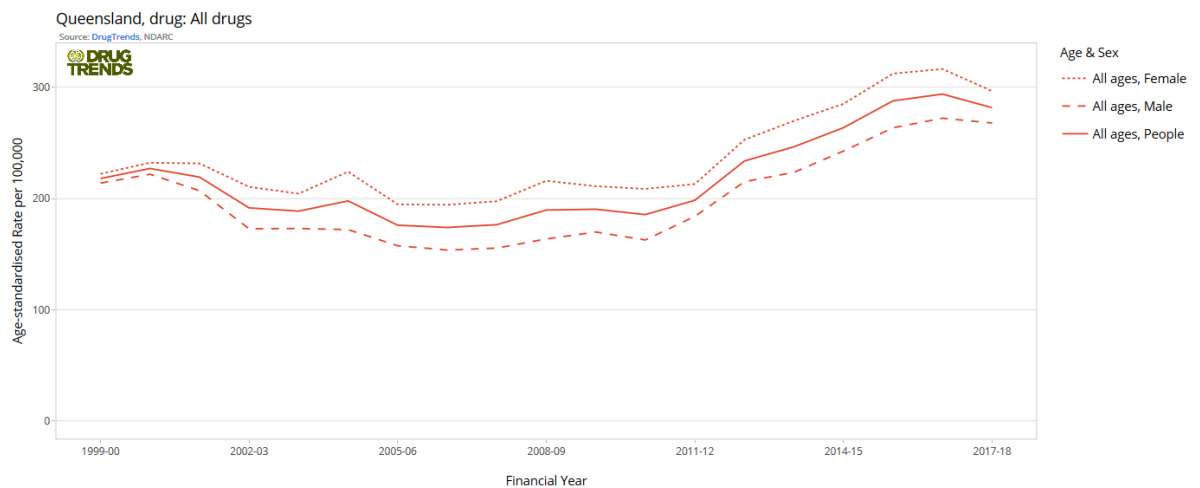


Figure 18. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Queensland, 1999-00 – 2017-18.

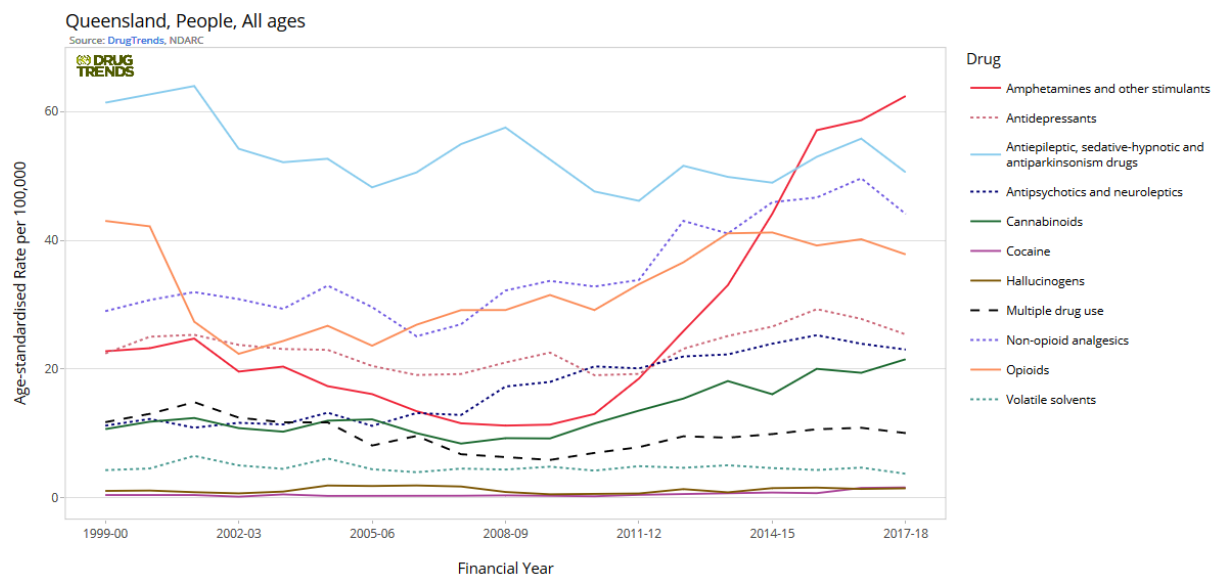


Figure 19. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Queensland, 1999-00 – 2017-18.

South Australia

- There were 4,546 hospital separations with a drug-related principal diagnosis in South Australia in 2017-18.
- This is equivalent to 283 hospitalisations per 100,000 people, as compared to 208 hospitalisations per 100,000 people in 1999-00 ([Figure 20](#)).
- The rate of hospitalisations was higher among females than males in 2017-18 (289 versus 278 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 age group (496 and 453 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamines and other stimulants (80 hospitalisations per 100,000 people; [Figure 21](#)).



Figure 20. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, South Australia, 1999-00 – 2017-18.

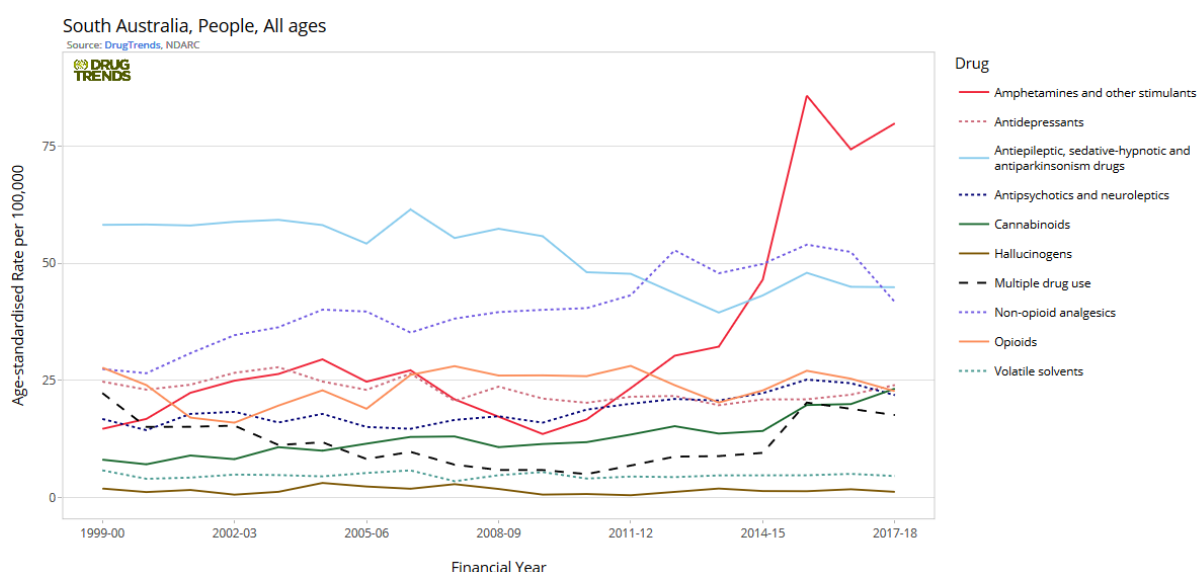


Figure 21. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, South Australia, 1999-00 – 2017-18.
Numbers for cocaine are small and thus rates are suppressed to protect confidentiality.

Tasmania

Provision of data for Tasmania between 2010-11 and 2015-16 was limited. Estimates of drug-related hospitalisations for this period are likely to be underestimated.

- There were 1,214 hospital separations with a drug-related principal diagnosis in Tasmania in 2017-18 from the data provided.
- This is equivalent to 255 hospitalisations per 100,000 people ([Figure 22](#)).
- The rate of hospitalisations was higher among females than males in 2017-18 (281 versus 229 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 age group (430 and 404 hospitalisations per 100,000 people).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating non-opioid analgesics and amphetamines and other stimulants (43 and 42 hospitalisations per 100,000 people, respectively; [Figure 23](#)).

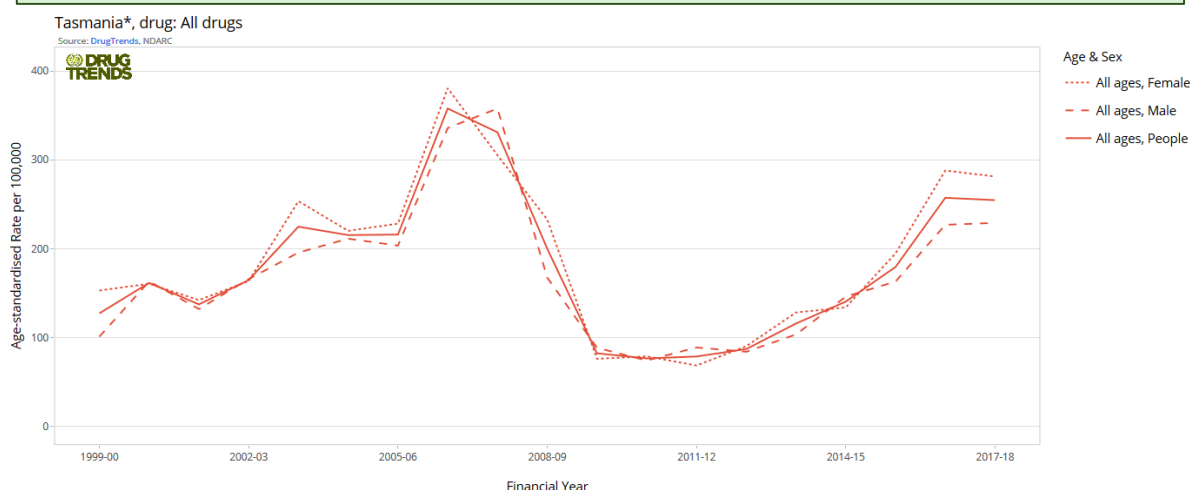


Figure 22. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Tasmania, 1999-00 – 2017-18.

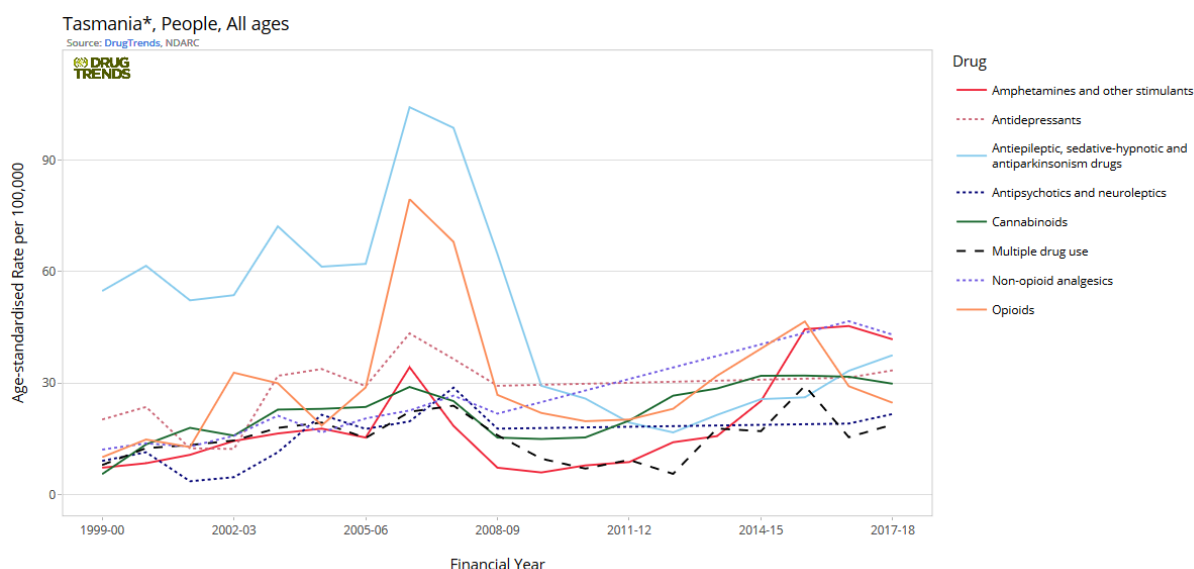


Figure 23. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Tasmania, 1999-00 – 2017-18. Numbers for cocaine, hallucinogens and volatile solvents are small and thus rates are suppressed to protect confidentiality.

Victoria

- There were 12,801 hospital separations with a drug-related principal diagnosis in Victoria in 2017-18.
- This is equivalent to 200 hospitalisations per 100,000 people, as compared to 190 hospitalisations per 100,000 people in 1999-00 (Figure 24).
- The rate of hospitalisations was higher among females than males in 2017-18 (206 versus 194 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 age group (386 and 310 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamines and other stimulants, followed by anti-epileptic/sedative-hypnotic/antiparkinsonism drugs (42 and 35 hospitalisations per 100,000 people, respectively; Figure 25).

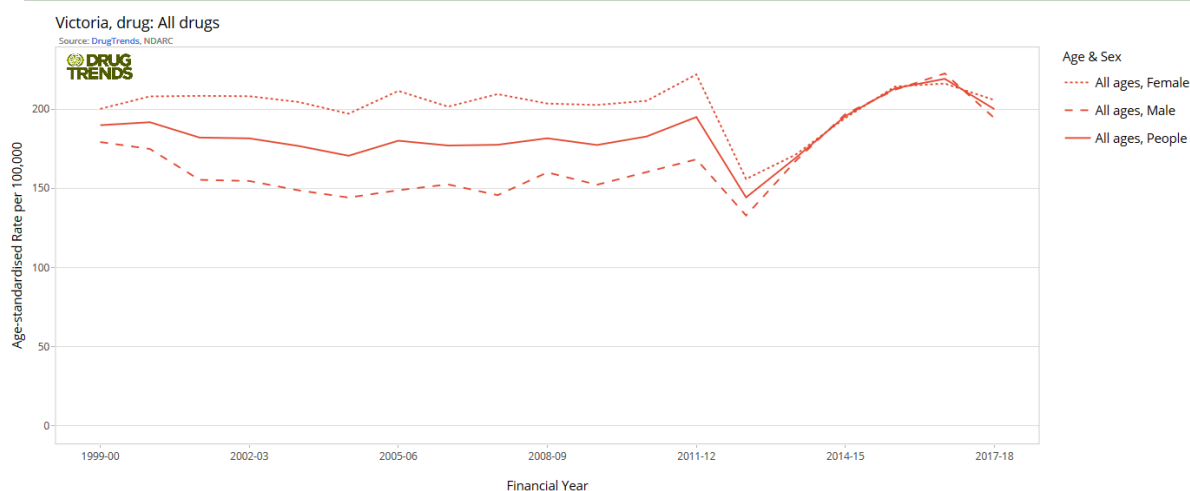


Figure 24. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Victoria, 1999-00 – 2017-18.

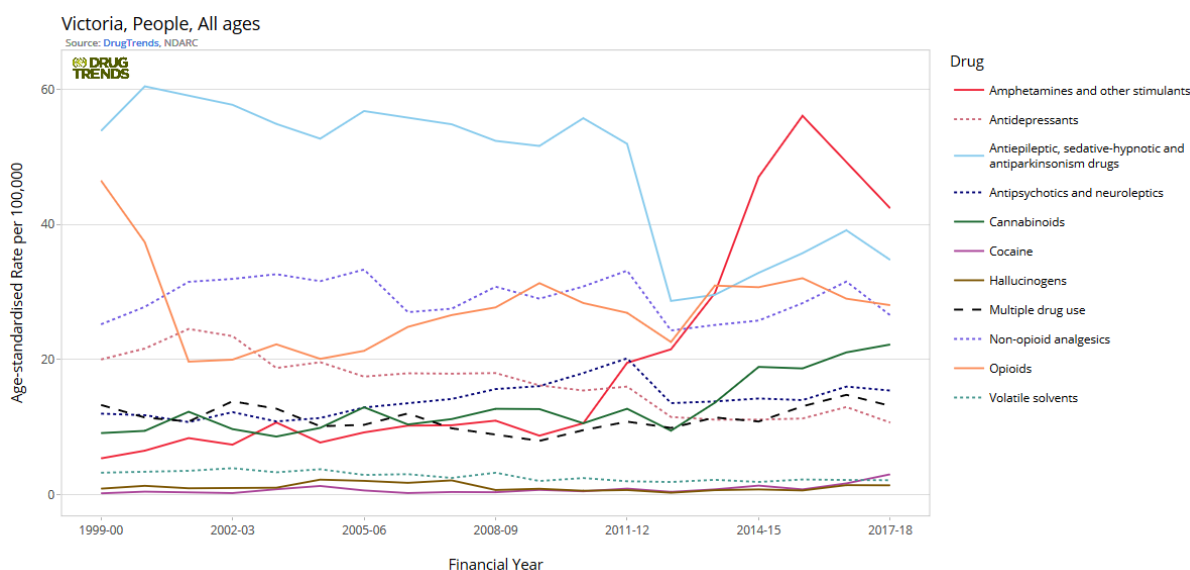


Figure 25. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Victoria, 1999-00 – 2017-18.

Western Australia

- There were **5,977 hospital separations** with a drug-related principal diagnosis in Western Australia in 2017-18.
- This is equivalent to 237 hospitalisations per 100,000 people, as compared to 209 per 100,000 people in 1999-00 (**Figure 26**).
- The rate of hospitalisations was higher among females than males in 2017-18 (240 versus 234 hospitalisations per 100,000 people, respectively).
- In 2017-18, the rate of hospitalisations was highest among the **20-29 age group**, followed by the 30-39 age group (454 and 373 hospitalisations per 100,000 people, respectively).
- The rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamines and other stimulants (62 hospitalisations per 100,000 people, respectively; **Figure 27**).

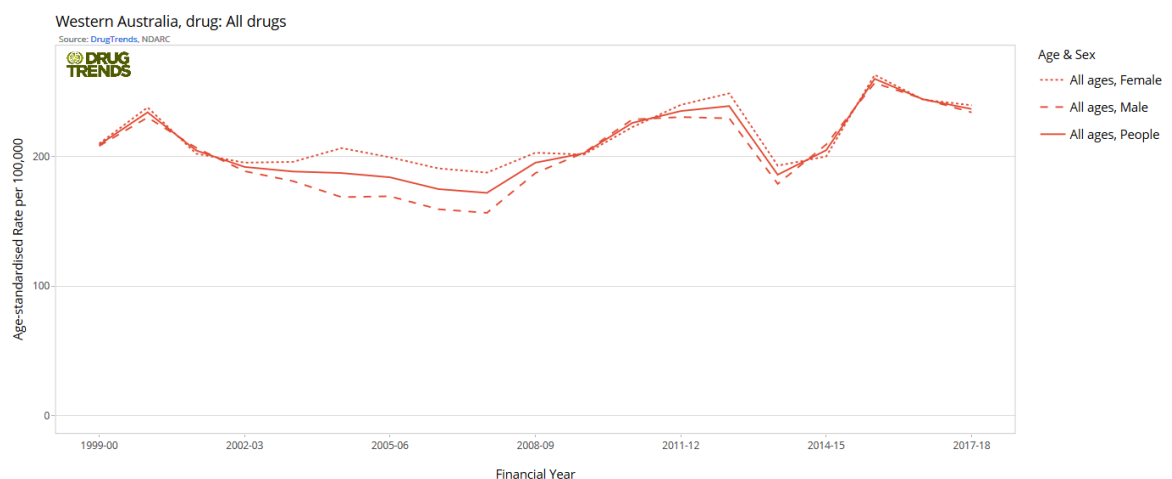


Figure 26. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by sex, Western Australia, 1999-00 – 2017-18.

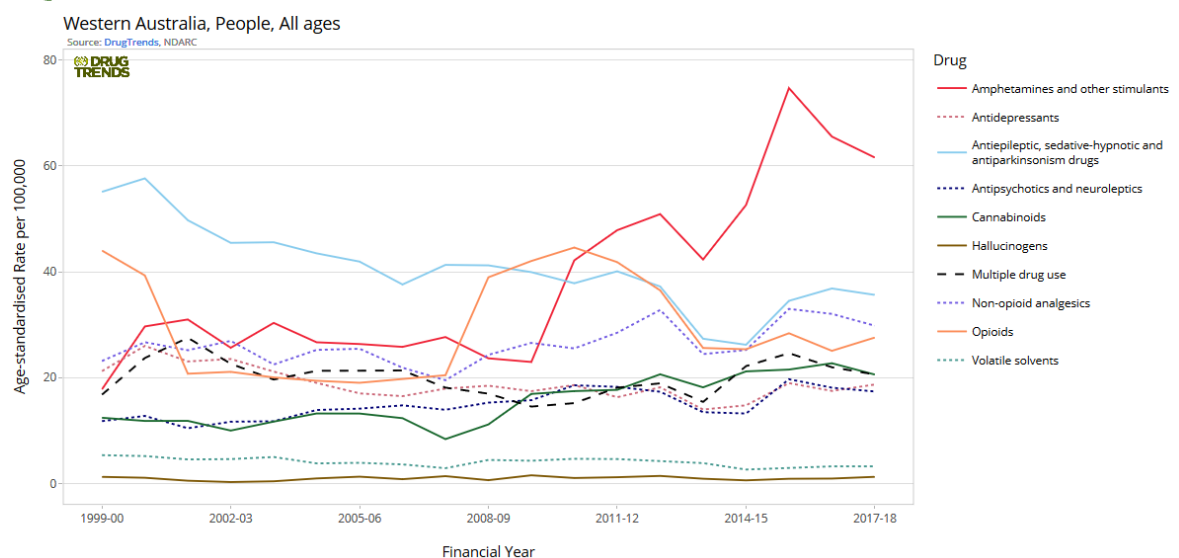


Figure 27. Age-standardised rate (per 100,000 people) of drug-related hospital separations, by drug identified in the principal diagnosis, Western Australia, 1999-00 – 2017-18.
Numbers for cocaine are small and thus rates are suppressed to protect confidentiality.

Funding

The Drug Trends program is funded by the Australian Government Department of Health under the Drug and Alcohol Program.

Acknowledgements

We would like to acknowledge the Australian Institute of Health and Welfare for data from the National Hospital Morbidity Database.

Recommended citation

Chrzanowska, A., Man, N., Degenhardt, L., Dobbins, T. & Peacock, A. (2019). Trends in drug-related hospital separations in Australia, 1999-2018. Drug Trends Bulletin Series. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney.

Related Links

- Hospitalisations data visualisations:
https://drugtrends.shinyapps.io/hospitalisations_2018
- Hospitalisations methods document:
<https://ndarc.med.unsw.edu.au/resource/trends-drug-related-hospitalisations-australia-1999-2018>
- For information on drug-induced deaths in Australia, go to:
<https://ndarc.med.unsw.edu.au/resource/trends-drug-induced-deaths-australia-1997-2018>
- For more information on NDARC research, go to: <http://ndarc.med.unsw.edu.au/>
- For more information about the AIHW and NHMD, go to:
<https://www.aihw.gov.au/>
- For more information on ICD coding go to:
<http://www.who.int/classifications/icd/en/>
<https://www.ihsa.gov.au/what-we-do/icd-10-am-achi-acs-current-edition>
- For more research from the Drug Trends program go to:
<https://ndarc.med.unsw.edu.au/program/drug-trends>

Contact us

Email: drugtrends@unsw.edu.au