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National Illicit Drug Indicators Project

TRENDS IN DRUG-RELATED HOSPITALISATIONS IN AUSTRALIA, 1999-2021

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UNSW NDARC National Drug & Alcohol Research Centre

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UTAS

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Please note that as with all statistical reports there is the potential for minor revisions to data in this report. Please refer to the online version at Drug Trends.

Please contact the Drug Trends team with any queries regarding this publication: drugtrends@unsw.edu.au.

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Acknowledgements

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Data source

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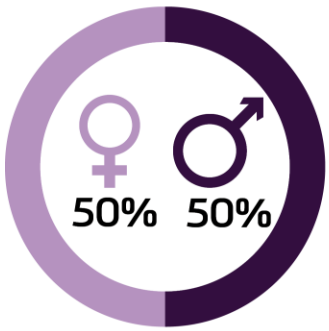
We acknowledge the traditional custodians of the land on which the work for this report was undertaken. We pay our respects to Elders past, present, and emerging.

Related Links

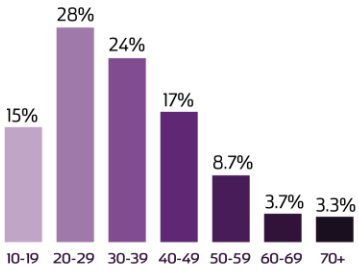
- Hospitalisations data visualisations: https://drugtrends.shinyapps.io/hospital_separations
- Hospitalisations methods document: https://ndarc.med.unsw.edu.au/resource-analytics/trends-drug-related-hospitalisations-australia-1999-2021
- For other Drug Trends publications on drug-related hospitalisations and drug-induced deaths in Australia, go to: https://ndarc.med.unsw.edu.au/project/national-illicit-drug-indicators-project-nidip
- 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.ihacpa.gov.au/resources/icd-10-amachiacs-eleventh-edition
- For more research from the Drug Trends program go to: https://ndarc.med.unsw.edu.au/program/drug-trends

Drug-Related Hospitalisations, Australia, 2020-21

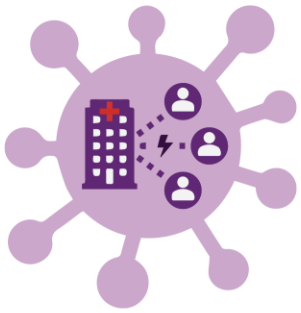
There were 62,486 drug-related hospitalisations (excluding alcohol and tobacco) in Australia in 2020-21.



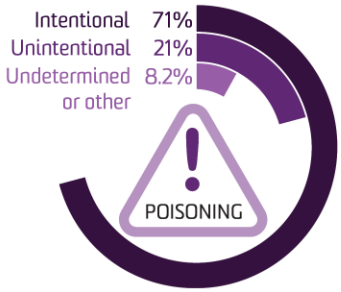
There was an equal split in the number of hospitalisations involving males and females.



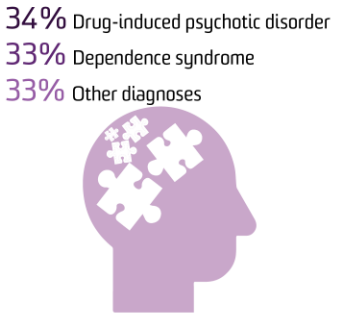
The highest percentage of drug-related hospitalisations occurred amongst Australians aged 20-29 and 30-39 years.



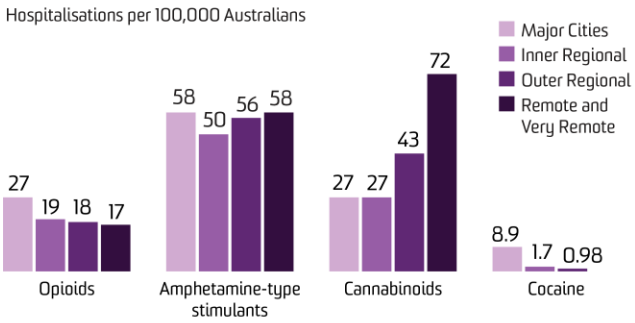
The rate of drug-related hospitalisations was higher in Q3 and Q4 of 2020 as compared to Q1 2020 (prior to onset of COVID-19).



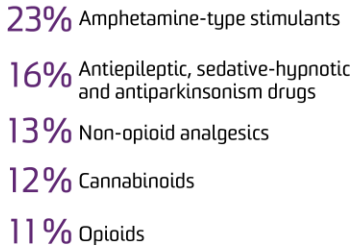
Intentional poisoning was the most common external cause of hospitalisations due to drug poisoning.



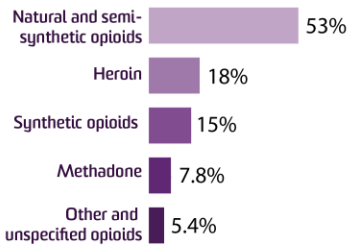
Drug-induced psychotic disorder and dependence syndrome were the leading diagnoses of mental and behavioural disorders due to substance use.



The highest rates of opioid- and cocaine-related hospitalisations were in major city areas, amphetamine-type stimulants equally high in major city and remote and very remote areas, and cannabinoids in remote and very remote areas.



The five drug classes most commonly identified as the principal diagnosis in drug-related hospitalisations.

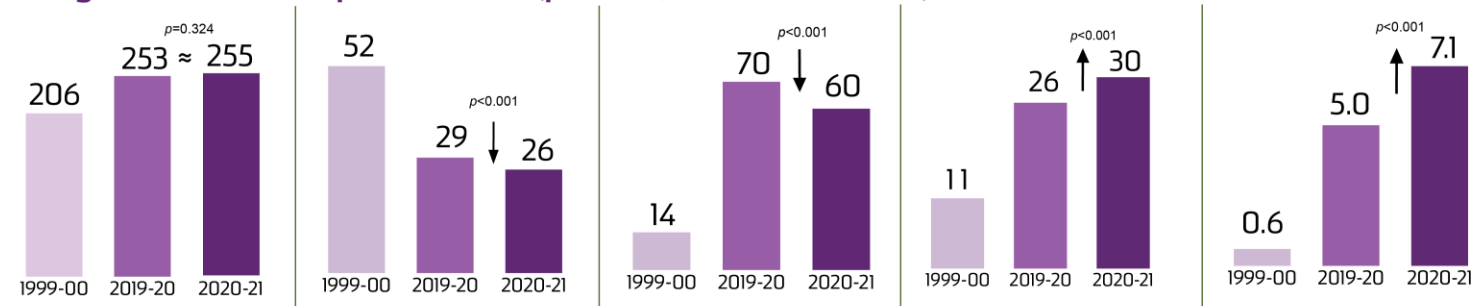


Natural and semi-synthetic opioids were the principal diagnosis in over half of opioid poisoning hospitalisations.

There was an increase in rates of opioid-, cannabinoid- and cocaine-related hospitalisations among Australians aged 20 to 29 years.

In the last six years there was a increase in the rate of cannabinoid-related hospitalisations among young females aged 20-29 years.

Change in Rate of Hospitalisations (per 100,000 Australians)



Executive Summary

There were 62,486 drug-related hospitalisations (excluding alcohol and tobacco) among Australians in 2020-21, equivalent to 0.53% of all hospitalisations in Australia and an average of 171 hospitalisations per day.

The age-standardised rate of drug-related hospitalisations was relatively stable between 1999-00 and 2009-10. It subsequently increased from 199 to 272 hospitalisations per 100,000 people from 2010-11 to 2016-17, before declining to 250 hospitalisations per 100,000 people in 2017-18. This rate has remained relatively stable in 2018-19, 2019-20 and 2020-21 (251, 253 and 255 hospitalisations per 100,000 people, respectively).

The COVID-19 pandemic and associated restrictions on gathering and movement have impacted drug supply and demand, with concern about changes in drug-related harms. The rate of drug-related hospitalisations was higher in Q3 and Q4 of 2020 as compared to Q1 2020 (prior to onset of COVID-19), however these findings should be treated with caution as there are other factors which might contribute to the shifts observed, and more sophisticated analyses and over a longer time period are required.

Sex

In 2020-21, males and females had a similar rate of drug-related hospitalisations (254 versus 256 hospitalisations per 100,000 people, respectively). This represented a recent increase in the rate of drug-related hospitalisations among females (243 hospitalisations per 100,000 people in 2019-20) and decrease in the rate among males (264 hospitalisations per 100,000 people in 2019-20).

Age

In 2020-21, the highest rates of drug-related hospitalisations continued to be observed among the 20-29 and the 30-39 age groups. The crude rate of drug-related hospitalisations increased across most age groups from 1999-00 to 2020-21 except for the 20-29 age group, which saw a decline in the rate of hospitalisations in the early 2010s before subsequently rising.

When studying the two most recent years of data, the greatest increase in rate was recorded in the youngest age group (i.e., 10-19; 251 to 302 hospitalisations per 100,000 people in 2019-20 and 2020-21, respectively), largely driven by the significant increase in drug-related hospitalisations among females in this age group.

The aforementioned decrease in the rate of drug-related hospitalisations among males between 2019-20 and 2020-21 was driven by significant decreases in the rates among males aged 30-39, 40-49 and 60-69.

Remoteness Area of Usual Residence

In 2020-21, the majority of drug-related hospitalisations were among people residing in major city areas (75% of hospitalisations where remoteness was coded), although the age-standardised rate of drug-related hospitalisations was highest in remote and very remote areas of Australia (275 hospitalisations per 100,000 people).

From 2019-20 to 2020-21, there was a significant increase in the rate of drug-related hospitalisations in major city areas (243 versus 250 hospitalisations per 100,000 people, respectively) and a significant decrease in rate in inner and outer regional areas (236 to 223 and 289 to 271 hospitalisations per 100,000 people, respectively).

Principal Diagnosis

Drug-related hospitalisations are typically coded as related to ‘mental and behavioural disorders due to psychoactive substance use’ or ‘poisoning’. In 2020-21, 53% of all drug-related hospitalisations had a principal diagnosis of mental and behavioural disorder due to

substance use, while 47% had a principal diagnosis of drug poisoning.

There are specific diagnoses within these two categories. Drug-induced psychotic disorder was the leading diagnosis among hospitalisations related to mental and behavioural disorders due to psychoactive substance use (34%), followed closely by dependence syndrome (33%).

In 2020-21, 71% of hospitalisations due to drug poisoning were intentional. While the rate of intentional poisoning hospitalisations has varied over time, the rate of unintentional poisoning hospitalisations has remained relatively stable.

Drug Type

In 2020-21, the largest proportion of drug-related hospitalisations was attributable to amphetamine-type stimulants (23%, 70 hospitalisations per 100,000 people), followed by antiepileptic, sedative-hypnotic and antiparkinsonism drugs (e.g., benzodiazepines; 16%), non-opioid analgesics (e.g., paracetamol, 13%), cannabinoids (12%) and opioids (11%).

Opioid-related hospitalisations

A decrease in the rate of opioid-related hospitalisations has been observed since 2016-17, including a further decrease from 2019-20 (29 hospitalisations per 100,000 people) to 2020-21 (26 hospitalisations per 100,000 people).

In 2020-21, natural and semi-synthetic opioids (e.g., oxycodone, morphine) were responsible for over half (53%) of all hospitalisations due to opioid poisoning. The rate of hospitalisations related to natural and semi-synthetic opioids more than doubled from 1999-00 to 2017-18 (3.5 to 9.1 hospitalisations per 100,000 people, respectively) but then declined (6.0 hospitalisations per 100,000 people in 2020-21).

Despite the overall decrease in opioid-related hospitalisations between 2019-20 and 2020-21, the 20-29 age group recorded a significant increase in the rate of opioid-related hospitalisations over this period.

Amphetamine-type stimulant-related hospitalisations

After 10 years of relative stability, the rate of amphetamine-type stimulant-related hospitalisations increased sixfold from 12 hospitalisations per 100,000 people in 2009-10 to a peak of 70 hospitalisation per 100,000 people in 2019-20. A decline was observed in 2020-21 to 60 hospitalisations per 100,000 people, observed for both males and females and among nearly all age groups.

Cannabinoid-related hospitalisations

From 1999-00 to 2020-21, cannabinoid-related hospitalisations increased nearly three-fold from 11 to 30 hospitalisations per 100,000 people.

In the last six years, there was an increase in the rate of cannabinoid-related hospitalisations among young females, particularly those aged 20-29 years, from 33 to 64 hospitalisations per 100,000 people in 2014-15 and 2020-21, respectively.

Cocaine-related hospitalisations

The rate of cocaine-related hospitalisations has continued to increase over time, from 0.82 in 2010-11 to 5.0 hospitalisations per 100,000 people in 2019-20, with a further increase in 2020-21 (7.1 hospitalisations per 100,000 people).

The 20-29 age group recorded the biggest increase in the rate of cocaine-related hospitalisations in this period and in 2020-21 accounted for 55% of all cocaine-related hospitalisations.

Other drug-related hospitalisations

The rate of hospitalisations with a principal diagnosis related to antiepileptic, sedative-hypnotic and antiparkinsonism drugs (e.g., benzodiazepines) declined from a peak of 56 hospitalisations per 100,000 people in 2000-01 to 37 hospitalisations per 100,000 people in 2018-19, then increased in 2019-20 and remained similar in 2020-21 (41 and 40

hospitalisations per 100,000 people, respectively).

The rate of non-opioid analgesic-related hospitalisations, after three years of continuous decline from a peak in 2016-17, increased again between 2019-20 and 2020-21 (27 to 34 hospitalisations per 100,000 people, respectively).

Although, the rate of hallucinogen-related hospitalisations remained lowest of all drug types, it has been steadily increasing since 2013-14, from 0.86 to 1.9 hospitalisations per 100,000 people in 2020-21.

Jurisdiction

From 2019-20 to 2020-21, the age-standardised rate of drug-related hospitalisations: increased in Victoria; decreased in New South Wales, the Northern Territory, South Australia, and Western Australia; and remained similar in the Australian Capital Territory, Tasmania and Queensland.

Important differences in age-standardised rate of drug-related hospitalisations by sex, age group, remoteness and drug type for each jurisdiction are also reported and available in our publicly-accessible online interactive visualisation.

Background and Methods

This bulletin reports on drug-related hospitalisations (see **Panel A** for definition) in Australia from 1999-00 to 2020-21, with a particular focus on opioid-, amphetamine-type stimulant-, cannabinoid-, and cocaine-related hospitalisations as per the aims of the Drug Trends program. Data were extracted from the National Hospital Morbidity Database held by the Australian Institute of Health and Welfare (AIHW). Full details of the methods are available for download and should be read alongside this bulletin.

Panel A. Terminology

- A **hospitalisation** (also called hospital separation) 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 and established at the completion of the episode of care to be chiefly responsible for occasioning the patient's episode of admitted patient care.
- An **external cause** is defined as the event, circumstance or condition associated with the occurrence of injury, poisoning or violence. Whenever a patient has a principal or additional diagnosis of an injury or poisoning, an external cause should be recorded.
- A **drug-related hospitalisation** refers to a hospitalisation where the principal diagnosis indicates a substance use disorder or direct harm due to selected substances.

At the time of separation from hospital, a principal diagnosis and up to 99 additional diagnoses may be recorded using diagnosis codes from the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM). Data presented here describe hospitalisations only where the principal diagnosis was directly attributable to use of *illicit drugs* (e.g., heroin), *prescription medicines* (e.g., antidepressants) or *medicines available without a prescription* (e.g., paracetamol). The data presented will therefore be an underestimate of the total number of hospitalisations related to drug use as: i) those presentations where drugs are coded as an additional diagnosis are excluded, and ii) hospitalisations where drugs contributed to the presentation but were not identified in diagnosis coding are not captured.

We have not included hospitalisations where the principal diagnosis was related to tobacco or alcohol use as they fall outside the scope of our monitoring. We acknowledge the significant harm arising from these substances, and encourage readers to refer to the National Alcohol Indicators Project and AIHW reporting for information regarding alcohol- and tobacco-related hospitalisations. It is important to note that many drug-related hospitalisations involve more than one drug (including alcohol) but may have one substance coded as the 'principal diagnosis'. Further, sometimes it is not possible to determine one substance as the primary drug leading to hospitalisation; these cases are coded and presented as 'multiple drug use' and thus will not be represented in the count of hospitalisations for a single substance.

We present findings for Australians of all ages unless otherwise indicated. The jurisdiction of hospitalisation equals the jurisdiction of usual residence as cross border hospitalisations were not provided. Hospitalisations with a care type of 'newborn' (without qualified days), and records for 'hospital

boarders' and 'posthumous organ procurement' were not provided. Hospitalisations in Western Australia with a contracted patient status of 'Inter-hospital contracted patient to private sector hospital' were also not provided to adjust for separations recorded on both sides of contractual care arrangements. For Tasmania, provision of data between 2008-09 and 2015-16 was limited to drug-related hospitalisations based on selected drug-related ICD-10-AM codes (see the methods for the list of ICD-10-AM codes). Estimates of drug-related hospitalisations for this period are likely to be underestimated. Data regarding remoteness area of usual residence were not available for Queensland before the year 2018-19. For this reason, we present data by remoteness area in Australia for the years 2018-19, 2019-20 and 2020-21 only.

We provide numbers, age-standardised rates per 100,000 people (computed using the direct method based on the Australian Standard Population at 30 June 2001), and crude rates per 100,000 people (calculated using the Australian Bureau of Statistics' estimated resident population figures as at 30 June each year) of hospitalisations. Quarterly rates are calculated as population crude rates per 100,000 estimated resident population (ERP) using quarterly ERPs. Values for small numbers of hospitalisations (less than or equal to 5) are suppressed. In accordance with recommendations to ensure stability of age-standardised rates from sparse data, age-standardised rates were not calculated if the total number of hospitalisations was less than or equal to 10. Estimates presented for specific age-groups were computed only as crude rates per 100,000 people. Tests of statistically significant change have been conducted between estimates for 2020-21 compared to 2019-20 only; significance level was set at $p<0.050$. These are presented in tables in a separate Appendix document.

An accompanying online interactive data visualisation allows disaggregation of data and download of figures. Estimates can be viewed disaggregated by drug, jurisdiction, remoteness, sex, age group and diagnosis, and as numbers or crude or age-standardised rates per 100,000 population (with 95% confidence intervals).

1

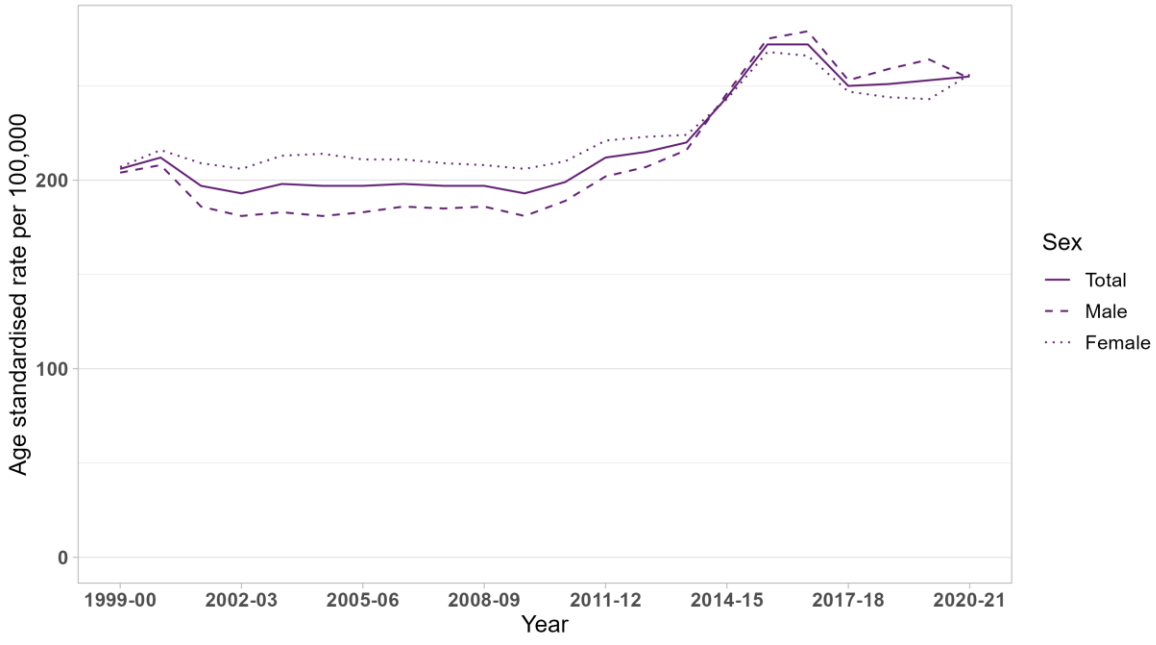
Trends in Drug-Related Hospitalisations among Australians

2020-21

62,486	255	171	0.53%
drug-related hospitalisations	drug-related hospitalisations per 100,000 Australians	drug-related hospitalisations per day	of all hospitalisations in Australia

In 2020-21 there were 11.8 million hospitalisations in Australia's public and private hospitals. Among them, there were 62,486 hospitalisations with a drug-related principal diagnosis (excluding alcohol and tobacco), equivalent to 0.53% of all hospitalisations and an average of 171 hospitalisations per day. Relative to population size and adjusting for age distribution, we estimate that there were 255 drug-related hospitalisations per 100,000 people in 2020-21 (Figure 1).

Figure 1. Age-standardised rate per 100,000 people of drug-related hospitalisations among the total Australian population and for males and females, 1999-00 to 2020-21.



The age-standardised rate of drug-related hospitalisations was relatively stable between 1999-00 and 2010-11. The rate of drug-related hospitalisations increased from 2010-11 to 2016-17, then decreased in 2017-18 (199, 272, and 250 hospitalisations per 100,000 people, respectively). The rate has remained stable since (251, 253 and 255 hospitalisations per 100,000 people in 2018-19, 2019-20 and 2020-21, respectively), with no significant change in rate between 2019-20 and 2020-21 (p=0.268) (Table A1 in Appendix).

Panel B. Drug-related hospitalisations and the COVID-19 pandemic

The COVID-19 pandemic and associated restrictions on gathering and movement have impacted drug supply and demand. In Australia, wastewater data showed reduced population-level exposure to some illicit drugs, particularly methamphetamine, in the first two years of the pandemic. Survey data also show disruption to illicit drug use for some people, typically attributed to restrictions on gathering limiting opportunities for use in such contexts, and reports of reduced availability and increased price of certain drugs.

Given these changes in use and markets, there has been significant concern about potential changes in drug-related harms, disruption to drug treatment and harm reduction services, and overstretched acute emergency health services. However, there is little publicly available analysis of changes in drug-related harms since the COVID-19 pandemic in Australia or internationally.

We have published comparison of preliminary quarterly estimates of the rate of drug-induced deaths occurring in Australia from 2019 until the third quarter of 2020. These analyses showed that the rate of drug-induced deaths in Q2 2020 (during the COVID-19 pandemic and associated restrictions) versus Q1 2020 (prior to onset) were similar. However, there was a 16.0% decrease in the national rate of drug-induced deaths in Q3 2020 as compared to Q1 2020, and a 15.6% decline relative to Q3 2019. These data can only give a tentative early indication of the pattern of drug-related harm and should be treated with caution as estimates will be revised upwards as coronial investigators closed. Study of other indicator data sources, such as hospitalisations, is thus critical.

In **Table 1**, we present the quarterly number and rate of drug-related hospitalisations in Australia prior to onset of the COVID-19 pandemic and associated restrictions (Q1 2019 to Q1 2020) and after onset of the COVID-19 pandemic and associated restrictions (Q2 2020 to Q1 2021) nationally and by jurisdiction. Hospitalisations were assigned to a quarter based on the month of admission to hospital; all other data in this report are based on the reference financial year of separation from hospital (see methods for details). Hospitalisations where length of admission was longer than 60 days were also not included in these tables, and thus the rates are likely to be an underestimate. Estimates for the second quarter of 2021 are not presented as hospitalisations in May and June 2021 were not provided if the episode ended after 30th June 2021.

When comparing national estimates after onset of the COVID-19 pandemic to Q1 2020 (i.e., immediately prior to onset), the rates were 2.4% and 2.7% higher in Q3 and Q4 2020, respectively, as compared to Q1 2020 (**Table 2**). When comparing the same quarters post-pandemic onset to the year 2019, the rate of hospitalisations immediately after onset of restrictions (i.e., Q2 2020) was 4.8% higher than Q2 2019 (**Tables 2, Table 3**). There was no significant difference in rate of hospitalisations in Q1 2021 (when restrictions were lifted in most jurisdictions) as compared to both Q1 2020 and Q1 2019 (**Table 3**).

When studying estimates by jurisdiction, there is some evidence to suggest a decline in the rate of hospitalisations after pandemic onset in Western Australia and Northern Territory, and an increase in Victoria and New South Wales.

These findings should be treated with some caution. It should be noted that since the international boarder closure was introduced in March 2020, the overall population growth was much smaller than the years prior, hence caution is required when interpreting statistics calculated from the ABS's estimated resident population (ERP) and comparing them over time. Sophisticated analysis approaches (e.g., interrupted time series analyses) are needed before any causal inferences regarding the impact of the COVID-19 pandemic and associated restrictions on gathering and movement on rates of drug-related hospitalisations. Study of a longer time series would also enable greater certainty as to possible changes in rates of hospitalisations. Some of this work is currently in progress; please contact the Drug Trends team (drugtrends@unsw.edu.au) for further information.

Table 1. Number and population rate of drug-related hospitalisations before and during the novel coronavirus disease (COVID-19) pandemic in Australia

Location	2019				2020				2021
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Number of drug-related hospitalisations per quarter									
Australia	15,404	14,688	15,452	16,113	15,450	15,587	15,825	15,863	15,427
Australian Capital Territory	214	181	233	219	220	220	206	231	216
New South Wales	4,789	4,748	4,976	4,915	4,591	4,901	4,820	4,807	4,636
Northern Territory	207	168	206	268	258	182	190	218	198
Queensland	3,584	3,344	3,535	3,888	3,689	3,746	3,810	3,792	3,710
South Australia	1,155	1,117	1,198	1,256	1,283	1,416	1,320	1,205	1,184
Tasmania	309	308	280	245	253	192	247	245	244
Victoria	3,550	3,307	3,447	3,609	3,423	3,593	3,951	4,084	3,756
Western Australia	1,596	1,515	1,577	1,713	1,733	1,337	1,281	1,281	1,483
Rate of drug-related hospitalisations per 100,000 population per quarter									
Australia	61 (60, 62)	58 (57, 59)	61 (60, 62)	63 (62, 64)	60 (59, 61)	61 (60, 62)	62 (61, 63)	62 (61, 63)	60 (59, 61)
Australian Capital Territory	49 (42, 56)	41 (35, 47)	52 (46, 60)	49 (43, 56)	49 (43, 56)	49 (43, 56)	46 (40, 52)	51 (45, 58)	48 (42, 55)
New South Wales	60 (58, 61)	59 (57, 61)	62 (60, 63)	61 (59, 63)	57 (55, 58)	61 (59, 62)	60 (58, 61)	59 (58, 61)	57 (56, 59)
Northern Territory	84 (73, 96)	68 (58, 79)	83 (72, 95)	108 (96, 122)	104 (92, 117)	73 (63, 85)	76 (66, 88)	87 (76, 100)	79 (69, 91)
Queensland	71 (68, 73)	66 (63, 68)	69 (67, 71)	76 (73, 78)	71 (69, 74)	72 (70, 75)	74 (71, 76)	73 (71, 75)	71 (69, 74)
South Australia	65 (62, 69)	63 (59, 67)	67 (64, 71)	70 (67, 75)	72 (68, 76)	79 (75, 83)	74 (70, 78)	67 (63, 71)	66 (62, 70)
Tasmania	56 (50, 63)	56 (50, 62)	50 (45, 57)	44 (39, 50)	45 (40, 51)	34 (29, 39)	44 (38, 50)	43 (38, 49)	43 (38, 49)
Victoria	55 (53, 56)	51 (49, 52)	53 (51, 54)	55 (53, 57)	52 (50, 54)	54 (53, 56)	60 (58, 62)	62 (60, 64)	57 (56, 59)
Western Australia	60 (57, 63)	57 (54, 60)	59 (56, 62)	64 (61, 67)	64 (61, 67)	49 (47, 52)	47 (44, 50)	47 (44, 50)	54 (51, 57)

Note: Q1: January – March; Q2: April – June; Q3: July – September; Q4: October – December. Hospitalisations were assigned to a quarter based on the month of admission to hospital; all other data in this report are based on the reference financial year of separation from hospital (see methods for details). Hospitalisations where length of admission was longer than 60 days were not included, and thus the rates are likely to be an underestimate. Data for Q2 2021 are not presented because we only have hospital records for separations up to 30 June 2021, i.e., hospital admissions in May and June 2021 may not be included in our dataset if length of hospital admission is <60 days.

Table 2. Percentage changes in drug-related hospitalisations during the novel coronavirus disease (COVID-19) pandemic and associated restrictions in Australia

Location	Percentage Change (%)								
	COVID-19 quarters versus Q1 2020				2020and 2021 quarters versus corresponding quarters in 2019				
	Q2 2020 vs. Q1 2020	Q3 2020 vs. Q1 2020	Q4 2020 vs. Q1 2020	Q1 2021 vs. Q1 2020	Q1 2020 vs. Q1 2019	Q2 2020 vs. Q2 2019	Q3 2020 vs. Q3 2019	Q4 2020 vs. Q4 2019	Q1 2021 vs. Q1 2019
Change in number of drug-related hospitalisations									
Australia	0.89	2.4	2.7	-0.15	2.8	6.1	2.4	-1.6	0.1
Australian Capital Territory	0	-6.4	5.0	-1.8	-4.1	22	-12	5.5	0.9
New South Wales	6.8	5.0	4.7	0.98	25	3.2	-3.1	-2.2	-3.2
Northern Territory	-29	-26	-16	-23	2.9	8.3	-7.8	-19	-4.3
Queensland	1.5	3.3	2.8	0.6	11	12	7.8	-2.5	3.5
South Australia	10	2.9	-6.1	-7.7	-18	27	10	-4.1	2.5
Tasmania	-24	-2.4	-3.2	-3.6	-3.6	-38	-12	0	-21
Victoria	5.0	15.4	19.3	9.7	8.6	8.6	15	13	5.8
Western Australia	-23	-26	-26	-14	0.30	-12	-19	-25	-7.1
Change in population rates of drug-related hospitalisations									
Australia	0.80	2.4	2.7	-0.24	0.55	4.8	1.6	-2.0	-1.4
Australian Capital Territory	-0.41	-6.8	4.4	-2.6	-5.0	19	-13	4.2	-2.1
New South Wales	6.8	5.1	4.9	1.1	24	2.5	-3.5	-2.3	-4.0
Northern Territory	-30	-27	-16	-24	1.2	8.0	-8.2	-19	-5.1
Queensland	1.3	2.9	2.2	-0.23	9.5	10	6.4	-3.5	1.0
South Australia	10	2.6	-6.4	-8.2	-20	25	9.1	-4.9	0.5
Tasmania	-24	-2.8	-3.8	-4.5	-5.0	-39	-13	-1.2	-23
Victoria	5.0	16	20	11	6.3	7.4	14	14	5.2
Western Australia	-23	-26	-27	-15	-1.1	-14	-20	-26	-10

Note: Q1: January – March; Q2: April – June; Q3: July – September; Q4: October – December. Hospitalisations were assigned to a quarter based on the month of admission to hospital; all other data in this report are based on the reference financial year of separation from hospital (see methods for details). Hospitalisations where length of admission was longer than 60 days were not included. Data for Q2 2021 are not presented because we only have hospital records for separations up to 30 June 2021, i.e. hospital admissions in May and June 2021 may not be included in our dataset if length of hospital admission is <60 days.

Table 3. Rate ratio for change in rate of drug-related hospitalisations during the novel coronavirus disease (COVID-19) pandemic in Australia

Location	Rate ratio (95% confidence intervals) [p-value]							
	COVID-19 quarters versus Q1 2020				COVID-19 quarters versus corresponding quarters in 2019			
	Q2 2020 vs. Q1 2020	**Q3 2020 vs. Q1 2020**	**Q4 2020 vs. Q1 2020**	**Q1 2021 vs. Q1 2020**	**Q2 2020 vs. Q2 2019**	**Q3 2020 vs. Q3 2019**	**Q4 2020 vs. Q4 2019**	**Q1 2021 vs. Q1 2019**
Australia	1.01 (0.99, 1.03) [0.480]	1.02 (1.00, 1.05) [0.036]	1.03 (1.00, 1.05) [0.020]	1.00 (0.98, 1.02) [0.836]	1.05 (1.02, 1.07) [<0.001]	1.02 (0.99, 1.04) [0.152]	0.98 (0.96, 1.00) [0.074]	0.99 (0.96, 1.01) [0.229]
Australian Capital Territory	1.00 (0.82, 1.21) [0.965]	0.93 (0.77, 1.13) [0.470]	1.04 (0.86, 1.26) [0.649]	0.97 (0.80, 1.18) [0.781]	1.19 (0.97, 1.46) [0.082]	0.87 (0.72, 1.06) [0.149]	1.04 (0.86, 1.26) [0.666]	0.98 (0.81, 1.19) [0.827]
New South Wales	1.07 (1.03, 1.11) [0.001]	1.05 (1.01, 1.10) [0.015]	1.05 (1.01, 1.09) [0.021]	1.01 (0.97, 1.05) [0.593]	1.02 (0.98, 1.07) [0.233]	0.97 (0.93, 1.00) [0.082]	0.98 (0.94, 1.02) [0.248]	0.96 (0.92, 1.00) [0.050]
Northern Territory	0.70 (0.58, 0.85) [<0.001]	0.73 (0.61, 0.89) [0.001]	0.84 (0.70, 1.01) [0.062]	0.76 (0.63, 0.92) [0.004]	1.08 (0.87, 1.34) [0.473]	0.92 (0.75, 1.12) [0.398]	0.81 (0.67, 0.97) [0.019]	0.95 (0.78, 1.16) [0.602]
Queensland	1.01 (0.97, 1.06) [0.578]	1.03 (0.98, 1.08) [0.216]	1.02 (0.98, 1.07) [0.342]	1.00 (0.95, 1.04) [0.920]	1.10 (1.05, 1.16) [<0.001]	1.06 (1.02, 1.11) [0.008]	0.97 (0.92, 1.01) [0.119]	1.01 (0.96, 1.06) [0.681]
South Australia	1.10 (1.02, 1.19) [0.012]	1.03 (0.95, 1.11) [0.506]	0.94 (0.86, 1.01) [0.099]	0.92 (0.85, 0.99) [0.034]	1.25 (1.16, 1.35) [<0.001]	1.09 (1.01, 1.18) [0.030]	0.95 (0.88, 1.03) [0.215]	1.01 (0.93, 1.09) [0.899]
Tasmania	0.76 (0.62, 0.92) [0.003]	0.97 (0.81, 1.16) [0.749]	0.96 (0.80, 1.15) [0.666]	0.96 (0.80, 1.14) [0.612]	0.61 (0.51, 0.73) [<0.001]	0.87 (0.73, 1.03) [0.103]	0.99 (0.82, 1.18) [0.895]	0.77 (0.64, 0.91) [0.002]
Victoria	1.05 (1.00, 1.10) [0.041]	1.16 (1.11, 1.21) [<0.001]	1.20 (1.15, 1.26) [<0.001]	1.11 (1.06, 1.16) [<0.001]	1.07 (1.02, 1.13) [0.003]	1.14 (1.09, 1.20) [<0.001]	1.14 (1.09, 1.19) [<0.001]	1.05 (1.00, 1.10) [0.031]
Western Australia	0.77 (0.72, 0.83) [<0.001]	0.74 (0.68, 0.79) [<0.001]	0.73 (0.68, 0.79) [<0.001]	0.85 (0.79, 0.91) [<0.001]	0.86 (0.80, 0.93) [<0.001]	0.80 (0.74, 0.86) [<0.001]	0.74 (0.69, 0.79) [<0.001]	0.90 (0.84, 0.97) [0.003]

Note: Q1: January – March; Q2: April – June; Q3: July – September; Q4: October – December. Hospitalisations were assigned to a quarter based on the month of admission to hospital; all other data in this report are based on the reference financial year of separation from hospital (see methods for details). Hospitalisations where length of admission was longer than 60 days were not included. Data for Q2 2021 are not presented because we only have hospital records for separations up to 30 June 2021, i.e., hospital admissions in May and June 2021 may not be included in our dataset if length of hospital admission is <60 days. Cells that are statistically significant (i.e., p<0.05) are shaded green (rate ratio<1) or purple (rate ratio>1).

2

Sociodemographic Characteristics of Drug-Related Hospitalisations

Sex

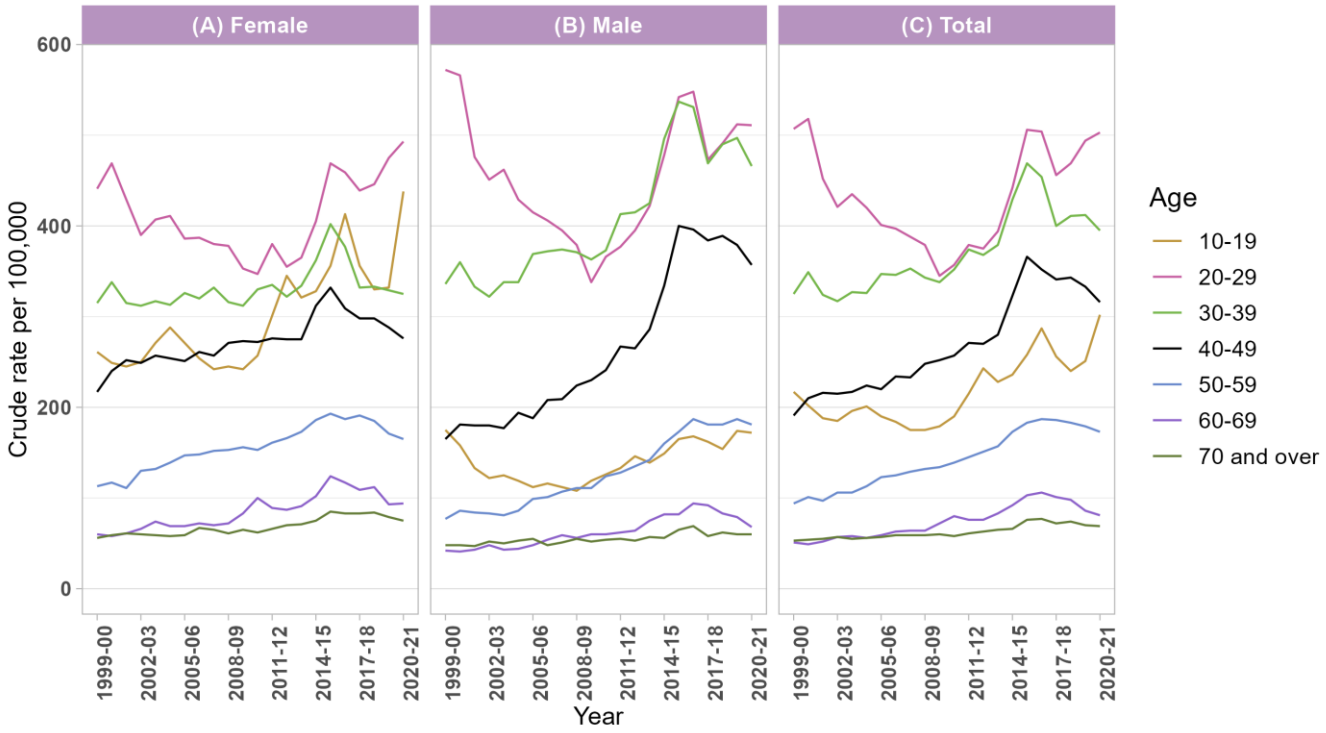
In 2020-21, the age-standardised rate of drug-related hospitalisations was similar for males and females (254 versus 256 hospitalisations per 100,000 people, respectively). There was an increase in hospitalisations among females (48% in 2019-20 to 50% in 2020-21), and a decrease in hospitalisations occurring among males (52% to 50%, respectively) (Figure 1).

Between 1999-00 and 2013-14 the age-standardised rate of drug-related hospitalisation was generally higher among females than males. From 2014-15 until 2019-20, the reverse was observed, followed by a convergence in rate in 2020-21. This convergence was driven by a decrease in the rate for males (264 to 254 hospitalisations per 100,000 people from 2019-20 to 2020-21, respectively; $p<0.001$) and an increase in the rate for females (243 to 256 hospitalisations per 100,000 people from 2019-20 to 2020-21, respectively; $p<0.001$) (Table A1).

Age

The highest crude rate of hospitalisations has consistently been observed among the 20-29 age group, followed by the 30-39 age group (503 and 395 hospitalisations per 100,000 people in 2020-21, respectively) (Figure 2). In 2020-21, these age groups accounted for the greatest percentage of drug-related hospitalisations (28% and 24%, respectively), followed by the 40-49 (17%), 10-19 (15%), 50-59 (8.7%), 60-69 (3.7%) and 70 and over (3.3%) age groups.

Figure 2. Crude rate per 100,000 people of drug-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 1999-00 to 2020-21.



Note: The rates for the 0-9 years age group are not presented due to sensitivity of the data.

The crude rate of drug-related hospitalisations increased across all age groups from 1999-00 to 2020-21 except for the 20-29 age group. Even though this group remained the most common age group represented in drug-related hospitalisation over the course of monitoring, there was a substantial decrease in rate between 1999-00 and 2009-10, subsequently rising to a rate similar to that observed in 1999-00.

In the two most recent years of data, there was a significant increase in drug-related hospitalisations in the youngest age group (i.e., 10-19) (302 versus 251 hospitalisations per 100,000 people; $p<0.001$). In contrast, a decrease in the rate of hospitalisations was observed in the 30-39 and 40-49 age groups (395 and 316 versus 412 and 333 hospitalisations per 100,000 people; $p<0.001$ and $p<0.001$, respectively) (Table A1).

Sex and Age

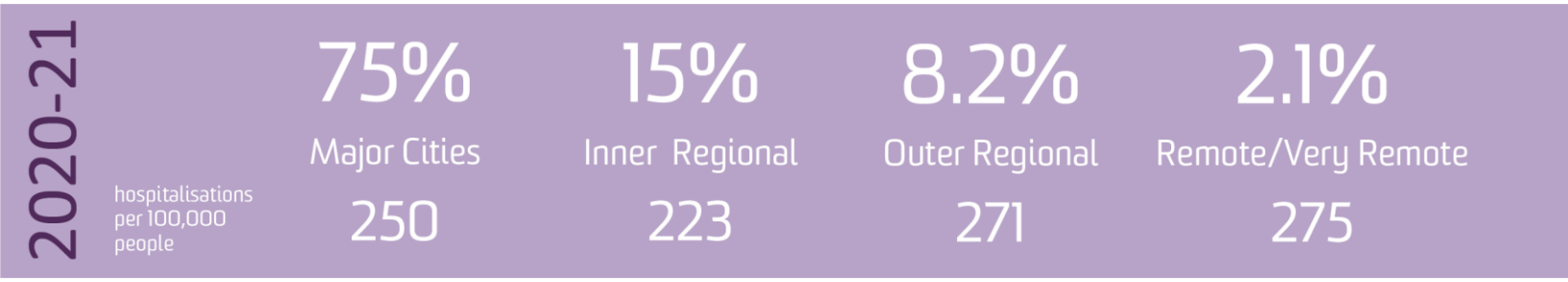
The highest rate of drug-related hospitalisations in 2020-21 was observed among males and females aged 20-29, followed by males aged 30-39 (511, 493, and 466 hospitalisations per 100,000 people, respectively) (Figure 2).

The crude rate of drug-related hospitalisations increased across most age groups for both males and females from 1999-00 to 2020-21. The greatest increase was among males aged 40-49 and 50-59, with the rates of drug-related hospitalisations over two times higher in 2020-21 than in 1999-00. The

exceptions were a relatively stable rate for males aged 10-19 years, and a decrease in rate for males aged 20-29 years.

Compared with 2019-20, there were significant increases in 2020-21 in the rate of drug-related hospitalisations among females aged 10-19 (332 to 438 hospitalisations per 100,000 people, respectively; $p<0.001$) and 20-29 (475 to 493 hospitalisations per 100,000 people, respectively; $p=0.015$) which drove the overall increase in rate among females. In contrast, the decrease in the rate of drug-related hospitalisations for males between 2019-20 and 2020-21 was driven by significant decreases in the age groups 30-39 (497 to 466 hospitalisations per 100,000 people, respectively; $p<0.001$), 40-49 (379 to 357 hospitalisations per 100,000 people, respectively; $p<0.001$) and 60-69 (79 to 68 hospitalisations per 100,000 people, respectively; $p<0.001$) (Table A1).

Remoteness Area of Usual Residence

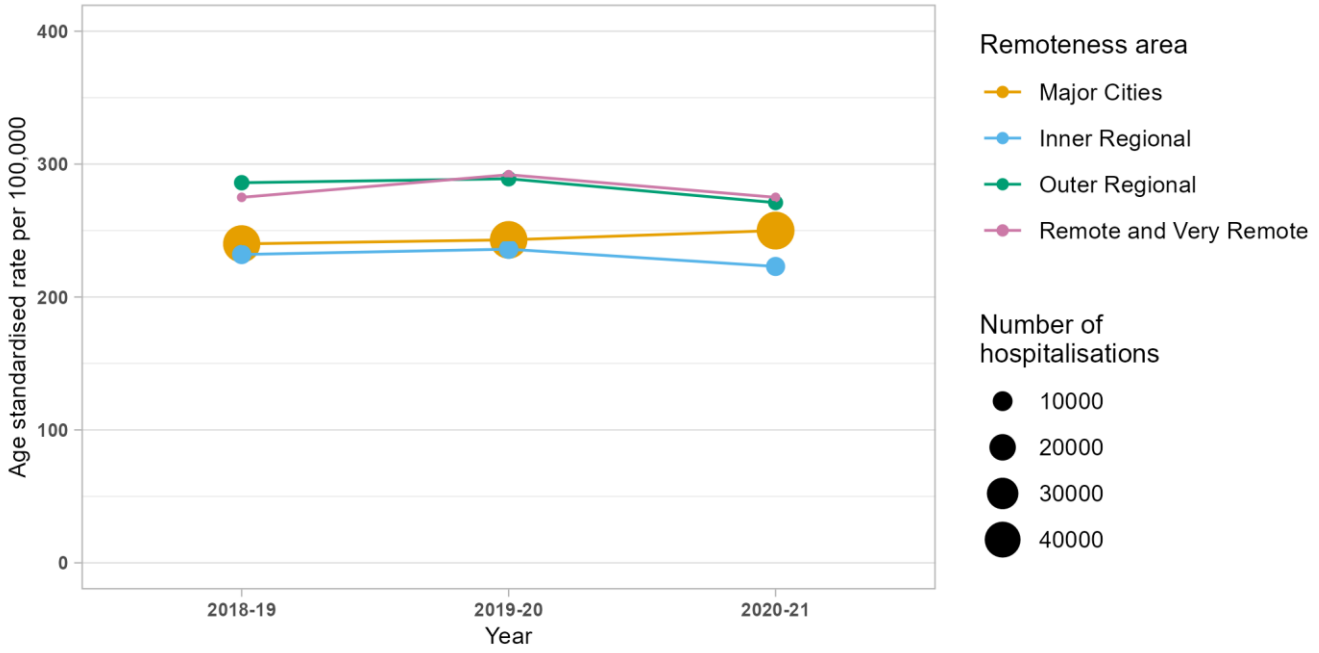


Remoteness area of usual residence (hereafter 'remoteness') could not be identified in 2.9% of hospitalisations in 2020-21.

In 2020-21, the majority of hospitalisations were among people residing in major city areas (45,297 hospitalisations; 75% of hospitalisations with remoteness identified). By contrast, the age-standardised rate was highest in remote and very remote areas (275 hospitalisations per 100,000 people) and lowest in inner regional areas (223 hospitalisations per 100,000 people) (Figure 3).

This pattern of findings was consistent with that observed for 2019-20. However, a significant increase in rate from 2019-20 to 2020-21 was observed in major city areas (243 to 250 hospitalisations per 100,000 people, respectively; $p<0.001$) and significant decreases in inner and outer regional areas (236 to 223 and 289 to 271 hospitalisations per 100,000 people; $p<0.001$ and $p=0.001$, respectively) from 2019-20 to 2020-21 (Table A2).

Figure 3. Rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness, 2018-19 to 2020-21.



Remoteness and Sex

In 2020-21, rates of drug-related hospitalisations were higher among females than males in inner regional (241 per 100,000 people and 206 per 100,000 people, respectively) and outer regional (298 per 100,000 people and 244 per 100,000 people, respectively) areas. Conversely, rates of drug-related hospitalisations were higher among males than females in major city (253 per 100,000 people and 247 per 100,000 people, respectively) and remote and very remote (277 per 100,000 people and 272 per 100,000 people, respectively) areas (Figure 4).

In 2020-21, the rate of drug-related hospitalisations among males significantly decreased compared to 2019-20 in most remoteness areas except for remote and very remote areas. For females, a significant increase was observed in major city areas (228 to 247 hospitalisations per 100,000 people, respectively; $p<0.001$) (Table A2).

Figure 4. Rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness, sex and age group, 2018-19 to 2020-21.

Remoteness and Age

In 2020-21, the highest rate of hospitalisations was observed among the 20-29 age group in all remoteness areas. The rates for this age group were highest in remote and very remote (552 hospitalisations per 100,000 people) and outer regional (549 hospitalisations per 100,000 people) areas, followed by major city areas (489 hospitalisations per 100,000 people) and inner regional areas (448 hospitalisations per 100,000 people).

A similar picture was observed for the younger age group (10-19 years; 442, 375, 286 and 303 hospitalisations per 100,000 people, respectively). By contrast, the older age groups (50-59, 60-69 and 70+) in major city areas recorded a higher rate of hospitalisations as compared to other areas (Figure 4).

In 2020-21, the rate of hospitalisations increased significantly compared to 2019-20 for the second consecutive year for the 10-19 and 20-29 age groups in major city areas ($p \leq 0.005$). There was also a significant increase observed in the rate for the youngest age group (10-19) in inner regional areas ($p < 0.001$). Conversely, a significant decrease in rates was observed for some age groups in certain areas; specifically, for the 60-69 age group in major city areas ($p = 0.010$), the 20-29, 30-39 and 40-49 age groups in inner regional areas ($p \leq 0.023$) and the 30-39, 40-49 and 50-59 age groups in outer regional areas ($p \leq 0.016$) (Table A3).

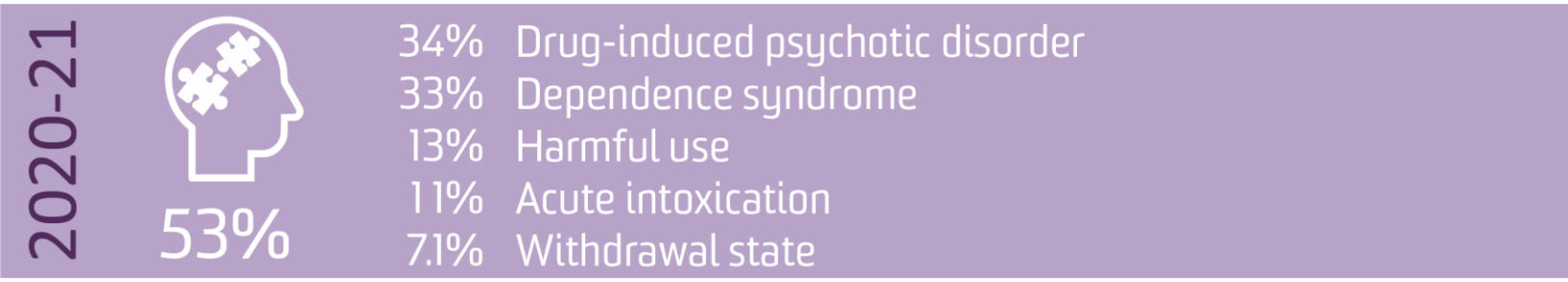
3

Drug-Related Hospitalisations by Diagnosis

Drug-related hospitalisations included in this report are coded according to ICD-10-AM as related to 'mental and behavioural disorders due to psychoactive substance use' or 'poisoning' (see methods for details on the ICD-10-AM codes included). The former category has a number of specific diagnoses within the overarching diagnosis type, including dependence syndrome, withdrawal state, drug-induced psychotic disorder, acute intoxication, and harmful use. Hospitalisations coded as 'poisoning' can relate to acute effects from a range of scenarios (e.g., wrong drug administered or taken in error, suicide and homicide), and have an external cause of injury assigned which indicates the intent of the injury (i.e., unintentional poisoning ('overdose'), intentional poisoning, or undetermined intent).

In 2020-21, diagnoses of mental and behavioural disorder due to substance use were identified as the principal diagnosis in 53% of all drug-related hospitalisations, while drug poisoning accounted for 47%. Between 1999-00 and 2009-10, the rate of drug poisoning-related hospitalisations was twice the rate of hospitalisations related to mental and behavioural disorder due to substance use. Since 2009-10, this difference decreased, and then reversed from 2018-19. Caution, however, should be used in comparing diagnosis over time, as the classifications and coding standards for those data can change.

Principal Diagnosis of Mental and Behavioural Disorder Due to Substance Use



Among hospitalisations with a principal diagnosis from the group of ICD-10-AM codes indicating mental and behavioural disorder due to substance use, drug-induced psychotic disorder was the leading diagnosis in 2020-21 (34%), followed closely by dependence syndrome (33%). Hospitalisations with a principal diagnosis of harmful use (13%), acute intoxication (11%), withdrawal state (7.1%) and other use disorders (1.3%) accounted for the remaining 33% of hospitalisations coded to 'mental and behavioural disorder due to substance use' (Figure 5).

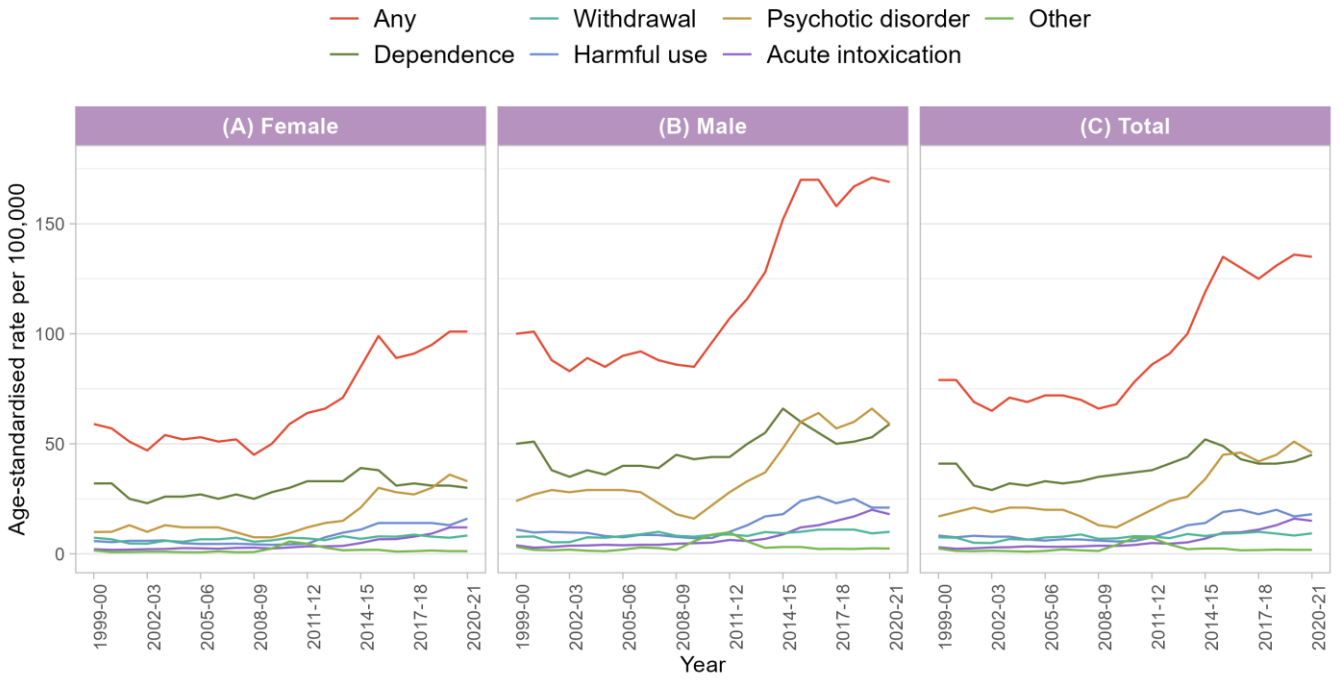
There was a substantial increase in the rate of hospitalisations with a principal diagnosis of drug-induced psychotic disorder from 2009-10 (12 hospitalisations per 100,000 people) to 2019-20 (51 per 100,000

people), followed by a significant decline in 2020-21 (46 hospitalisations per 100,000 people; $p<0.001$) (Table A4).

An overall increase from 1999-00 to 2019-20 was also observed in the rates of hospitalisations with a principal diagnosis of acute intoxication and harmful use, with the latter showing a further significant increase in 2020-21 (18 hospitalisations per 100,000 people; $p<0.001$), while the former decreased (15 hospitalisations per 100,000 people; $p=0.011$).

The rates of withdrawal-related hospitalisations remained relatively low over the course of monitoring, ranging between 4.9 and 10 hospitalisations per 100,000 people, with a significant increase recorded between 2019-20 and 2020-21 (8.3 to 9.3 hospitalisations per 100,000, respectively; $p<0.001$) (Table A4).

Figure 5. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Sex

Over the course of monitoring, males have had a higher rate than females of hospitalisations with a principal diagnosis of a mental and behavioural disorder due to substance use (171 versus 100 hospitalisations per 100,000 people in 2020-21, respectively) (Figure 5). This has been consistent across all diagnoses within this cluster of ICD-10-AM codes.

From 2019-20 to 2020-21, rates of hospitalisations with principal diagnosis of withdrawal state increased among both males and females (9.3 to 10 hospitalisations per 100,000 people; $p=0.007$ and 7.3 to 8.3 hospitalisations per 100,000 people; $p=0.004$, respectively). Rates also increased among females with principal diagnosis of harmful use (13 to 16 hospitalisations per 100,000 people, respectively; $p<0.001$)

and among males with dependence (53 and 59 hospitalisations per 100,000 people, respectively; $p<0.001$).

A significant decrease in rates of hospitalisations between 2019-20 and 2020-21 was observed among males with a principal diagnosis of acute intoxication (20 to 18 hospitalisations per 100,000 people, respectively; $p=0.004$) and among both males and females with drug-induced psychotic disorder (66 to 59 hospitalisations per 100,000 people; $p<0.001$ and 36 to 33 hospitalisations per 100,000 people; $p<0.001$, respectively) (Table A4).

Age

In 2020-21, the rate of hospitalisations with a mental and behavioural disorder due to substance use as the principal diagnosis was highest among people aged 20-29 and 30-39 (303 and 274 hospitalisations per 100,000 people, respectively).

In 1999-00, the rate of hospitalisations in the 20-29 age group was twice the rate in the 30-39 age group (264 versus 125 per 100,000 people). Rates for these two age groups converged by 2009-10 (148 and 150 per 100,000 people, respectively), subsequently following a similar trend (typically increasing), although the rates in 2020-21 for both groups were not significantly different to 2019-20.

Rates in the 40-49 and 50-59 age groups increased four-fold over the course of monitoring (49 and 17 hospitalisations per 100,000 people in 1999-00 to 198 and 76 per 100,000 people in 2019-20, respectively). A decrease was observed in 2020-21 for the 40-49 age group (191 hospitalisations per 100,000 people in 2020-21; $p=0.048$), while the 50-59 age group continued to increase (82 hospitalisations per 100,000 people; $p=0.009$).

The rate of hospitalisations with a mental and behavioural disorder due to substance use in the 60-69 age group increased from 7.0 in 1999-00 to 40 hospitalisations per 100,000 people in 2015-16, and declining subsequently, including a significant decline from 2019-20 to 2020-21 (26 to 23 hospitalisations per 100,000 people, respectively; $p<0.001$) (Table A5).

Remoteness Area of Usual Residence

In 2020-21, the rate of hospitalisations with a principal diagnosis of mental and behavioural disorder due to substance use was highest in remote and very remote areas (155 per 100,000 people) and lowest in inner regional areas (95 per 100,000 people). It varied, however, depending on the principal diagnosis. The rate of dependence-related hospitalisations was highest in major city areas (53 per 100,000 people), while drug-induced psychotic disorder, withdrawal-related, harmful use and acute intoxication hospitalisations were highest in remote and very remote areas (91, 16, 21 and 16 hospitalisations per 100,000 people, respectively).

Between 2019-20 and 2020-21, a decrease in rates of hospitalisation with a principal diagnosis of mental and behavioural disorder due to drug-induced psychotic disorder was recorded in all remoteness areas except for remote and very remote areas. Dependence syndrome-related hospitalisations increased in major city areas ($p<0.001$), while a decrease in rates was observed in inner regional and outer regional areas ($p\leq0.004$). Harmful use and withdrawal-related hospitalisations increased in major city areas ($p<0.001$), while the rates of acute intoxication hospitalisations significantly decreased in inner and outer regional areas ($p<0.001$) (Table A6).

Principal Diagnosis of Drug Poisoning

2020-21

47%

71% Intentional poisoning

21% Unintentional poisoning

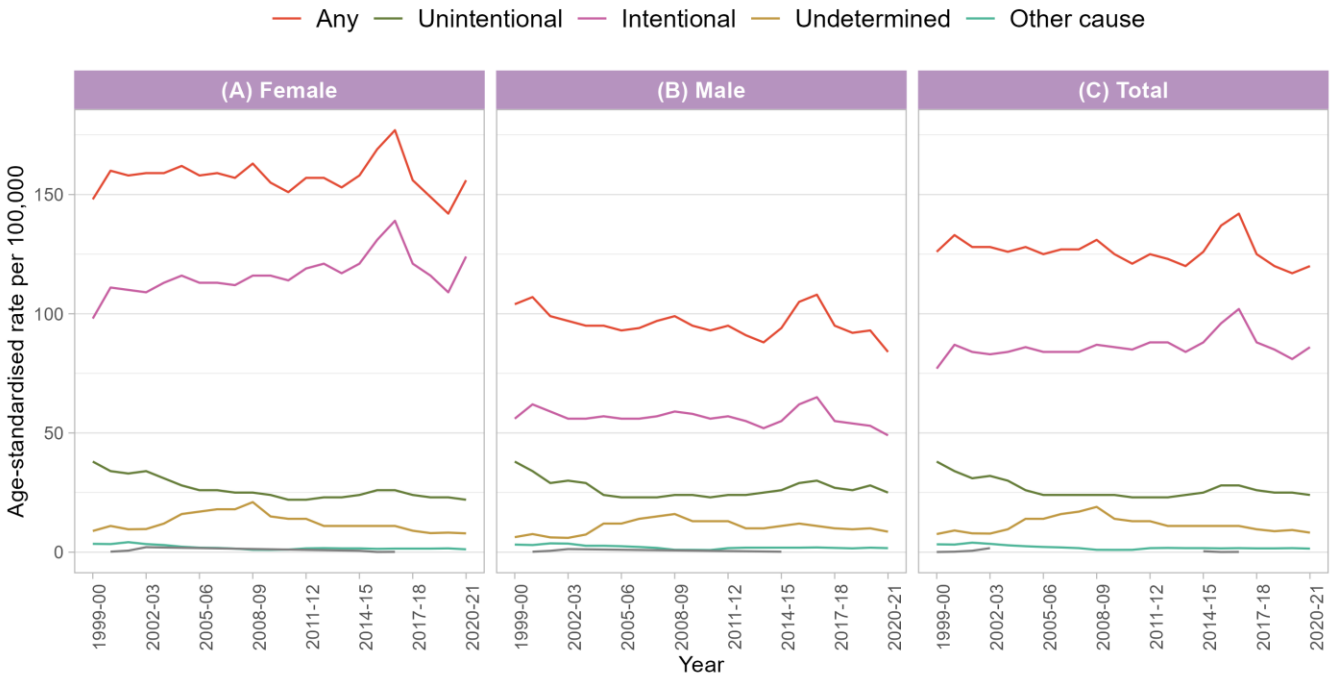
6.9% Undetermined intent

Over the course of monitoring, approximately two-thirds of drug poisonings were intentional (71% in 2020-21).

The rate of intentional drug poisoning was relatively stable between 1999-00 and 2014-15. It peaked at 102 hospitalisations per 100,000 people in 2016-17, decreasing subsequently until 2019-20 (81 hospitalisations per 100,000 people), and then increasing again in 2020-21 (86 hospitalisations per 100,000 people; $p<0.001$) (Figure 6) (Table A7).

By contrast, the rate of hospitalisations for unintentional drug poisoning has remained relatively stable (between 22 and 28 hospitalisations per 100,000 people) since 2005-06 except for a significant decrease from 2019-20 to 2020-21 (25 to 24 hospitalisations per 100,000 people, respectively; $p=0.003$).

Figure 6. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by external cause of poisoning, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Sex

In 2020-21, 71% of intentional drug poisoning hospitalisations were among females. The rate of intentional drug poisoning among females was more than double that observed among males over the course of monitoring. Moreover, the rate of intentional drug poisonings among females increased from 2019-20 to 2020-21 (109 to 124 hospitalisations per 100,000 people, respectively; $p<0.001$) while the rate of among males significantly decreased (53 to 49 per 100,000 people, respectively; $p<0.001$).

By contrast, unintentional drug poisoning hospitalisations were more common among males than females in 2020-21 (52% versus 28%; 25 and 22 per 100,000 people, respectively), but this has fluctuated over the years. Unintentional poisoning hospitalisations among males declined from 28 per 100,000 people in 2019-20 to 25 per 100,000 people in 2020-21 ($p<0.001$); the rate among females remained stable (Table A7).

Age

In 2020-21, intentional drug poisoning was most common among people aged 10-19 (30%, 203 per 100,000 people) and 20-29 (25%, 150 hospitalisations per 100,000 people).

The rate of hospitalisations for the 10-19 age group doubled between 1999-00 and 2012-13, exceeding the rate observed among the 20-29 age group (159 and 127 hospitalisations per 100,000 people, respectively). An increase was further observed from 2019-20 to 2020-21 (150 to 203 hospitalisations per 100,000 people, respectively; $p<0.001$) while a decline was recorded for 30-39, 40-49 and 50-59 age groups ($p<0.005$) (Table A8).

In 2020-21, people aged 20-29 had the highest rate of hospitalisations due to unintentional poisoning (32 per 100,000 people), followed by those aged 40-49 and 30-39 (28 and 26 hospitalisations per 100,000 people, respectively) (Table A8).

Between 1999-00 and 2011-12, the rates of hospitalisations due to unintentional poisoning decreased in the 10-19, 20-29, 30-39 and 40-49 age groups and since remained stable and low in the youngest age group. In contrast, rates of hospitalisations for people aged 20-29, 30-39 and 40-49 increased between 2012-13 until 2015-16, before declining again. In the older age groups (50-59, 60-69 and 70+), rates of hospitalisations steadily increased between 1999-00 to 2016-17, and then generally stabilised.

Remoteness Area of Usual Residence

In 2020-21, the rate of hospitalisations due to intentional drug poisoning was highest in outer regional areas (116 hospitalisations per 100,000 people) and lowest in major city areas and remote and very remote areas (each 80 hospitalisations per 100,000 people, respectively). A recent increase in hospitalisation rates due to intentional drug poisoning was observed in major city areas between 2019-20 and 2020-21 ($p<0.001$) (Table A9).

In contrast, the rate of hospitalisations due to unintentional drug poisoning was highest in remote and very remote areas (31 hospitalisations per 100,000 people) and lowest in inner regional Australia (21 hospitalisations per 100,000 people). In contrast with hospitalisations due to intentional drug poisoning, there was a significant decrease in rates of unintentional drug poisonings in major city areas from 2019-20 to 2020-21 ($p=0.002$) (Table A9).

4

Drug-Related Hospitalisations by Drug

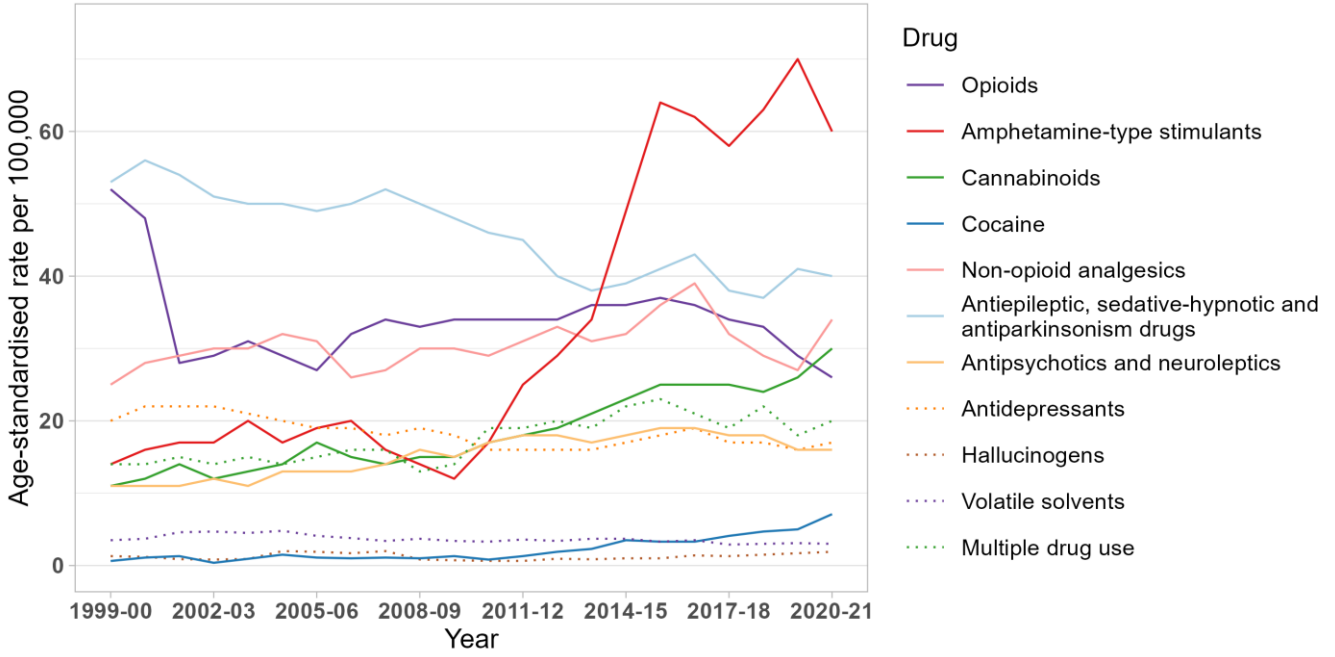
2020-21

23%	16%	13%	12%	11%	6.6%	6.4%	2.8%
Amphetamine-type stimulants	Antiepileptic, sedative-hypnotic and antiparkinsonism drugs	Non-opioid analgesics	Cannabinoids	Opioids	Antidepressants	Antipsychotics and neuroleptics	Cocaine

In 2020-21, the largest number of drug-related hospitalisations among the Australian population were attributable to amphetamine-type stimulants (14,496 hospitalisations, 60 per 100,000 people, 23% of all drug-related hospitalisations), followed by antiepileptic, sedative-hypnotic and antiparkinsonism drugs (e.g., benzodiazepines; 16%), non-opioid analgesics (e.g., paracetamol, 13%), cannabinoids (12%) and opioids (11%) (Figure 7).

From 1999-00 to 2013-14, the highest age-standardised rate of drug-related hospitalisations was observed for a principal diagnosis indicating antiepileptic, sedative-hypnotic and antiparkinsonism drugs, followed typically by opioids and non-opioid analgesics. Since 2014-15, the rate of hospitalisations for amphetamine-type stimulants has surpassed the rate observed for opioids and antiepileptic, sedative-hypnotic and antiparkinsonism drugs, peaking in 2019-20 (70 hospitalisations per 100,000 people). While still the highest rate across all drug classes, there was a decline in hospitalisations for amphetamine-type stimulants from 2019-20 to 2020-21 (60 hospitalisations per 100 people; $p<0.001$).

Figure 7. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by drug identified in the principal diagnosis, 1999-00 to 2020-21.



Compared with the previous year, 2020-21 saw significant decreases in the rate of hospitalisations with a principal diagnosis related to opioids (p<0.001) and amphetamine-type stimulants (p<0.001). In contrast, there were significant increases in the rate of hospitalisations with non-opioid analgesics (p<0.001), cannabinoids (p<0.001), cocaine (p<0.001) and multiple drug use (p<0.001) (Table A10).

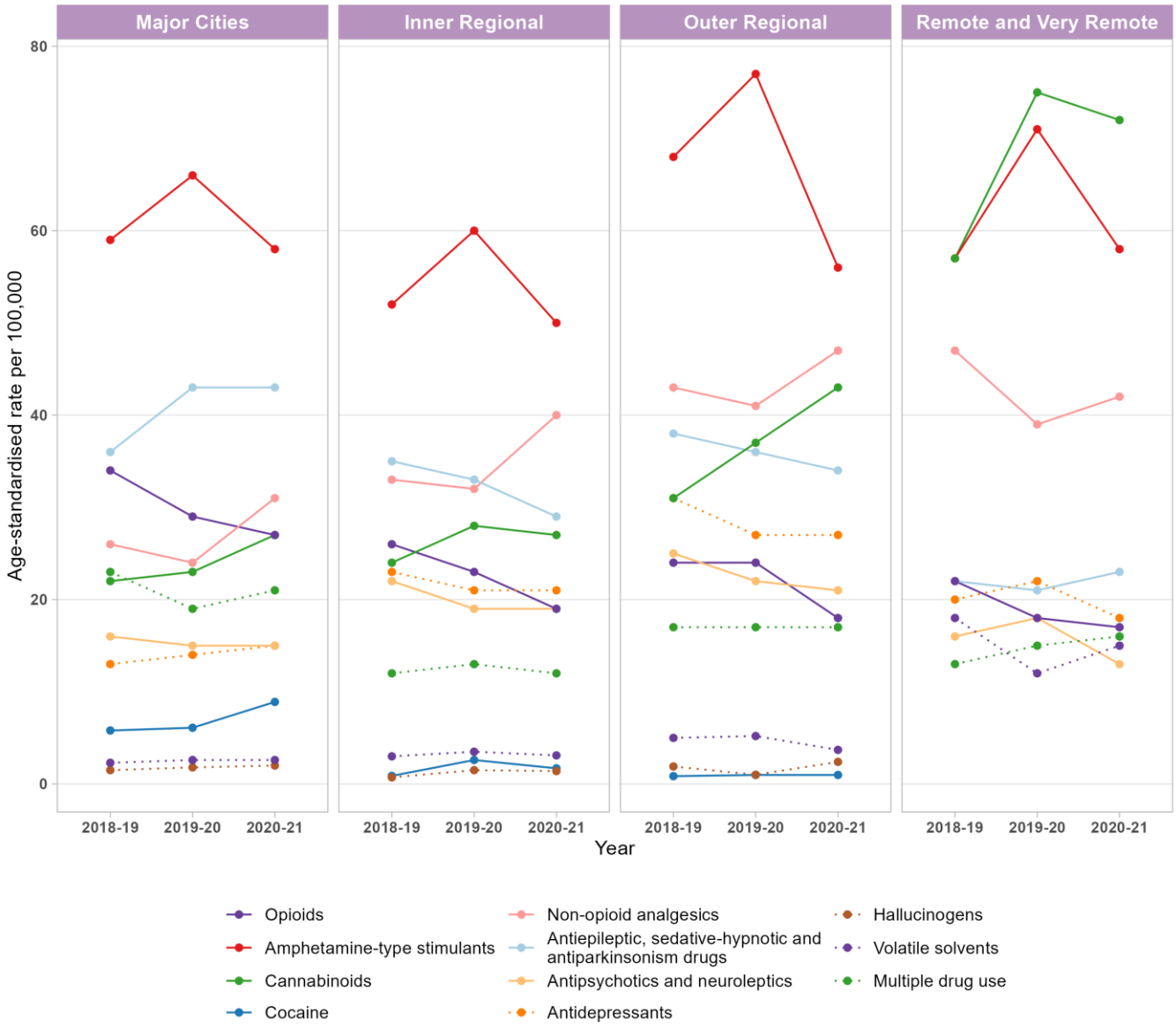
Detailed description of trends over the course of monitoring for opioid-, amphetamine-type stimulant-, cannabinoid-, and cocaine-related hospitalisations are included below.

Drug Type and Remoteness Area of Usual Residence

In 2020-21, amphetamine-type stimulants was the most common drug class identified as the principal diagnosis for drug-related hospitalisations in all areas, except for remote and very remote areas where cannabinoid-related hospitalisations were the most common (Figure 8).

Detailed description of the distribution of selected drug-related hospitalisation rates across remoteness areas can be found in the subsequent sections.

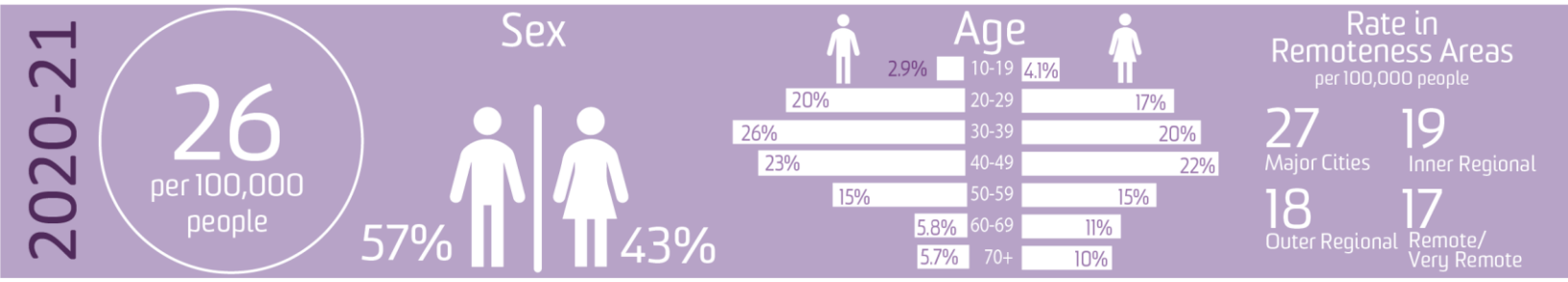
Figure 8. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug type identified in the principal diagnosis and remoteness area, among the Australian population, 2020-21.



Note: Age-standardised rates are not shown for remote and very remote areas for some drug types because the number of hospitalisations was less than or equal to 10. Please refer to our methods document for details.

5

Opioid-Related Hospitalisations



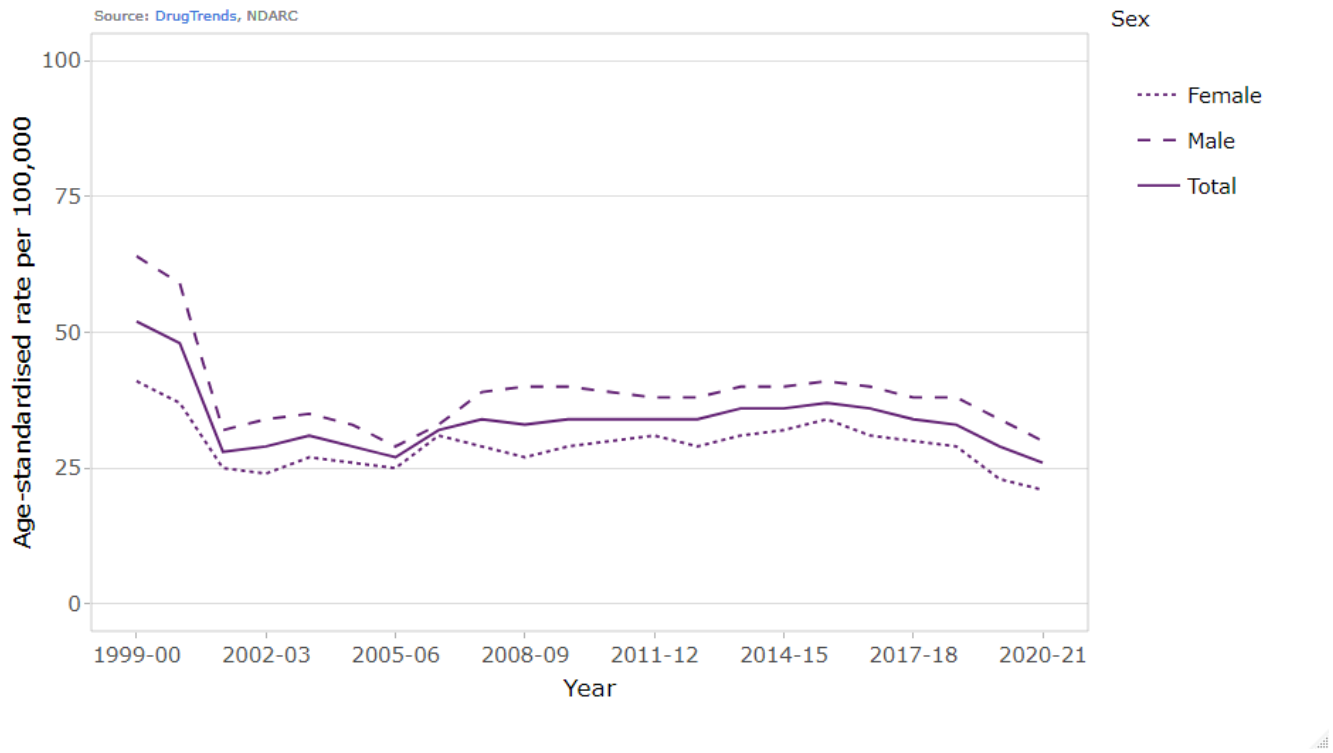
The following findings describe opioid-related hospitalisations due to illicit opioids (e.g., heroin), opioids used for the treatment of pain (e.g., oxycodone) and opioids used for the treatment of opioid dependence (e.g., methadone).

In 2020-21, there were 6,568 hospitalisations with a principal diagnosis related to opioids (26 hospitalisations per 100,000 people). A decrease in the rate of opioid-related hospitalisations has been observed since 2016-17, including a further decrease from 2019-20 (29 hospitalisations per 100,000 people) to 2020-21 (p<0.001) (Figure 9) (Table A12).

Sex

There were more opioid-related hospitalisations among males than females in 2020-21 (30 versus 21 hospitalisations per 100,000 people), with 57% 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 was smaller in 2020-21 as compared to 1999-00 (Figure 9). Despite these sex differences, the rate of opioid-related hospitalisations among both males and females significantly decreased from 2019-20 to 2020-21 (34 and 23 per 100,000 people in 2019-20; p<0.001) (Table A12).

Figure 9. Age-standardised rate per 100,000 people of opioid-related hospitalisations among the total Australian population and for males and females, 1999-00 to 2020-21.



Age

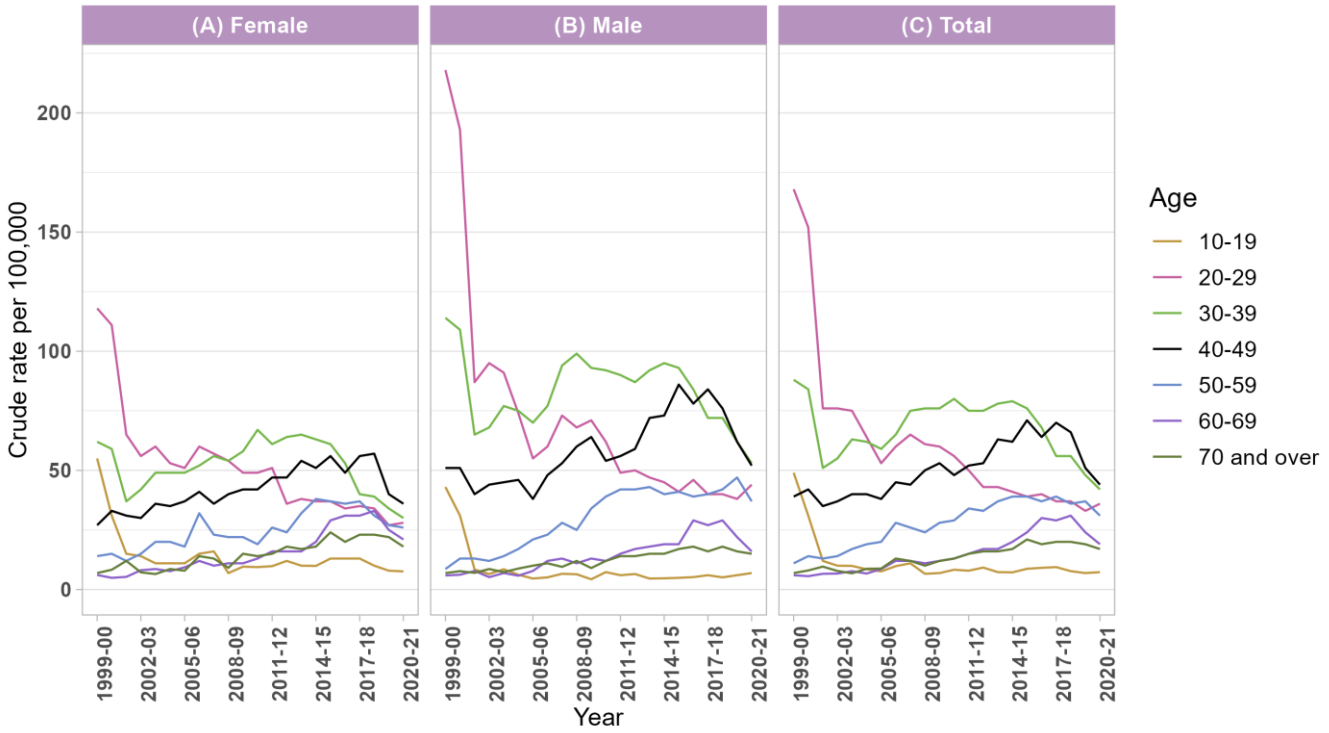
In 2020-21, the highest rate of opioid-related hospitalisations occurred among the 40-49 age group for the fourth consecutive year (44 hospitalisations per 100,000 people; 1,454 hospitalisations; 22%), followed by the 30-39 (42 per 100,000 people; 1,570 hospitalisations; 24%), 20-29 (36 per 100,000 people; 1,236 hospitalisations; 19%), and 50-59 (31 per 100,000 people; 988 hospitalisations; 15%) age groups.

The lowest rates were among the 60-69 (19 hospitalisations per 100,000 people; 520 hospitalisations; 7.9%), 70 and over (17 per 100,000 people; 506 hospitalisations; 7.7%), and 10-19 (7.3 per 100,000 people; 227 hospitalisations; 3.5%) age groups.

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), accounting for 71% of all opioid-related hospitalisations. The rate of hospitalisations has, however, declined in these age groups, increasing among older Australians. Indeed, the rate of opioid-related hospitalisations was three times higher in 2020-21 compared to 1999-00 for the 50-59 (31 versus 11 hospitalisations per 100,000 people) and 60-69 (19 versus 6 hospitalisations per 100,000 people) age group and over two times higher for those aged 70 and older (17 versus 7 hospitalisations per 100,000 people) (Figure 10).

Compared to 2019-20, the age group 20-29 was the only one for which the opioid-related hospitalisation rate increased significantly. There were significant decreases observed in the 30-39, 40-49, 50-59, 60-69 and 70 and over age groups in 2020-21 (p<0.030) (Table A12).

Figure 10. Crude rate per 100,000 people of opioid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 1999-00 to 2020-21.



Note: The rates for the 0-9 years age group are not presented due to sensitivity of the data.

Sex and Age

Trends in opioid-related hospitalisations for males and females by age group follow a similar pattern as described above (Figure 10).

Remoteness Area of Usual Residence

In 2020-21, the rate of opioid-related hospitalisations was highest in major city areas (27 hospitalisations per 100,000 people; 5,032 hospitalisations), followed by inner regional (19 per 100,000 people; 874 hospitalisations), outer regional (18 per 100,000 people; 375 hospitalisations), and remote and very remote areas (17 per 100,000 people; 82 hospitalisations) (Figure 8).

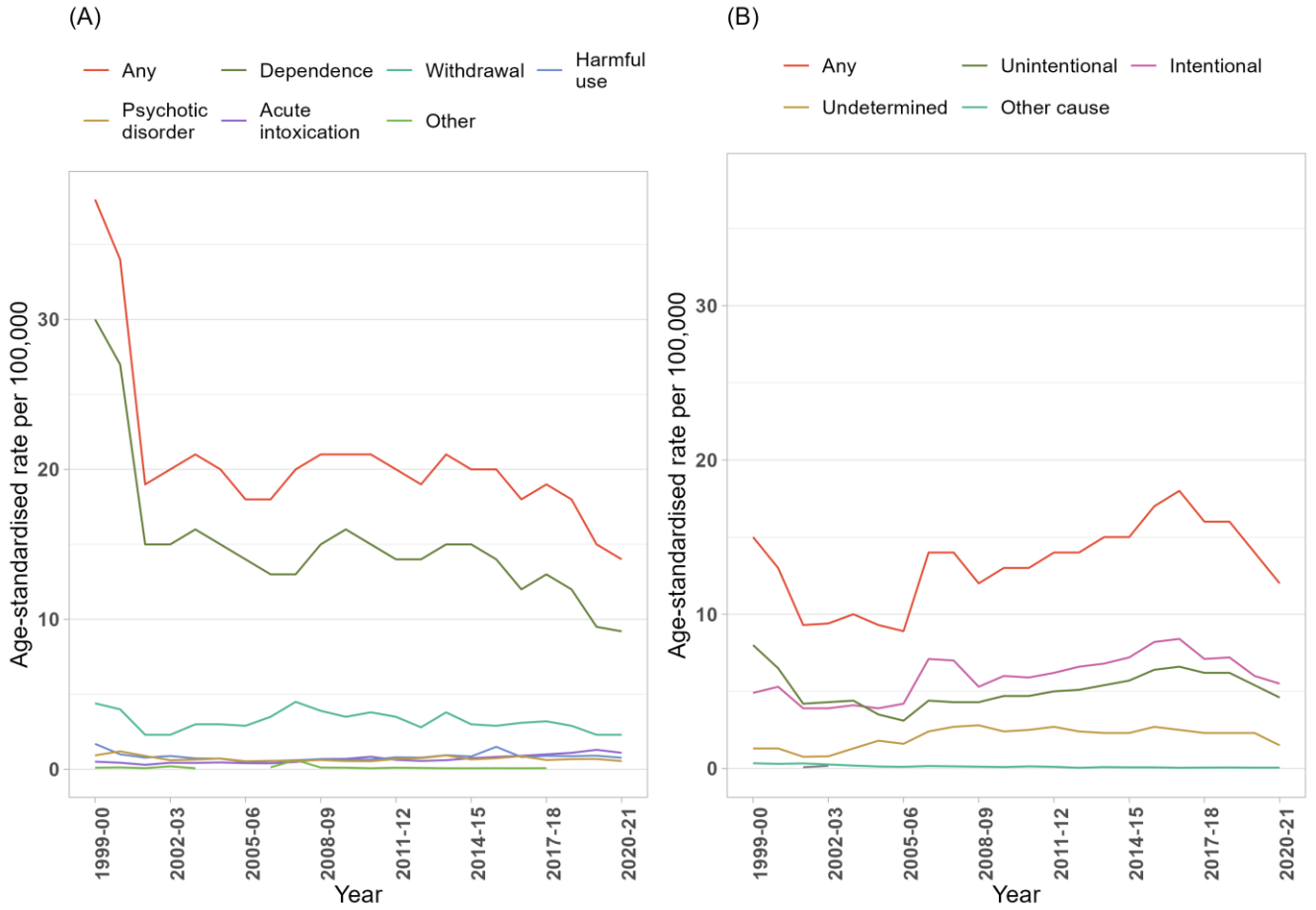
Compared to 2019-20, the rate of opioid-related hospitalisations in 2020-21 decreased significantly in all remoteness areas except for remote and very remote areas. This decrease was most pronounced in outer regional Australia (24 to 18 hospitalisations per 100,000 people, respectively; p<0.001) (Table A11).

Principal Diagnosis

In 2020-21, nearly half (46%) of all opioid-related hospitalisations were due to opioid poisoning (3,042 hospitalisations; 12 per 100,000 people), with more of these poisonings determined to be intentional (46%; 1,1408 hospitalisations; 5.5 per 100,000 people) than unintentional (41%; 1,240 hospitalisations; 4.6 per 100,000 people) (Table A14). Mental and behavioural disorder due to use of opioids accounted for the other half of opioid-related hospitalisations, with dependence syndrome the most commonly identified principal diagnosis among these hospitalisations (65%; 2,294 hospitalisations; 9.2 per 100,000 people) (Figure 11) (Table A13).

See the visualisation tool for trends over time by diagnosis type, although it is important to note changes over time may partly reflect changes in coding practices.

Figure 11. Age-standardised rate per 100,000 people of opioid-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Opioid Type

2020-21

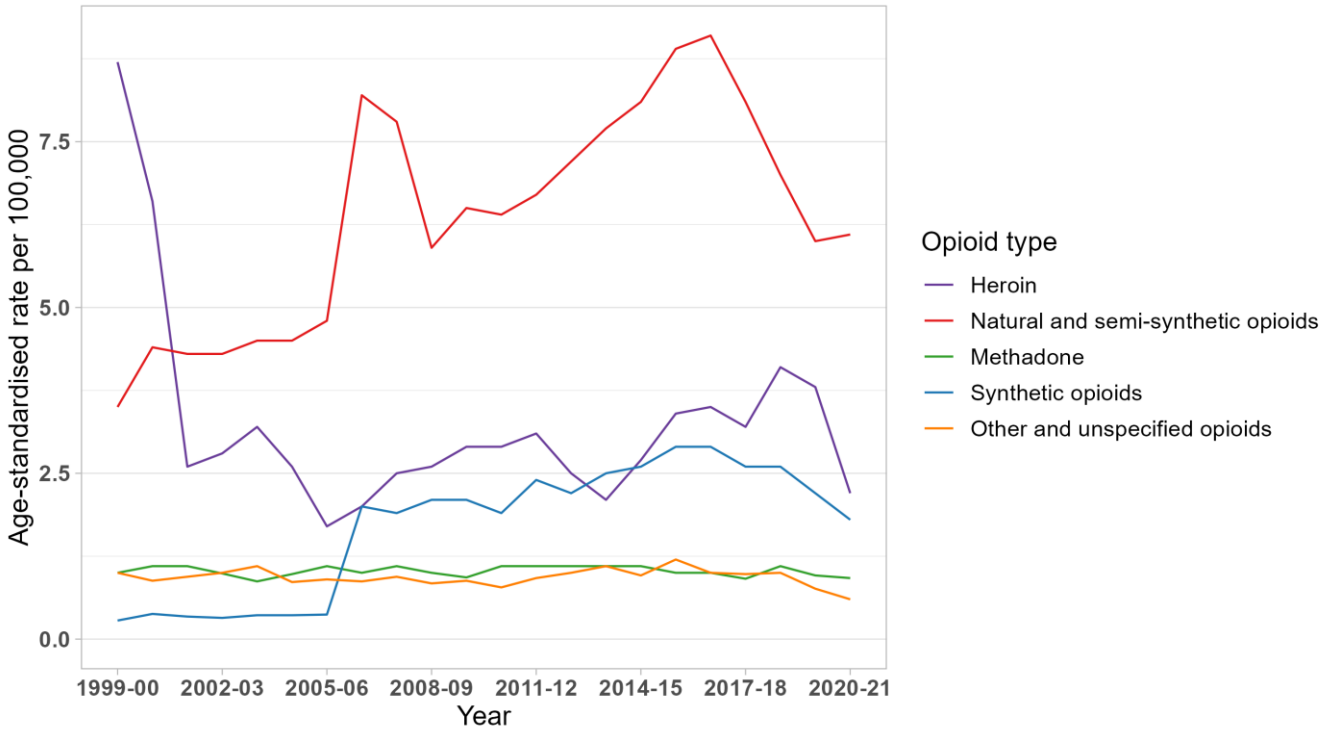
Poisoning 46%

53% Natural and semi-synthetic opioids
18% Heroin
15% Synthetic opioids (e.g., fentanyl, tramadol)
3.6% Methadone
2.5% Other and unspecified opioids

ICD-10-AM coding means that the type of opioid involved in hospitalisations is only identified where the diagnosis relates to opioid poisoning; hospitalisations coded to other diagnosis types (e.g., opioid withdrawal) do not identify the specific opioid involved (see methods document). In this section, we present opioid-related hospitalisations where the principal diagnosis was opioid poisoning and the opioid involved was identified (comprising 46% of all opioid-related hospitalisations in 2020-21; see section on Opioid-related hospitalisations by diagnosis).

Natural and semi-synthetic opioids (e.g., oxycodone, morphine) were responsible for over half (53%) of all hospitalisations due to opioid poisoning in 2020-21. The rate of hospitalisations for natural and semi-synthetic opioid poisoning more than doubled from 1999-00 to 2017-18 (3.5 to 9.1 hospitalisations per 100,000 people, or 674 to 2,262 hospitalisations, respectively) (Figure 12). The rate then decreased to 6.0 hospitalisations per 100,000 people in 2019-20, remaining at a similar level in 2020-21 (6.1 hospitalisations per 100,000 people; p=0.820) (Table A15).

Figure 12. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by opioid type, 1999-00 to 2020-21.



The second most commonly cited opioid in opioid poisonings in 2020-21 was heroin, comprising 18% of all opioid poisoning-related hospitalisations. 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 hospitalisations per 100,000 people). From 2001-02 to 2017-18, the annual rate was 3.5 or fewer hospitalisations per 100,000 people each year. An increase in the rate was observed from 2017-18 to 2018-19 (3.1 to 4.1 hospitalisations per 100,000 people, respectively), followed by a decline from 2019-20 to 2020-21 (3.8 to 2.2 hospitalisations per 100,000 people, respectively; $p<0.001$) (Table A15).

The third most common opioid type, responsible for 15% of hospitalisations due to opioid poisoning in 2020-21, was synthetic opioids (e.g., fentanyl, tramadol). The rate of hospitalisations where poisoning related to synthetic opioids was the principal diagnosis stayed below 0.40 per 100,000 people between 1999-00 and 2005-06. The rate of hospitalisations increased from 0.37 per 100,000 people in 2005-06 to 2.9 in 2016-17 and then decreased, including a decline from 2.2 in 2019-20 to 1.8 hospitalisations per 100,000 people in 2020-21 ($p=0.004$) (Table A15).

Rates of hospitalisations for opioid poisoning were low for methadone and 'other and unspecified opioids' over the period of monitoring (≤1.2 hospitalisations per 100,000 people), with even fewer hospitalisations related to opium (data not shown to protect confidentiality) (Table A15).

Opioid Type and Remoteness Area of Usual Residence

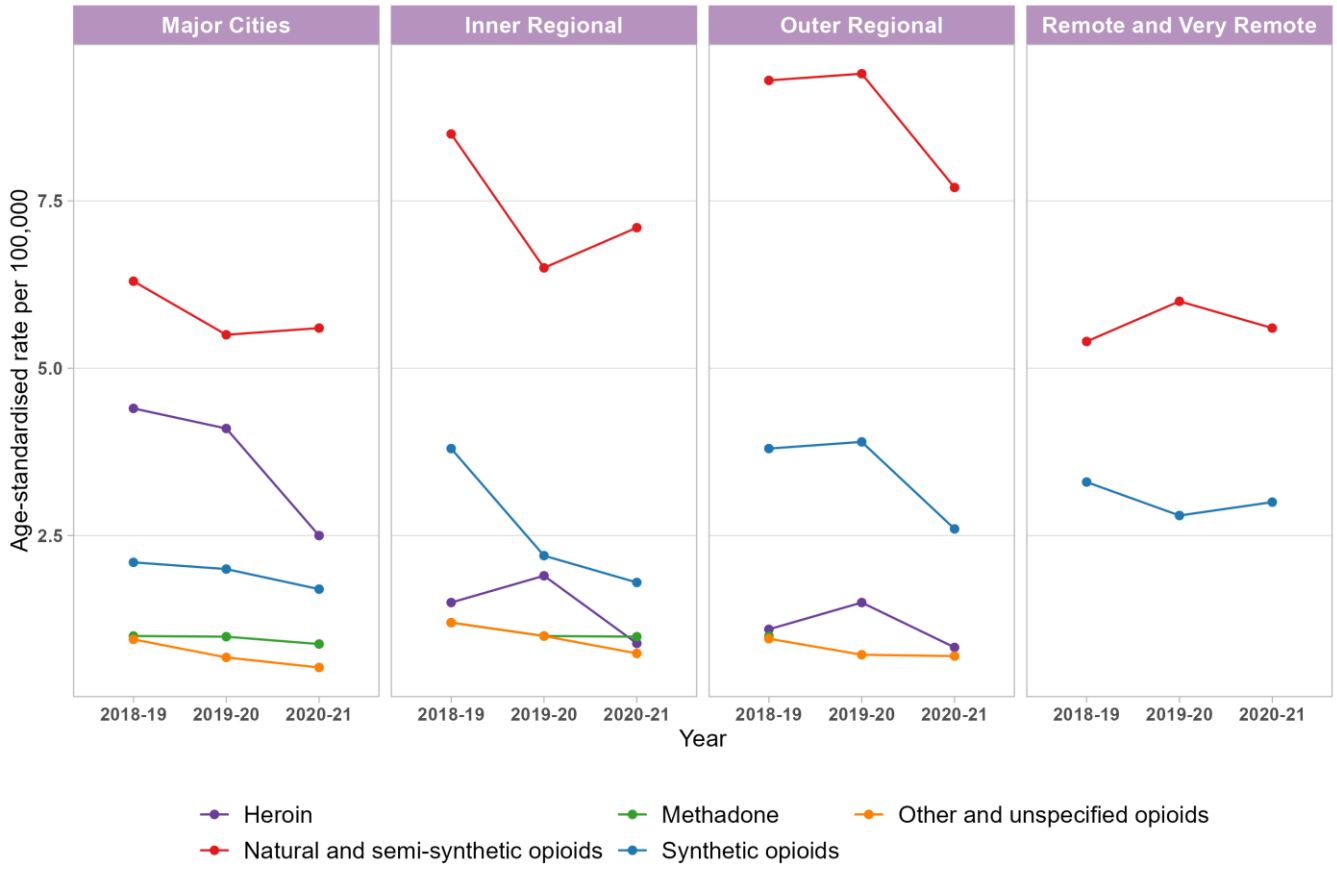
In 2020-21, natural and semi-synthetic opioids were the leading cause of hospitalisations related to opioid poisoning in all remoteness areas. The highest rate was observed in outer regional Australia (7.7 hospitalisations per 100,000 people), followed by inner regional Australia (7.1 hospitalisations per 100,000 people), major city areas (5.6 hospitalisations per 100,000 people) and remote and very remote areas (5.6 hospitalisations per 100,000 people) (Figure 13).

The rate of heroin poisoning hospitalisations was highest in major city areas (2.5 hospitalisations per 100,000 people), nearly three times than the rate in inner regional Australia (0.89 hospitalisations per 100,000 people) and over three times the rate in outer regional Australia (0.83 hospitalisations per 100,000 people). Age-standardised rate and crude rate were not computed for heroin poisoning hospitalisations in remote and very remote Australia because the total number of hospitalisations was too small (n≤5).

In contrast, the rate of synthetic opioid poisoning-related hospitalisations was highest in remote and very remote areas (3.0 hospitalisations per 100,000 people), followed by outer regional (2.6 hospitalisations per 100,000 people) and inner regional areas (1.8 hospitalisations per 100,000 people), and lowest in major city areas (1.7 hospitalisations per 100,000 people).

The rates of hospitalisations due to poisoning by methadone and other and unspecified opioids were low in major city areas and regional Australia (below 1.0 hospitalisations per 100,000 people), while in remote and very remote areas there were less than or equal to 5 hospitalisations for each of these opioid types (hence estimates are not shown, except for methadone crude rate in 2020-21) (Figure 12).

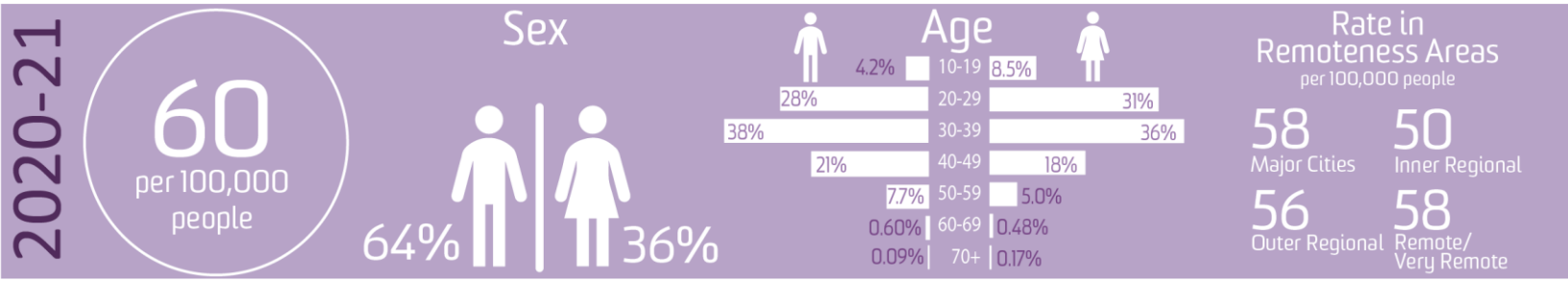
Figure 13. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by remoteness and opioid type, 2018-19 to 2020-21.



Note: Age-standardised rates were not shown for remote and very remote areas with some opioid types because the number of hospitalisations was less than or equal to 10. Please refer to our methods document for details.

6

Amphetamine-type Stimulant-Related Hospitalisations



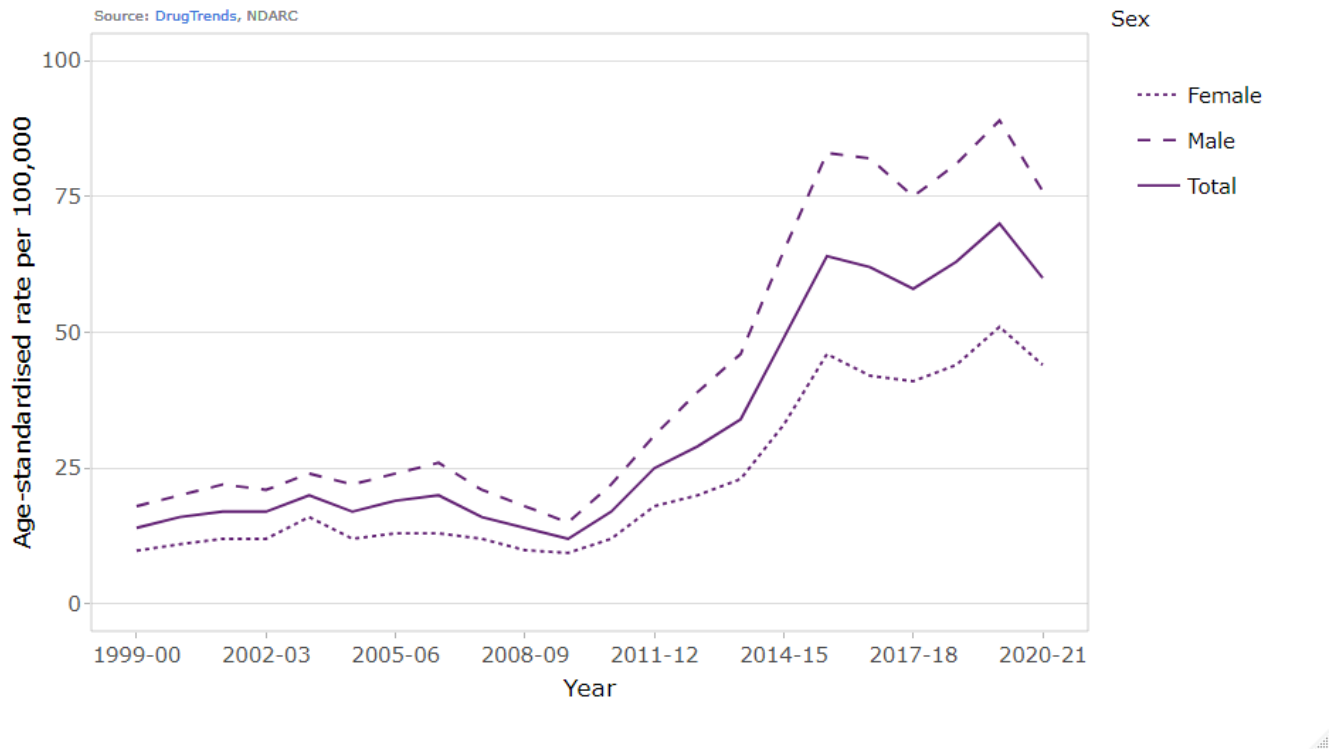
The following findings describe amphetamine-type stimulant-related hospitalisations. This includes methamphetamines, 3,4-methylenedioxymethamphetamine (MDMA, 'ecstasy'), pharmaceutical stimulants such as dexamphetamine, and other stimulants (e.g., caffeine).

In 2020-21, there were 14,496 hospitalisations (60 hospitalisations per 100,000 people) with a principal diagnosis related to amphetamine-type stimulants. After 10 years of relative stability, the rate increased sixfold from 12 hospitalisations per 100,000 people in 2009-10 to a peak of 70 hospitalisation per 100,000 people in 2019-20, before declining to 60 hospitalisations per 100,000 people in 2020-21 (p<0.001) (Figure 14) (Table A16).

Sex

In 2020-21, the rate of hospitalisations related to amphetamine-type stimulants in males was nearly double the rate of females (76 versus 44 per 100,000 people), with 64% of hospitalisations occurring among males (Figure 14). Despite the changes in rates over time, the magnitude of the difference between males and females has remained similar. The rates of hospitalisations significantly decreased for both males and females compared to 2019-20 (89 and 51 hospitalisations per 100,000 people, respectively; p<0.001) (Table A16).

Figure 14. Age-standardised rate per 100,000 people of amphetamine-type stimulant-related hospitalisations among the total Australian population and for males and females, 1999-00 to 2020-21.



Age

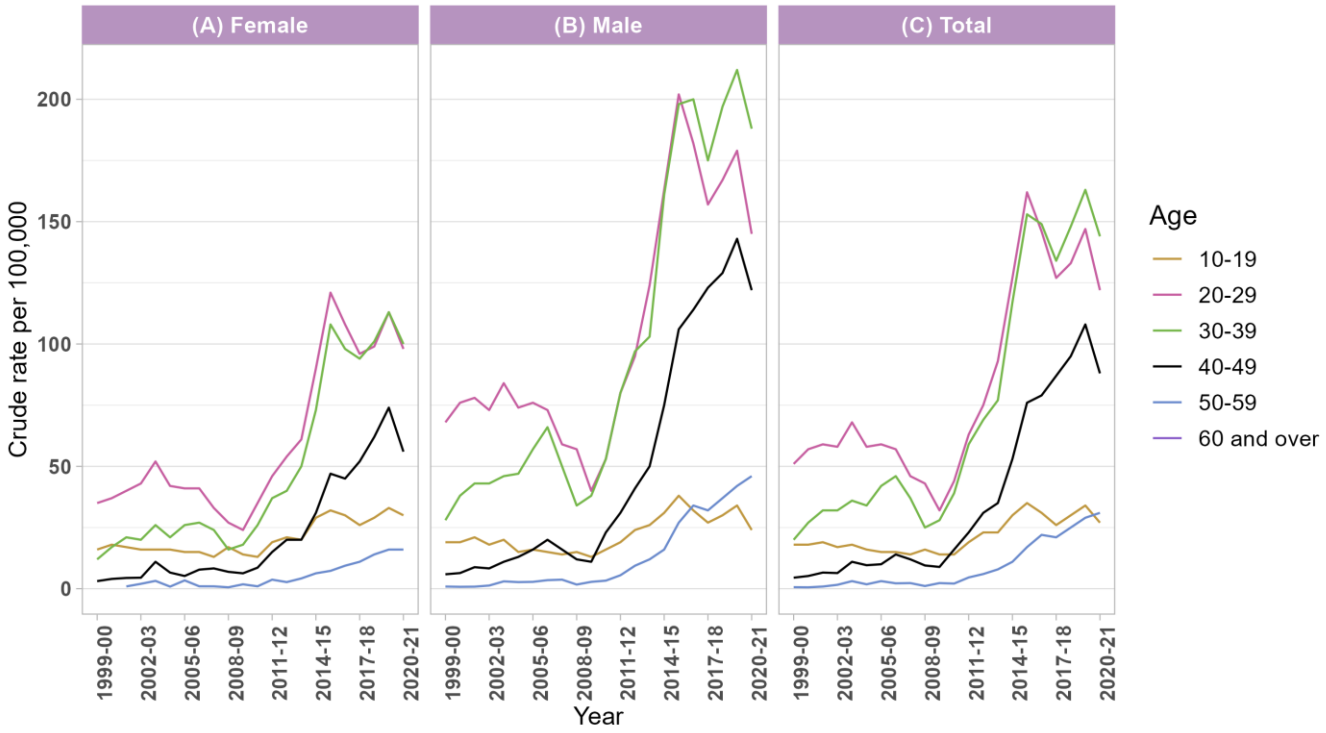
In 2020-21, hospitalisations related to amphetamine-type stimulants were most common among Australians aged 30-39 (37%; 5,417 hospitalisations; 144 hospitalisations per 100,000 people), followed by the 20-29 age group (29%; 4,194 hospitalisations; 122 per 100,000 people), and the 40-49 age group (20%; 2,922 hospitalisations; 88 per 100,000 people). The 20-29 age group had the highest rate of amphetamine-type stimulant-related hospitalisations prior to 2016-17, but has since been exceeded by the 30-39 age group (Figure 15).

Compared to 2019-20, amphetamine-type stimulant-related hospitalisation rates decreased significantly in 2020-21 in the 10-19, 20-29, 30-39 and 40-49 age groups (p<0.001) (Table A16).

Sex and Age

The recent changes in the age demographic described above have mostly been driven by males, with hospitalisations among females remaining largely comparable among the 20-29 and 30-39 age groups (Figure 15).

Figure 15. Crude rate per 100,000 people of amphetamine-type stimulant-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 1999-00 to 2020-21.



Note: Given the small numbers, the age groups 60-69 years and 70 years and over are combined into the 60 years and over age group. Numbers for the 50-59 years and the 60 years and over age groups in the earlier years are small and thus rates are suppressed to protect confidentiality. The rates for the 0-9 years age group are not presented due to sensitivity of the data.

Remoteness Area of Usual Residence

The highest rate of amphetamine-type stimulant hospitalisations in 2020-21 was observed in major city areas and remote and very remote areas (each 57 hospitalisations per 100,000 people, respectively). The lowest rate was in inner regional Australia (50 hospitalisations per 100,000 people) (Figure 8).

The rate of amphetamine-type stimulant related hospitalisations declined significantly in all remoteness areas compared to 2019-20, with the decrease being most prominent in outer regional areas (77 hospitalisations to 56 hospitalisations per 100,000 people in 2019-20 versus 2020-21, respectively; $p<0.001$) (Table A11).

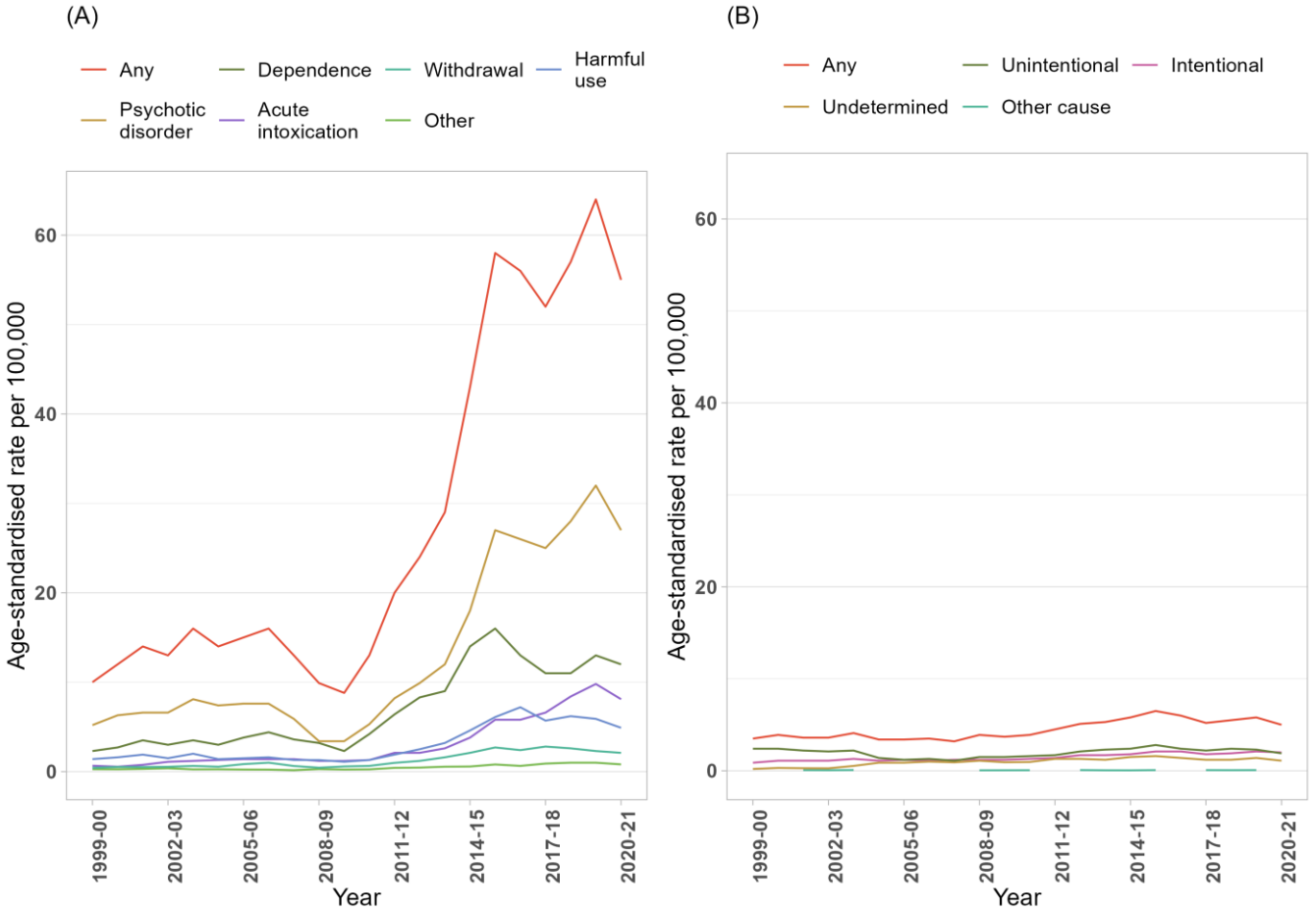
Principal Diagnosis

Over the entire period of monitoring, amphetamine-type stimulant related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder due to substance use (92% in 2020-21). Among those who received a principal diagnosis of mental and behavioural disorder due to use of amphetamine-type stimulants in 2020-21 (13,293 hospitalisations; 52 per 100,000 people), drug-induced psychotic disorder was the main reason for hospitalisation (49%; 6,452 hospitalisations; 25 per 100,000 people), followed by dependence (23%; 2,997 hospitalisations; 12 per 100,000 people) and acute

intoxication (15%; 1,950 hospitalisations; 7.6 per 100,000 people) and all of them declined in the most recent year (Figure 16) (Table A13).

Please refer to the visualisation tool for trends over time by diagnosis type, although it is important to note changes over time may partly reflect changes in coding practices.

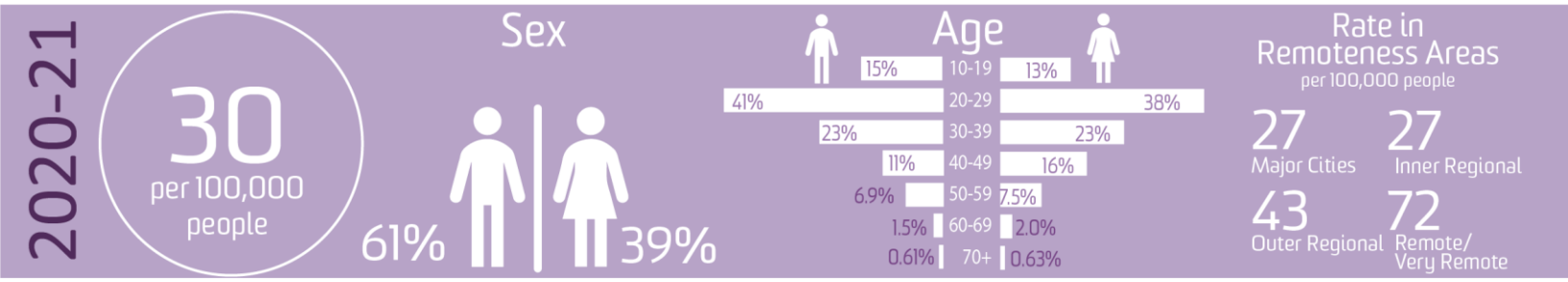
Figure 16. Age-standardised rate per 100,000 people of amphetamine-type stimulant-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

7

Cannabinoid-Related Hospitalisations



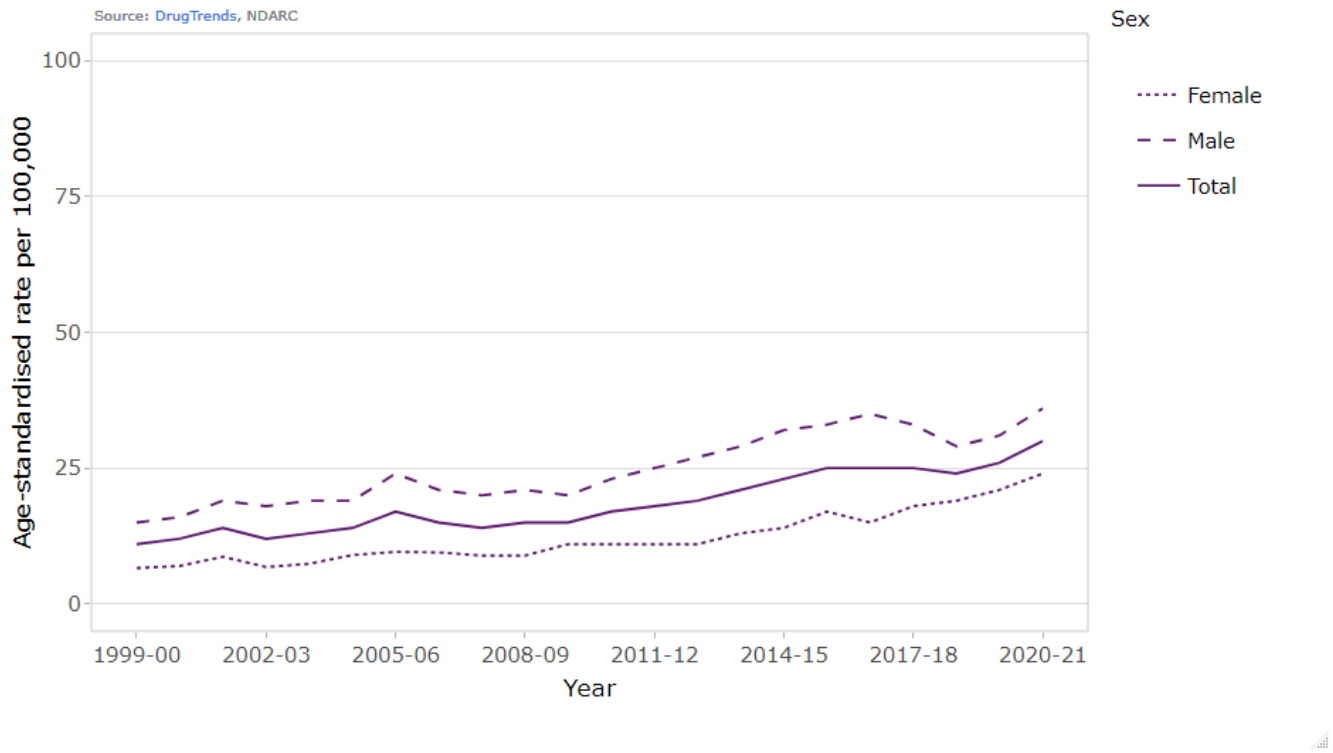
In 2020-21, there were 7,262 cannabinoid-related hospitalisations (including cannabis and synthetic cannabinoids), which equates to an age-standardised rate of 30 hospitalisations per 100,000 people. This was the highest rate recorded over the course of monitoring. It was more than double the rate observed in 1999-00 (11 hospitalisations per 100,000 people), and an increase relative to 2019-20 (26 hospitalisations per 100,000 people; $p<0.001$) (Figure 17) (Table A17).

Sex

In 2020-21, males presented to hospital with a cannabinoid-related principal diagnosis more often than females (4,395 versus 2,861 hospitalisations, respectively; 61% male). This trend has generally remained consistent.

After an observed decrease between 2016-17 and 2018-19 (from 35 to 29 hospitalisations per 100,000 people, respectively), male hospitalisations increased again in 2019-20 and 2020-21 (31 and 36 hospitalisations per 100,000 people; $p<0.001$), reaching the highest level over the course of monitoring. In contrast, the rate of cannabinoid-related hospitalisations among females has continuously increased, particularly from 2016-17 onwards (15 hospitalisations per 100,000 people), reaching a peak of 24 hospitalisations per 100,000 people in 2020-21 (21 hospitalisations per 100,000 people in 2019-20, $p<0.001$) (Figure 17) (Table A17).

Figure 17. Age-standardised rate per 100,000 people of cannabinoid-related hospitalisations among the total Australian population and for males and females, 1999-00 to 2020-21.



Age

In 2020-21, the highest rate of cannabinoid-related hospitalisations was recorded for the 20-29 age group (84 hospitalisations per 100,000 people; 40%), followed by the 30-39 (44 hospitalisations per 100,000 people; 23%) and 10-19 (34 hospitalisations per 100,000 people; 19%) age groups (Figure 18).

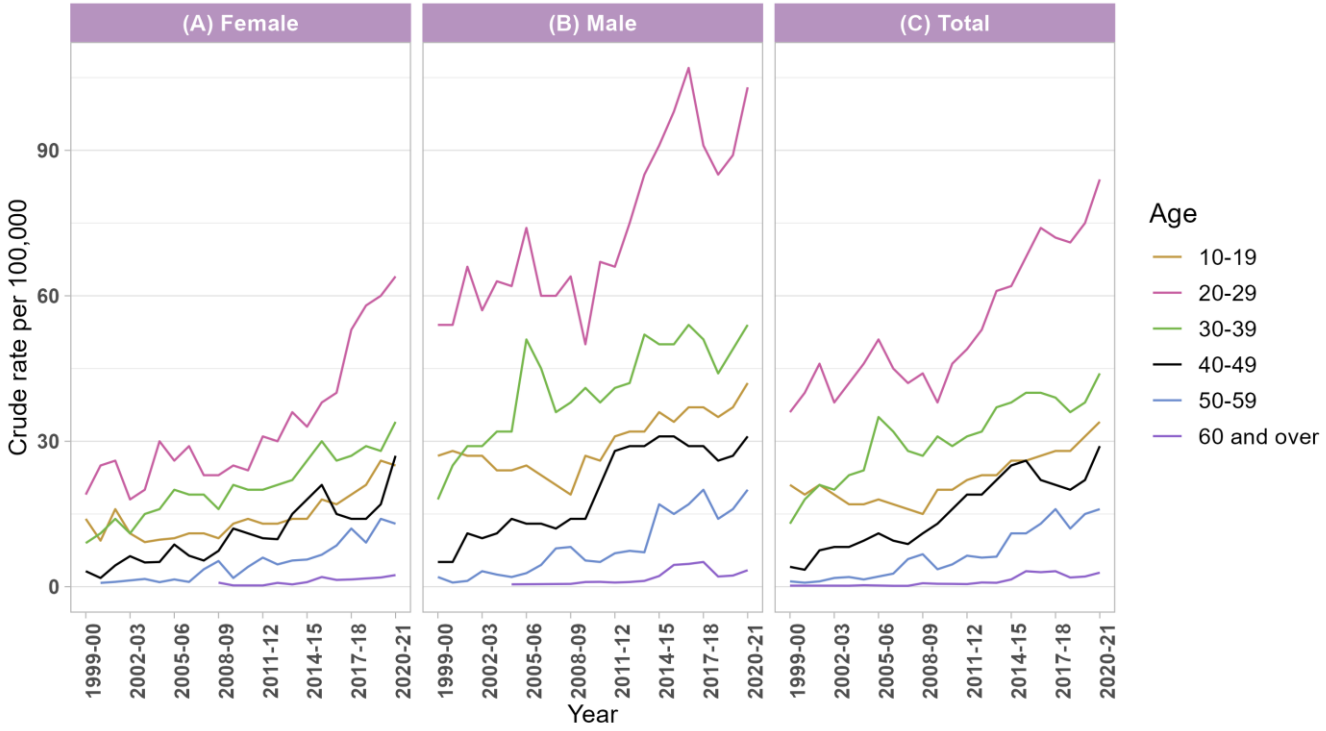
All age groups recorded an increase in cannabinoid-related hospitalisations since 1999-00, with the greatest increase observed in the 20-29 (36 to 84 hospitalisations per 100,000 people), 40-49 (4.1 to 29 hospitalisations per 100,000 people) and 50-59 (1.1 to 16 hospitalisations per 100,000 people) age groups.

Compared to 2019-20, cannabinoid-related hospitalisation rates increased significantly in 2020-21 in the 20-29, 30-39, 40-49 and 60-69 age groups ($p \leq 0.027$) (Table A17).

Sex and Age

In the last six years, we have observed a particular increase in the rates of cannabinoid-related hospitalisations among young females, particularly those aged 20-29 years, while the rate among males aged 20-29 peaked in 2016-17 (Figure 18).

Figure 18. Crude rate per 100,000 people of cannabinoid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 1999-00 to 2020-21.



Note: Given the small numbers, the age groups 60-69 years, and 70 years and over are combined into the 60 years and over age group. Numbers for the 50-59 years, and the 60 years and over age groups in the earlier years are small and thus rates are suppressed to protect confidentiality. The rates for the 0-9 years age group are not presented due to sensitivity of the data.

Remoteness Area of Usual Residence

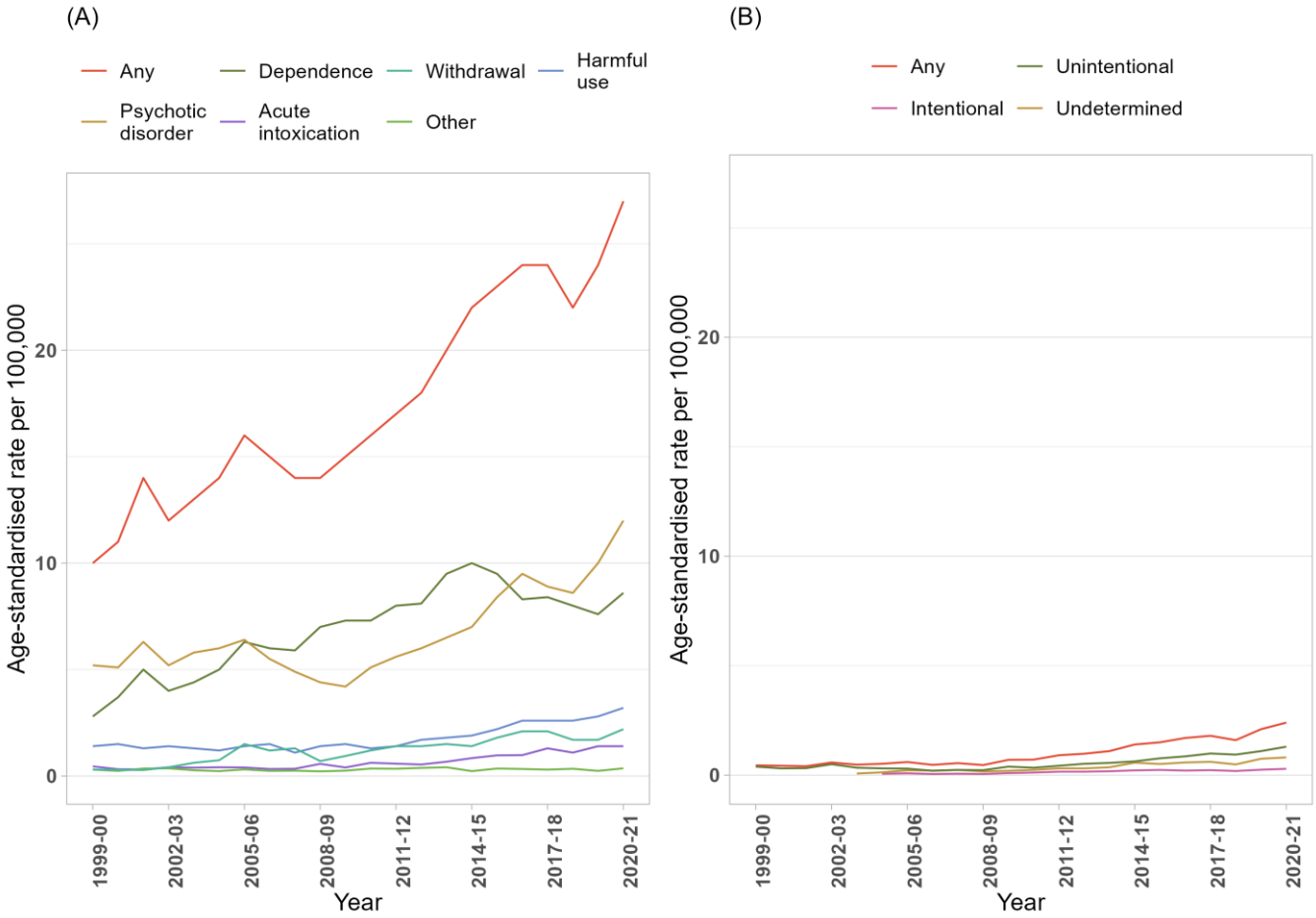
The highest rate of cannabinoid-related hospitalisations was observed in remote and very remote areas, with a rate similar to that observed in 2019-20 (72 versus 75 hospitalisations per 100,000 people in 2020-21; p=0.627). This rate was nearly two times the rate in outer regional Australia (43 hospitalisations per 100,000 people), and nearly three times the rate in inner regional and in major city areas (each 27 hospitalisations per 100,000 people, respectively) (Figure 8). From 2019-20 to 2020-21, the rate increased in major city (from 23 to 27 hospitalisations per 100,000 people; p<0.001) and outer regional (from 37 to 43 hospitalisations per 100,000 people; p=0.004) areas (Table A11).

Principal Diagnosis

Over the period of monitoring, cannabinoid-related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder (92% in 2020-21). Among those who received a principal diagnosis of mental and behavioural disorder due to use of cannabinoids in 2020-21 (6,666 hospitalisations; 27 per 100,000 people), drug-induced psychotic disorder was the main reason for hospitalisation (44%; 2,834 hospitalisations; 12 per 100,000 people), followed by dependence (31%; 2,092 hospitalisations; 8.6 per 100,000 people) (Figure 19) (Table A13).

Please refer to the visualisation tool for trends over time by diagnosis type, although it is important to note changes over time may partly reflect changes in coding practices.

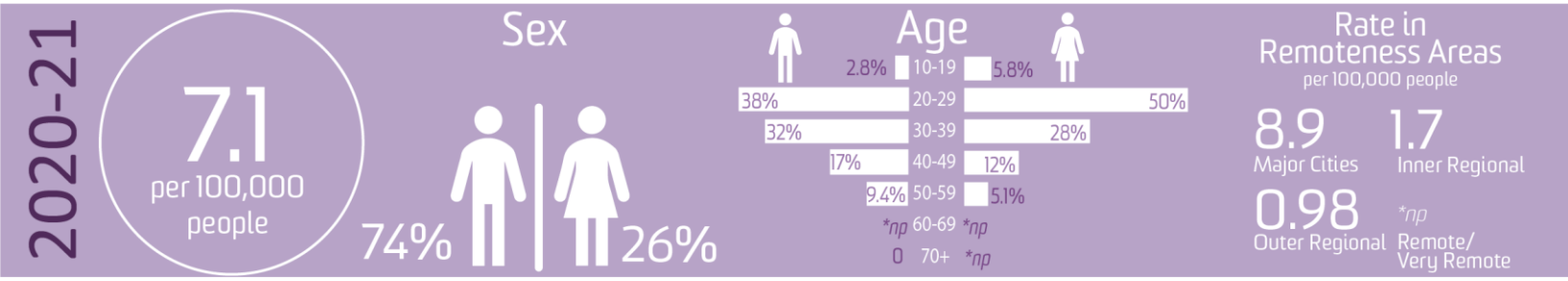
Figure 19. Age-standardised rate per 100,000 people of cannabinoid-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

8

Cocaine-Related Hospitalisations



Note: **np* means data not publishable due to numbers being too small to present.

In 2020-21, there were 7.1 cocaine-related hospitalisations per 100,000 people (1,722 hospitalisations). This represents a significant increase from 2019-20 (p<0.001) (Table A18), and a continuing upward trend observed over the course of monitoring, particularly from 2010-11 to 2018-19 (Man et al., 2021).

Sex

In 2020-21, there were 10 cocaine-related hospitalisations per 100,000 people among males and 3.7 hospitalisations per 100,000 people among females (1,272 versus 450 hospitalisations; 74% male). The aforementioned increase in the rate of cocaine-related hospitalisations between 2010-11 and 2020-21 was driven mostly by an increase in hospitalisations among males (Figure 20A). Between 2019-20 and 2020-21, however, there was a significant increase in the rate of cocaine-related hospitalisations among both males and females (8.1 to 10 and 1.9 to 3.7 hospitalisations per 100,000 people, respectively; p<0.001) (Table A18).

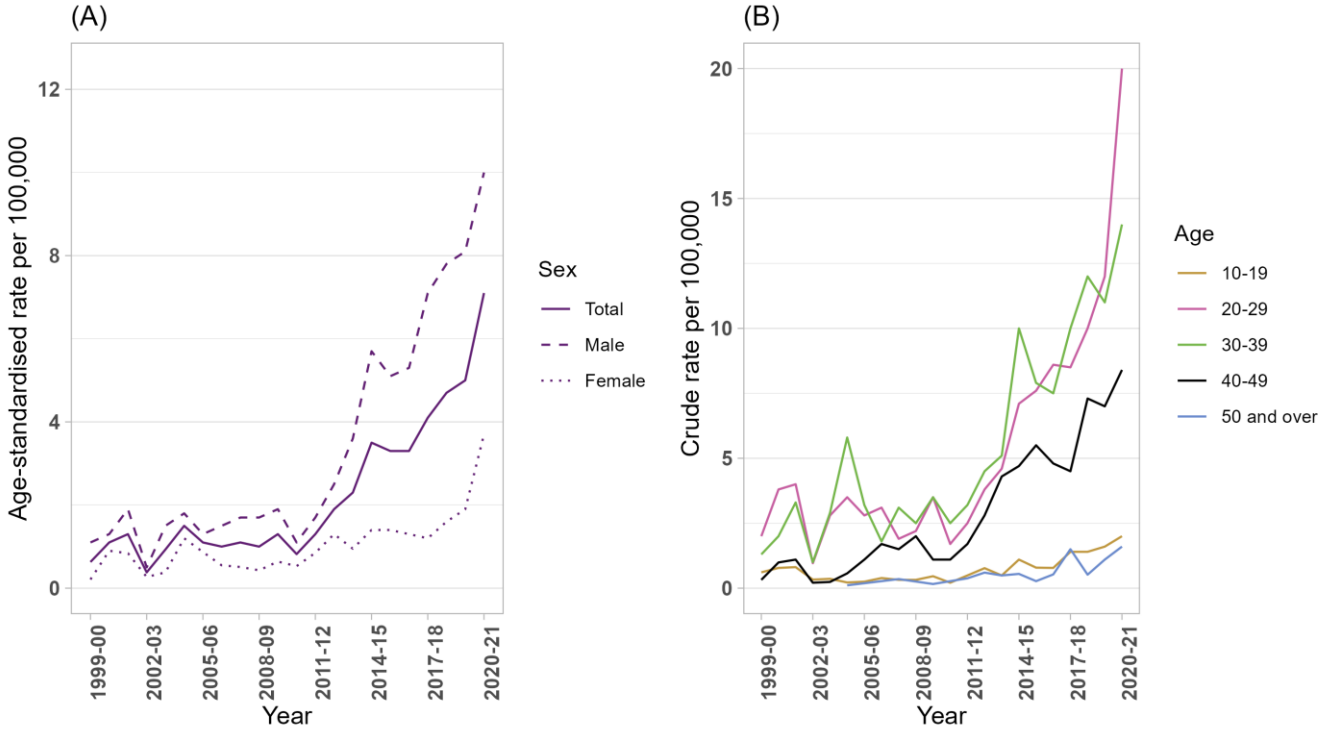
Age

In 2020-21, the majority of cocaine-related hospitalisations occurred among people aged 20-29 (55%) and 30-39 (31%), with particular increases in the rate of cocaine-related hospitalisations over time occurring among these two age groups (Figure 20B). However, the rate of cocaine-related hospitalisations increased significantly between 2019-20 and 2020-21 among all age groups except 10-19 (p≤0.046), reaching a peak of 20 hospitalisations per 100,000 people for the 20-29 age group, 14 hospitalisations per 100,000 people for the 30-39 age group, 8.4 hospitalisations per 100,000 people for the 40-49 age group and 4.4 hospitalisations per 100,000 people for the 50-59 age group (Table A18).

Sex and Age

The small number of hospitalisations precludes reporting of estimates disaggregated by both age and sex.

Figure 20. Age-standardised rate per 100,000 people of cocaine-related hospitalisations among the Australian population by sex (A) and crude rate per 100,000 people of cocaine-related hospitalisations among the Australian population by age group (B), 1999-00 to 2020-21.



Note: Numbers for age groups 50-59 years (before 2004-05), 60-69 and 70 years and over are small, thus data is presented for a collapsed group of 50 years and over, with rates suppressed in earlier years to protect confidentiality. The rates for the 0-9 years age group are not presented due to sensitivity of the data.

Remoteness Area of Usual Residence

In 2020-21, the rate of cocaine-related hospitalisations was highest in major city areas (8.9 hospitalisations per 100,000 people). This rate was five times higher than that for inner regional areas (1.7 hospitalisations per 100,000 people) and nine times higher than that for outer regional areas (0.98 hospitalisations per 100,000 people) (Figure 8).

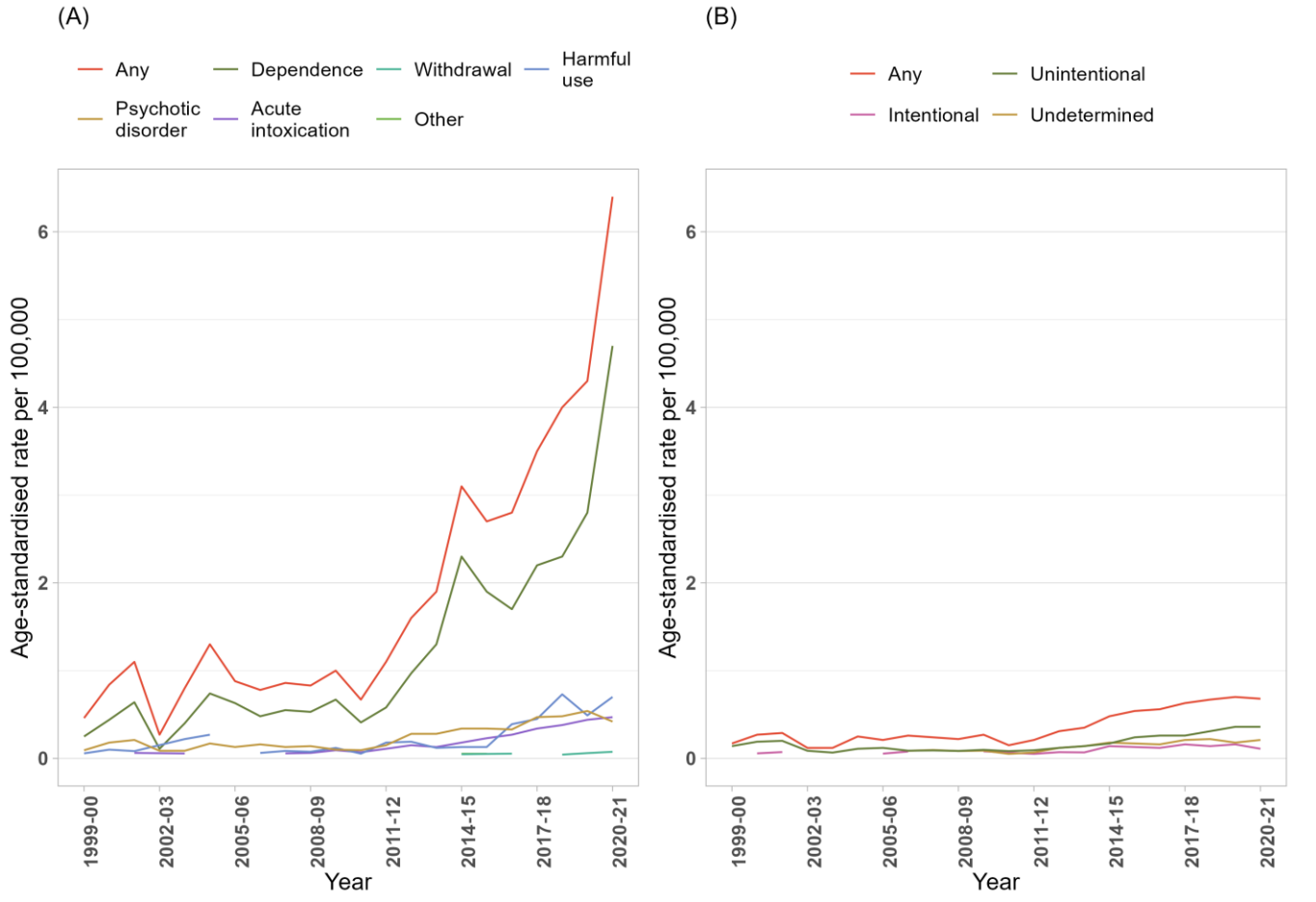
In 2020-21, a particular increase in the rate of cocaine-related hospitalisations was recorded in major city areas compared to 2019-20, from 6.1 to 8.9 hospitalisations per 100,000 people (p<0.001). A decrease in the rate of cocaine-related hospitalisations was observed in inner regional Australia (2.6 to 1.7 hospitalisations per 100,000 people; p=0.008) (Table A11).

Principal Diagnosis

Over the course of monitoring, cocaine-related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder (91% in 2020-21). Among those who received a principal diagnosis of mental and behavioural disorder due to use of cocaine in 2020-21 (1,557 hospitalisations; 6.4 per 100,000 people), dependence syndrome was the main reason for hospitalisation (73%; 1,144 hospitalisations; 4.7 per 100,000 people), followed by harmful use (11%; 170 hospitalisations; 0.70 per 100,000 people) and acute intoxication (7.4%; 115 hospitalisations; 0.47 per 100,000 people) (Figure 21) (Table A13).

Please refer to the visualisation tool for trends over time by diagnosis type, although it is important to note changes over time may partly reflect changes in coding practices.

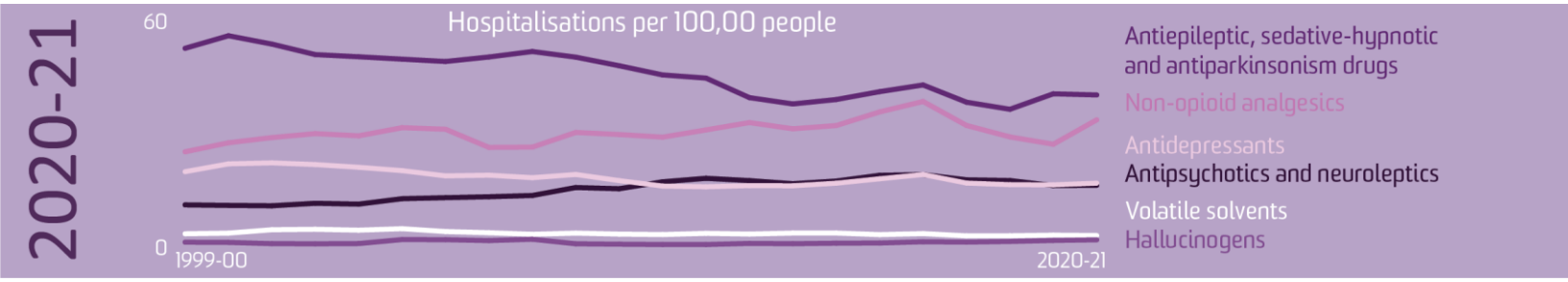
Figure 21. Age-standardised rate per 100,000 people of cocaine-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

9

Hospitalisations Related to Other Drugs



There was 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 37 hospitalisations per 100,000 people in 2018-19, although this increased significantly in 2019-20 and remained at a similar level in 2020-21 (41 and 40 hospitalisations per 100,000 people, respectively) (Figure 7). In 2020-21, less than half of hospitalisations related to antiepileptic, sedative-hypnotic and antiparkinsonism drugs involved benzodiazepines (45%, 4,585 hospitalisations, 18 hospitalisations per 100,000 people).

After increasing between 1999-00 and 2016-17, the rate of **non-opioid analgesic** hospitalisations has shown a recent decrease. Specifically, the rate of hospitalisations decreased from 39 to 27 hospitalisations per 100,000 people from 2016-17 to 2019-20 and significantly increased again in 2020-21 (32 hospitalisations per 100,000 people; $p<0.001$) (Figure 7).

Antidepressant-related hospitalisations dropped from 20 per 100,000 people in 1999-00 to 16 per 100,000 people in 2011-12, while **psychotic and neuroleptic**-related hospitalisations increased in the same time period from 11 to 18 per 100,000 people. Since then, those two rates have remained relatively stable and similar (Figure 7).

The rate of **volatile solvent**-related hospitalisations has been low and stable, ranging between 4.8 per 100,000 people in 2004-05 and 2.9 per 100,000 people in 2017-18 (Figure 7).

The rate of **hallucinogen**-related hospitalisations has been the lowest of all drug types since 2008-09. However, there has been a steady increase observed from 2011-12 to 2020-21 (0.64 to 1.9 hospitalisations per 100,000 people, respectively) (Figure 7).

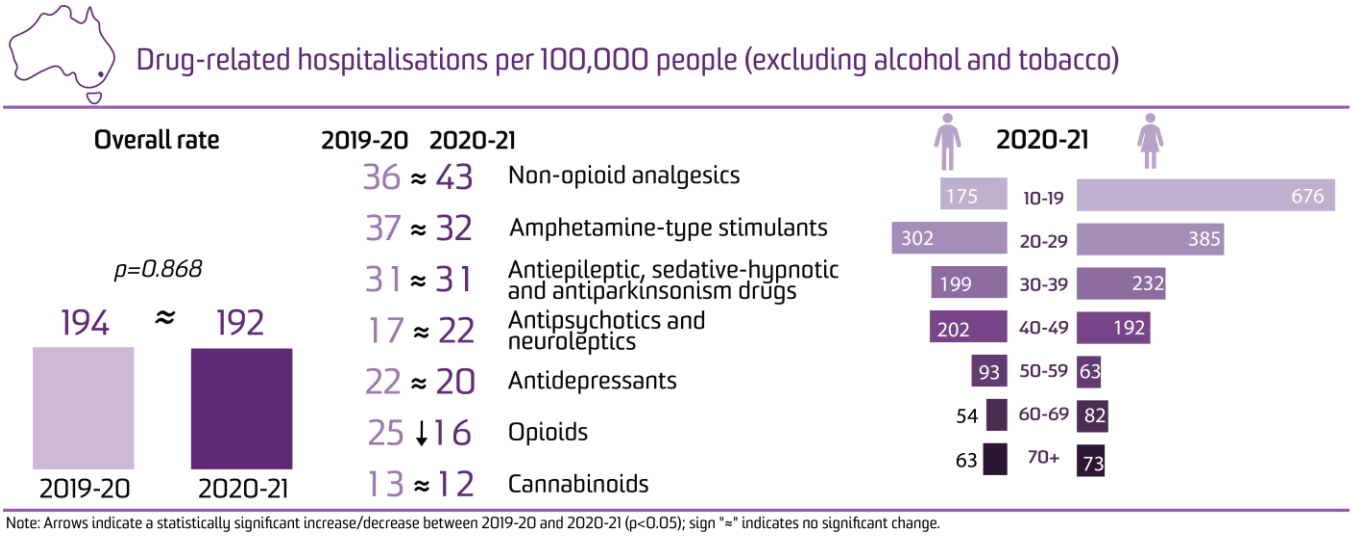
Please see the visualisation tool for trends over time by sociodemographic characteristics and diagnosis type for these drug classes.

10

Drug-Related Hospitalisations by Jurisdiction

The below sections describe trends in drug-related hospitalisations for each jurisdiction from 1999-00 to 2020-21. We encourage caution when interpreting these figures given the small number of hospitalisations in less populous jurisdictions (e.g., Northern Territory, Tasmania). Data on the number and rate (crude and/or age-standardised) of hospitalisations by sex, age group and drug type for each jurisdiction can be obtained from the publicly-accessible online interactive data visualisation. Data by remoteness area are not reported for the Australian Capital Territory as over 99.8% of the population reside in major city areas, and data on remoteness area for Queensland are only provided for 2019-20 and 2020-21. Data by remoteness area are available for all other jurisdictions from 2012-13 to 2020-21.

Australian Capital Territory



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 (p<0.05); sign "≈" indicates no significant change.

There were 875 hospitalisations with a drug-related principal diagnosis in the Australian Capital Territory in 2020-21.

This is equivalent to 192 hospitalisations per 100,000 people, which was similar to the rate in 2019-20 (194 hospitalisations per 100,000 people) (Table A19) and higher than the rate in 1999-00 (125 hospitalisations per 100,000 people) (Figure 22).

Sex

The rate of hospitalisations was higher among females than males in 2020-21 (234 versus 150 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 10-19 age group, followed by the 20-29 and 30-39 age groups (426, 346, and 215 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 20-29 age group, and among females in the 10-19 age group.

Remoteness Area of Usual Residence

Over 99.8% of the population in the Australian Capital Territory resided in major city areas and the remaining resided in inner regional areas. For this reason, data on hospitalisations by remoteness area are not presented.

External Cause of Drug Poisoning

Two-thirds (69%) of drug-related hospitalisations in the Australian Capital Territory were due to drug poisoning. Furthermore, 77% of drug poisoning-related hospitalisations were intentional (105 hospitalisations per 100,000 people) and 16% were unintentional (21 hospitalisations per 100,000 people) (Figure 23).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating non-opioid analgesics (43 hospitalisations per 100,000 people (Figure 24).

Compared to 2019-20, there was a significant decrease in the rate of hospitalisations involving opioids in 2020-21 (p=0.004) (Table A19).

Figure 22. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, the Australian Capital Territory, 1999-00 to 2020-21.

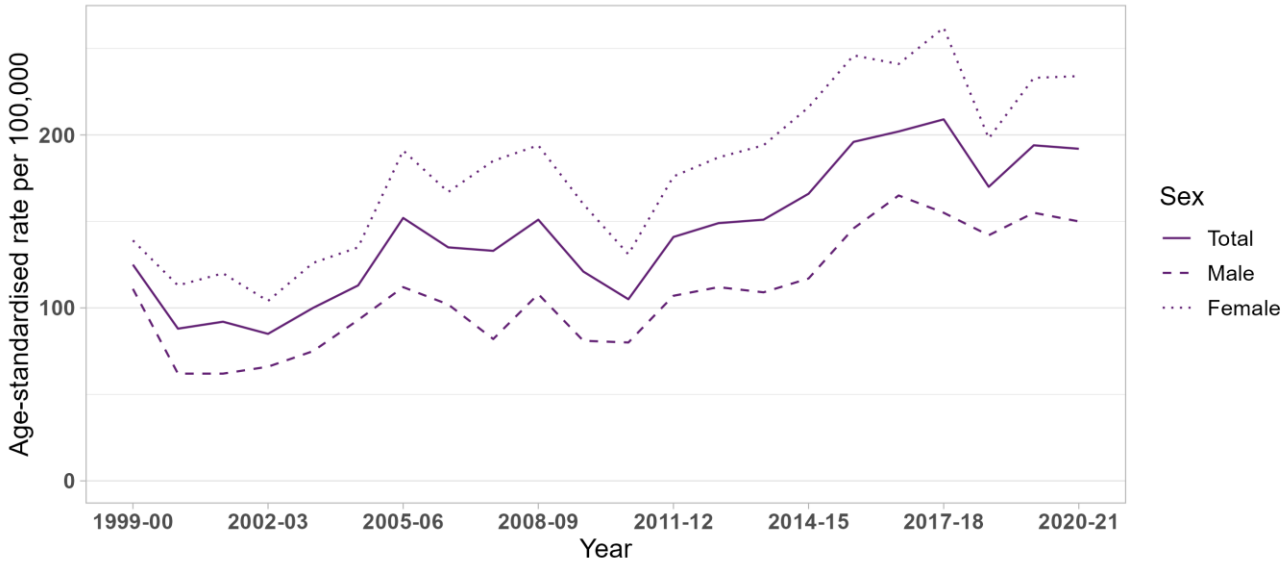
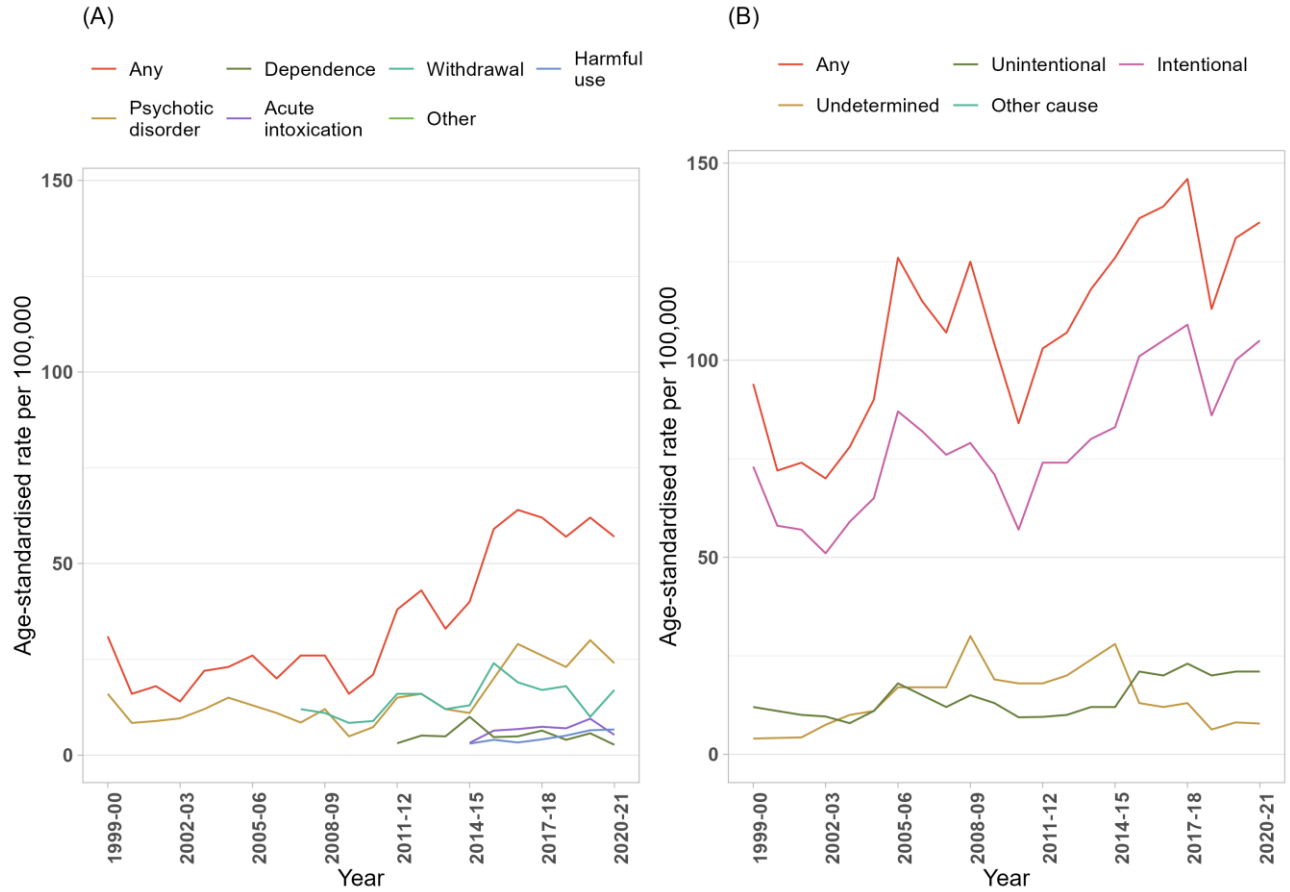
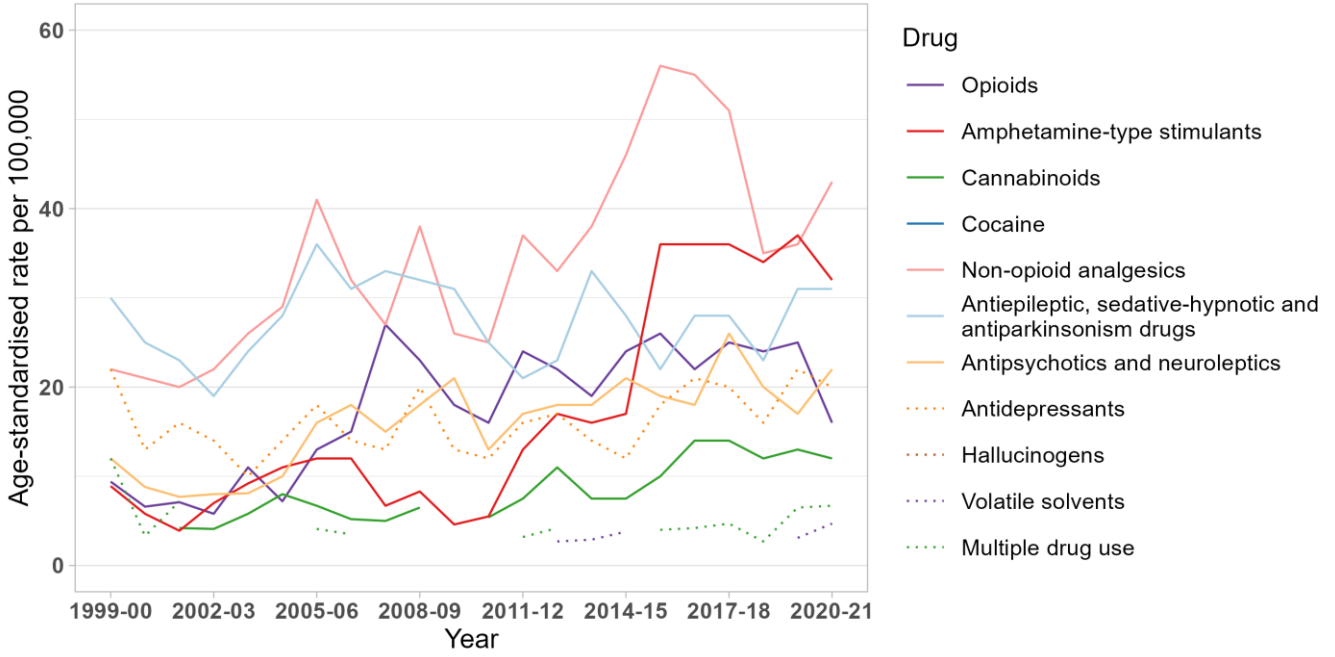


Figure 23. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), the Australian Capital Territory, 1999-00 to 2020-21.



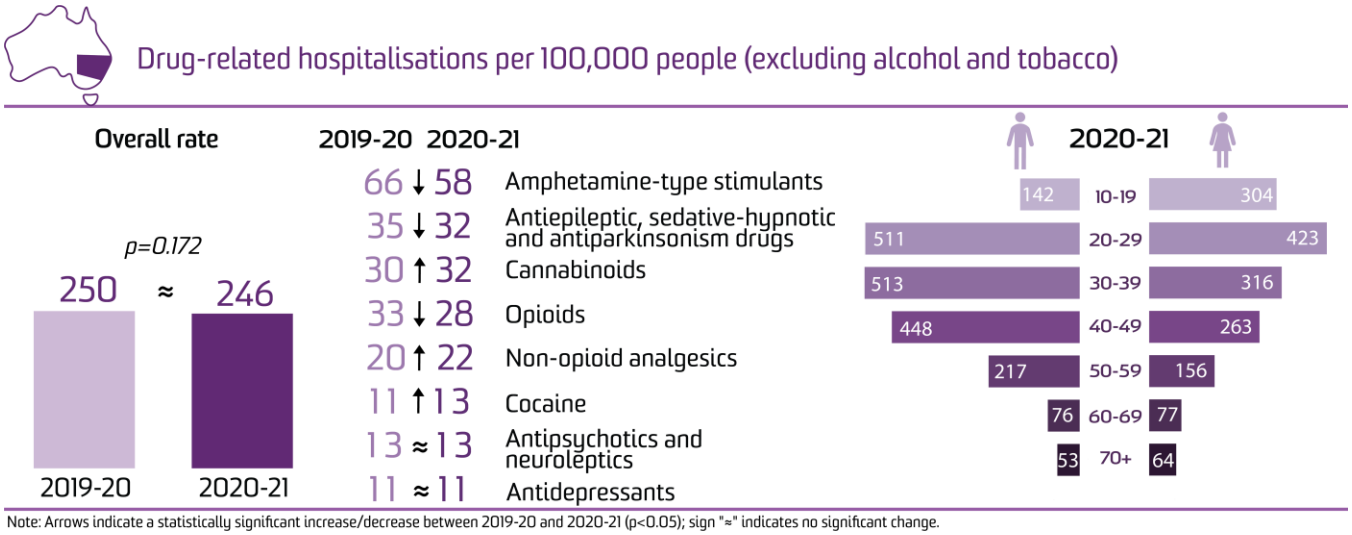
Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Figure 24. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, the Australian Capital Territory, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

New South Wales



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 ($p<0.05$); sign "≈" indicates no significant change.

There were 18,957 hospitalisations with a drug-related principal diagnosis in New South Wales in 2020-21, equivalent to 0.57% of all hospitalisations in New South Wales.

This is equivalent to 246 hospitalisations per 100,000 people, which is similar to the rate in 2019-20 (250 hospitalisations per 100,000 people; p=0.172) (Table A20), but an increase from 223 hospitalisations per 100,000 people in 1999-00 (Figure 25).

Sex

In 2020-21, the rate of hospitalisations was higher among males than females (273 versus 220 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 40-49 age groups (469, 414, and 355 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 30-39 and 20-29 age groups, and among females in the 20-29 age group.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2020-21 was observed in remote and very remote New South Wales (81 hospitalisations, 279 per 100,000 people), while the number of hospitalisations was highest in major city areas (14,945 hospitalisations, 250 per 100,000 people) (Figure 26).

External Cause of Drug Poisoning

In 2020-21, 34% of drug-related hospitalisations in New South Wales were due to drug poisoning. Furthermore, 69% of drug poisoning related hospitalisations were intentional (59 hospitalisations per 100,000 people) and 23% were unintentional (18 hospitalisations per 100,000 people) (Figure 27).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (58 hospitalisations per 100,000 people) (Figure 28).

Compared to 2019-20, there were significant decreases in 2020-21 in the rates of hospitalisations related to amphetamine-type stimulants; antiepileptic, sedative-hypnotic and antiparkinsonism drugs; and opioids (p<0.050) (Table A20).

In contrast, there were significant increases in the rates of hospitalisations related to multiple drug use; cannabinoids; non-opioid analgesics; and cocaine (p<0.050) (Table A20).

Figure 25. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, New South Wales, 1999-00 to 2020-21.

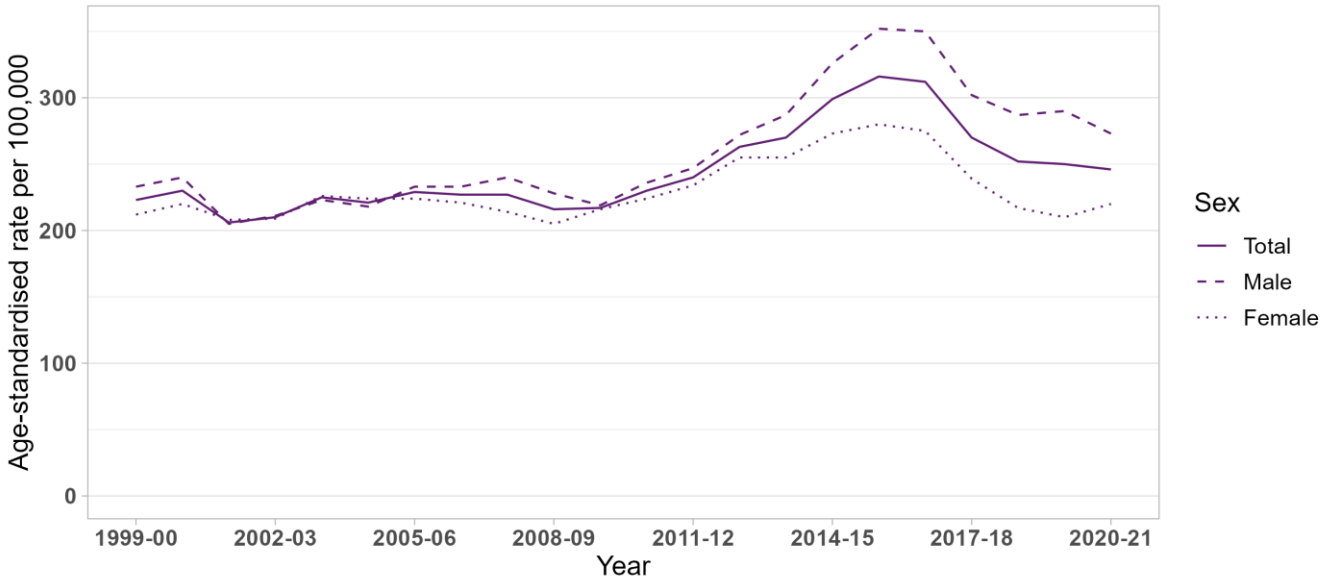
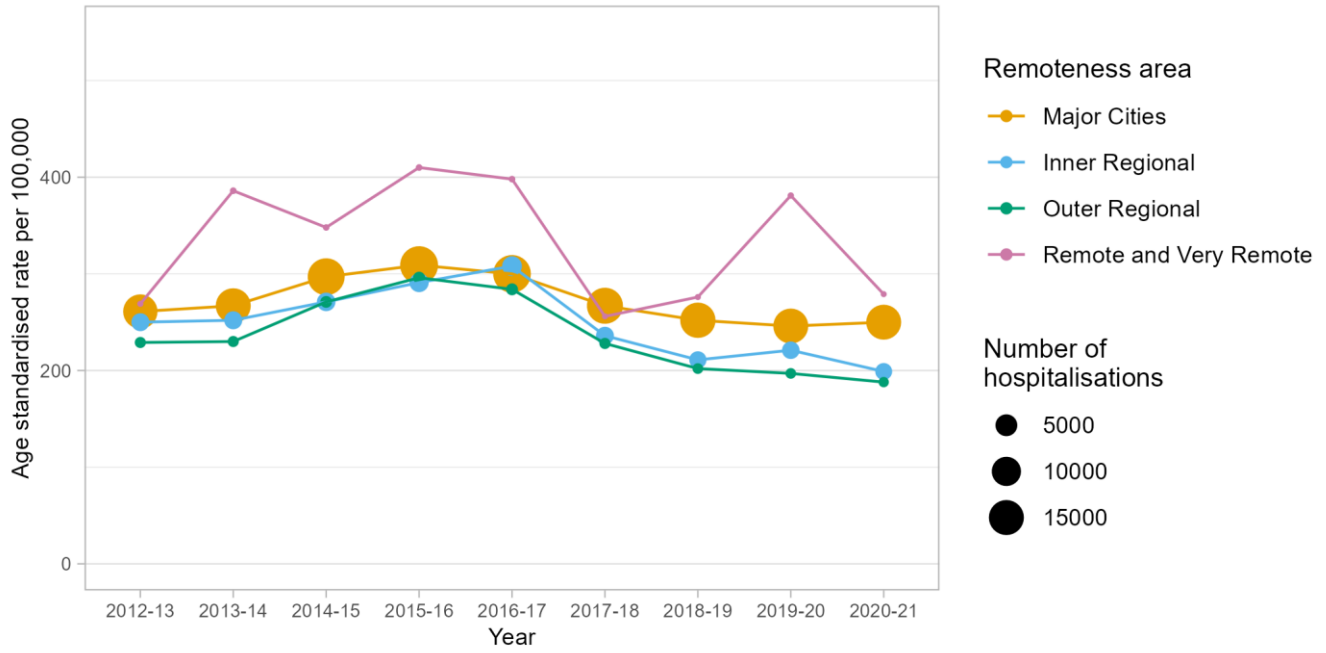


Figure 26. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, New South Wales, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. Data on remoteness are only available from 2012-13.

Figure 27. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), New South Wales, 1999-00 to 2020-21.

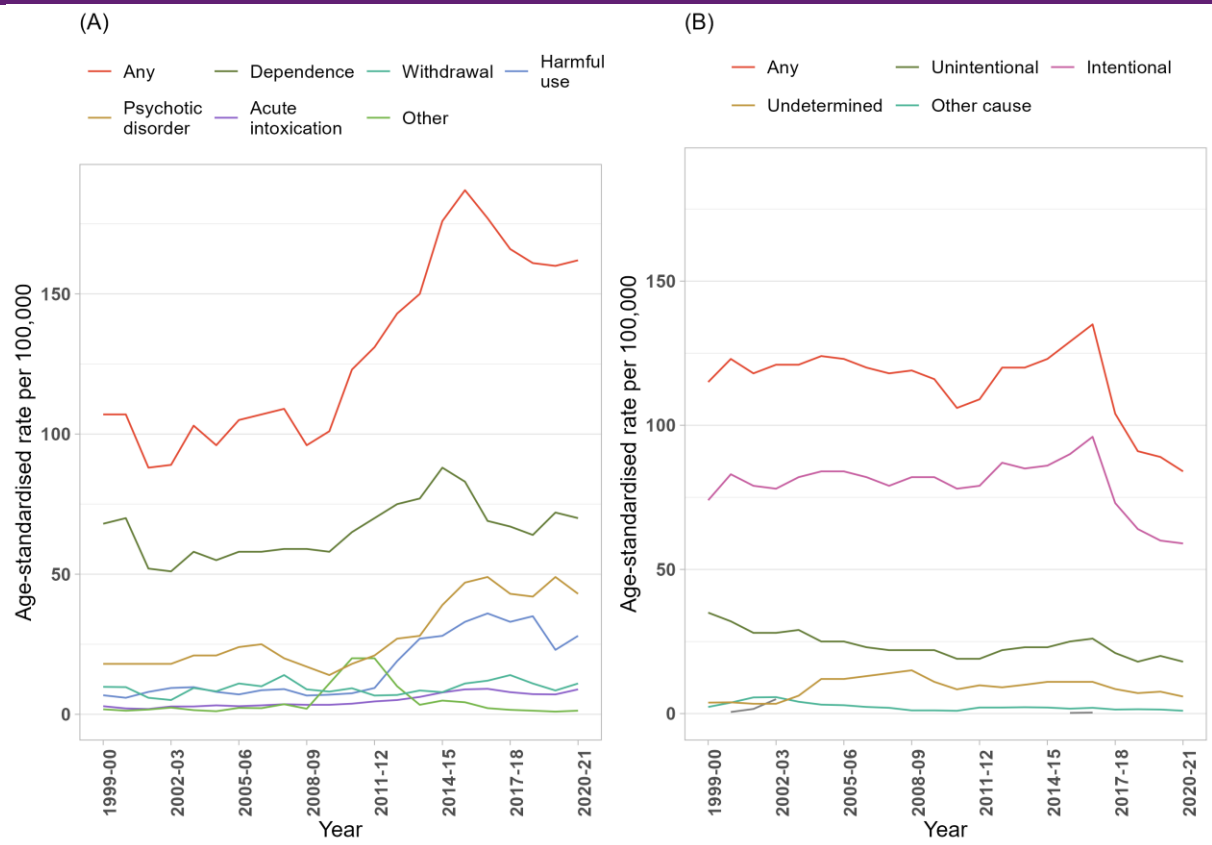
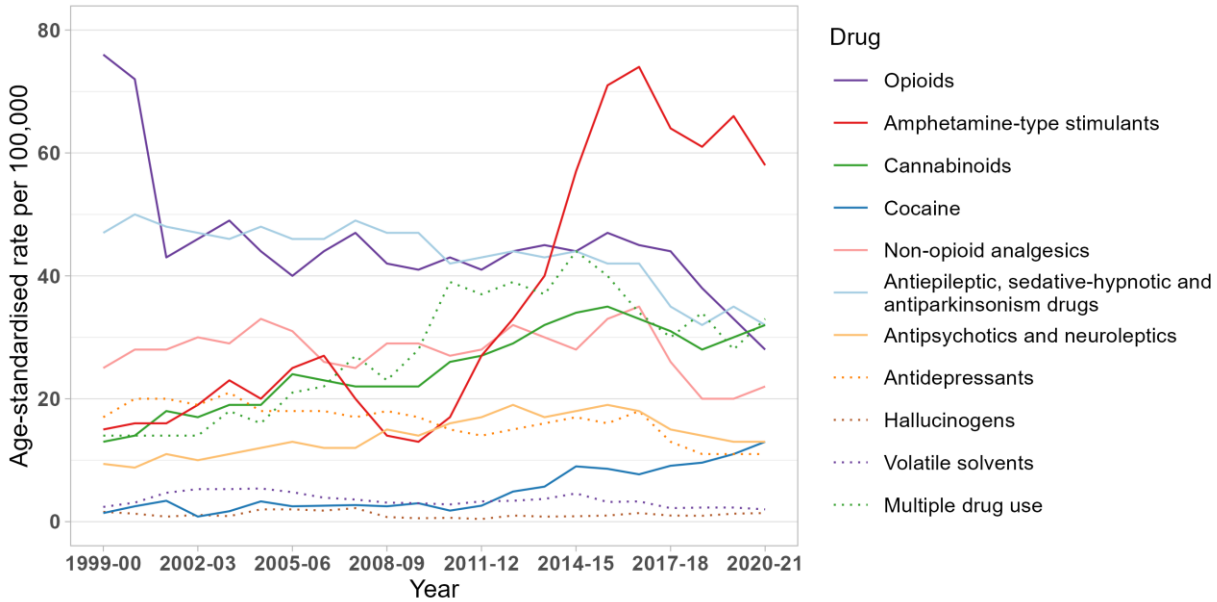
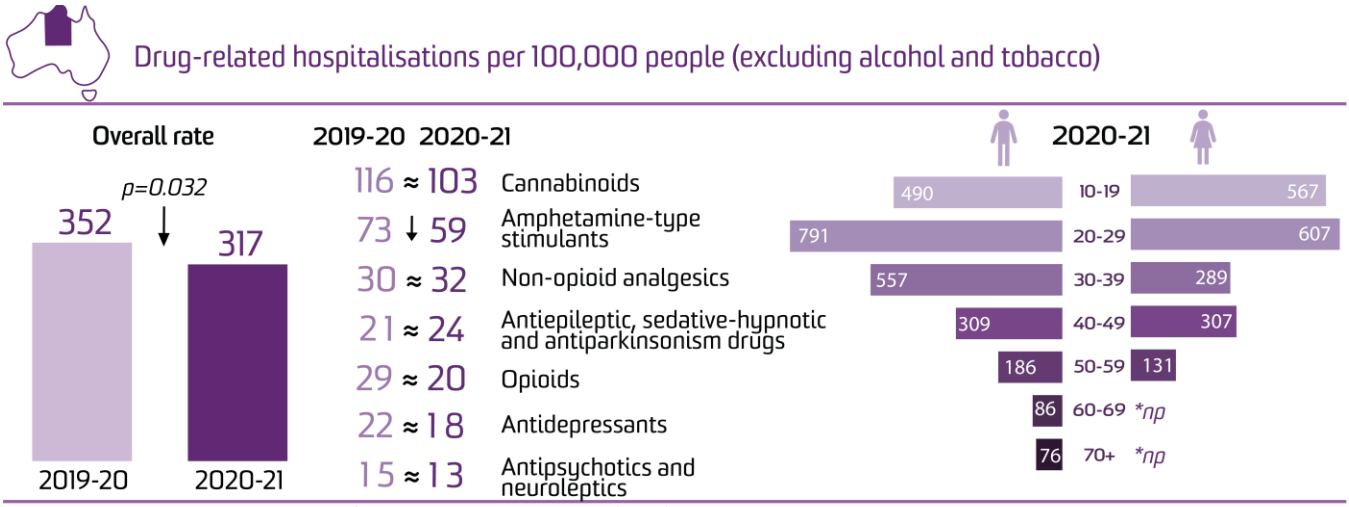


Figure 28. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, New South Wales, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Northern Territory



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 ($p<0.05$); sign "≈" indicates no significant change; *np means data not publishable due to small numbers

There were 828 hospitalisations with a drug-related principal diagnosis in the Northern Territory in 2020-21.

This is equivalent to 317 hospitalisations per 100,000 people, which was a significant decrease from 2019-20 (352 hospitalisations per 100,000 people; p=0.032) (Table A21), although is a four-fold increase from 1999-00 (90 hospitalisations per 100,000 people) (Figure 29).

Sex

The rate of hospitalisations was higher among males than females in 2020-21 (348 versus 276 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19 and 30-39 age groups (701, 565, and 422 hospitalisations per 100,000 people, respectively). Among both males and females, the rates of drug-related hospitalisations were highest in the 20-29 age group.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2020-21 was observed in the remote and very remote Northern Territory (393 hospitalisations, 360 per 100,000 people), while the number of hospitalisations was highest in the outer regional Northern Territory (434 hospitalisations, 287 per 100,000 people), noting there are no major city areas or inner regional areas in the Northern Territory (Figure 30).

External Cause of Drug Poisoning

In 2020-21, 38% of drug-related hospitalisations in the Northern Territory were due to drug poisoning. Furthermore, 77% of drug poisoning related hospitalisations were intentional (95 hospitalisations per 100,000 people) and 17% were unintentional (22 hospitalisations per 100,000 people) (Figure 31).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating cannabinoids (103 hospitalisations per 100,000 people) (Figure 32).

Compared to 2019-20, there was a significant decrease in 2020-21 in the rate of hospitalisations related to amphetamine-type stimulants (p=0.043) (Table A21).

Figure 29. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, the Northern Territory, 1999-00 to 2020-21.

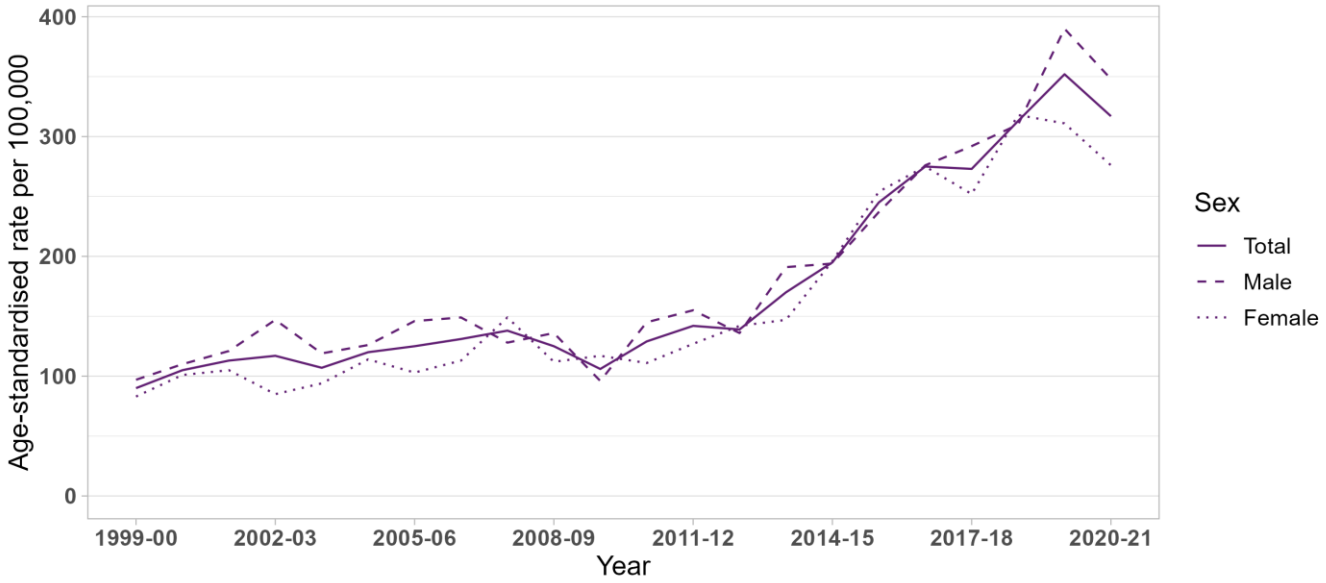
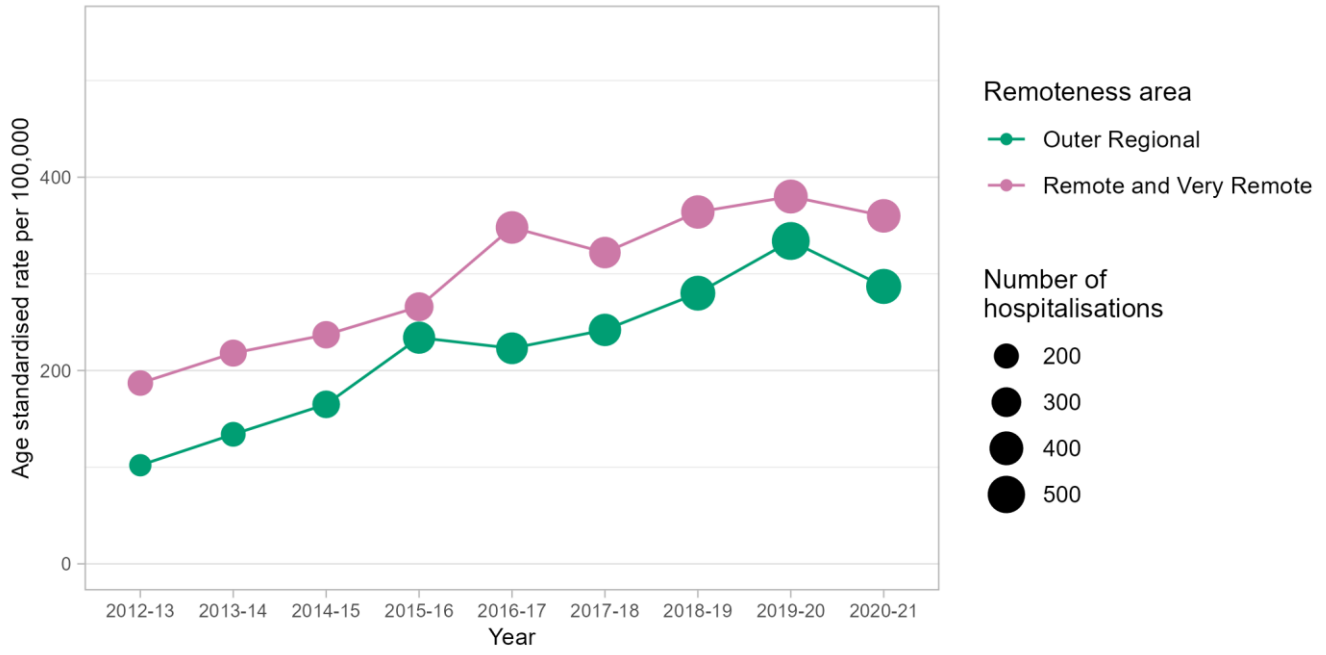


Figure 30. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, the Northern Territory, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. There are no major city areas and inner regional areas in the Northern Territory. Data on remoteness are only available from 2012-13.

Figure 31. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), the Northern Territory, 1999-00 to 2020-21.

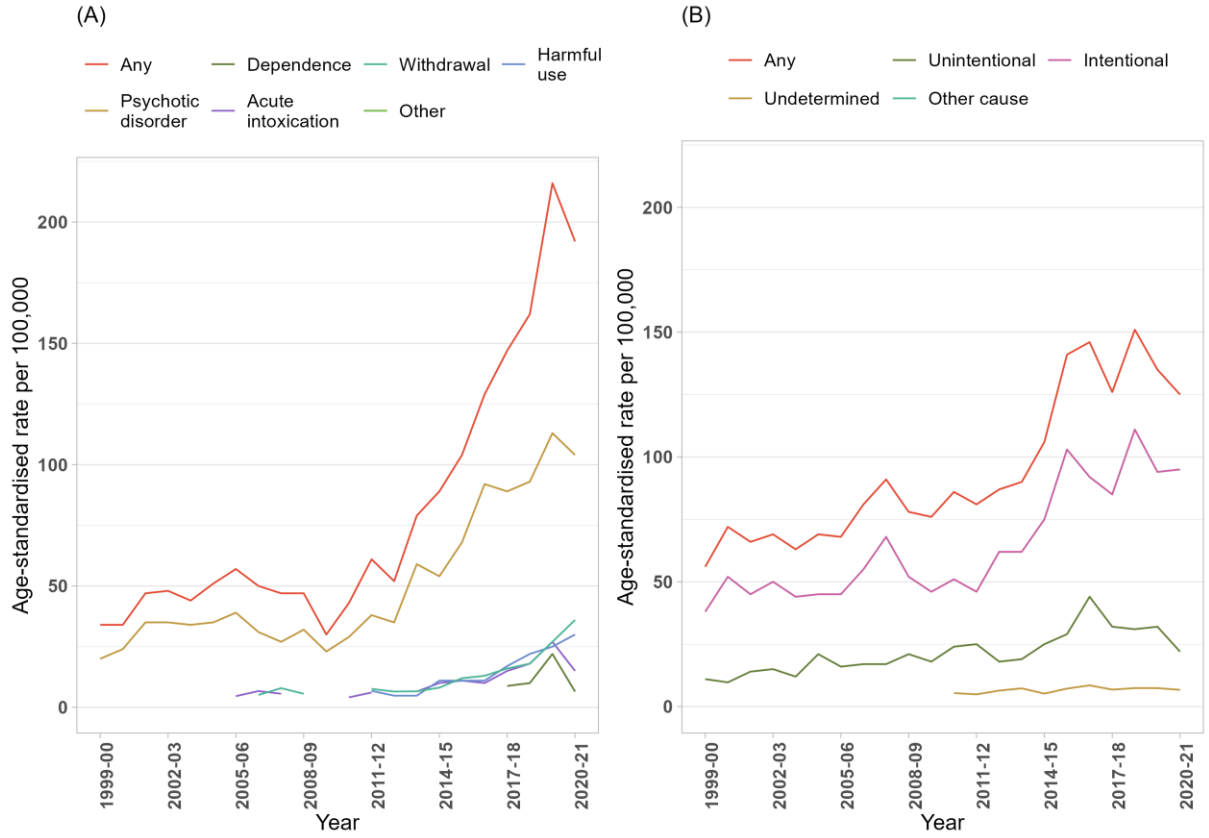
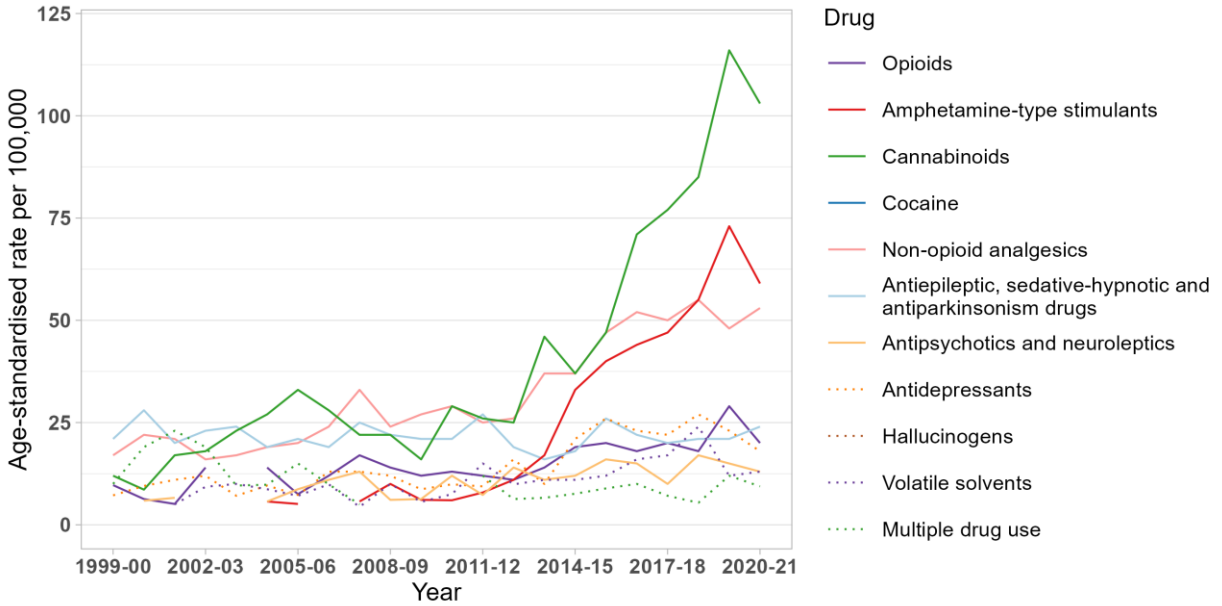


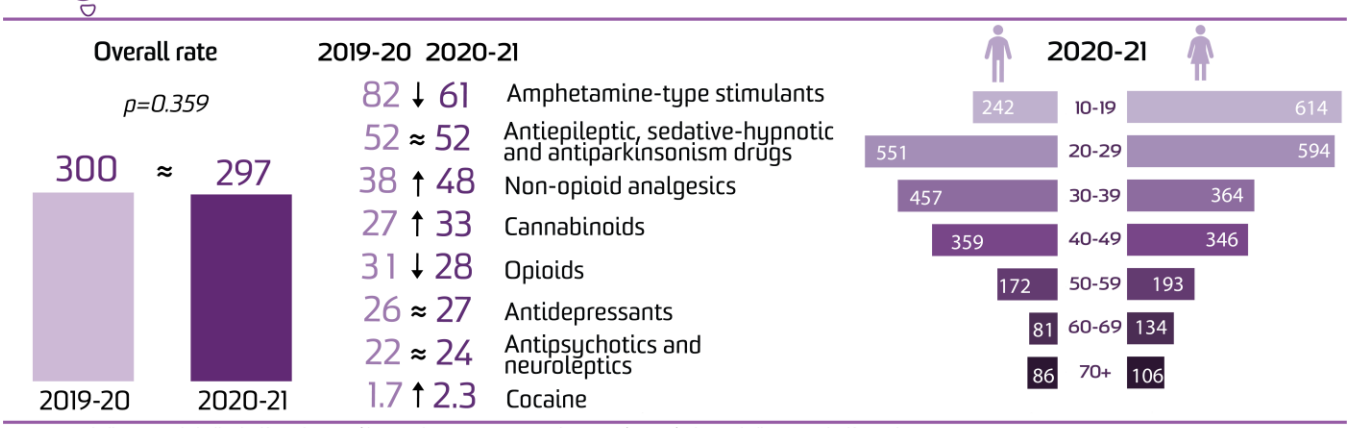
Figure 32. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, the Northern Territory, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Queensland

Drug-related hospitalisations per 100,000 people (excluding alcohol and tobacco)



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 ($p<0.05$); sign "≈" indicates no significant change.

There were 14,770 hospitalisations with a drug-related principal diagnosis in Queensland in 2020-21, equivalent to 0.50% of all hospitalisations in Queensland.

This is equivalent to 297 hospitalisations per 100,000 people, which was similar to 2019-20 (300 hospitalisations per 100,000 people; p=0.359) (Table A22) and higher than reported in 1999-00 (218 hospitalisations per 100,000 people) (Figure 33).

Sex

The rate of hospitalisations was higher among females than males in 2020-21 (322 versus 273 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19 and 30-39 age groups (573, 423, and 410 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 20-29 age groups, and among females in the 10-19 age groups.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2020-21 was observed in outer regional Queensland (2,064 hospitalisations, 315 per 100,000 people), while the number of hospitalisations was highest in major city areas (9,886 hospitalisations, 300 per 100,000 people) (Figure 34).

External Cause of Drug Poisoning

In 2020-21, 60% of drug-related hospitalisations in Queensland were due to drug poisoning. Furthermore, 74% of drug poisoning related hospitalisations were intentional (131 hospitalisations per 100,000 people) and 21% were unintentional (35 hospitalisations per 100,000 people) (Figure 35).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (61 hospitalisations per 100,000 people) (Figure 36).

Compared to 2019-20, there were significant decreases in 2020-21 in the rates of hospitalisations related to amphetamine-type stimulants and opioids (p<0.050) (Table A22).

In contrast, there were significant increases in the rates of hospitalisations related to non-opioid analgesics, cannabinoids, and cocaine (p<0.050) (Table A22).

Figure 33. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Queensland, 1999-00 to 2020-21.

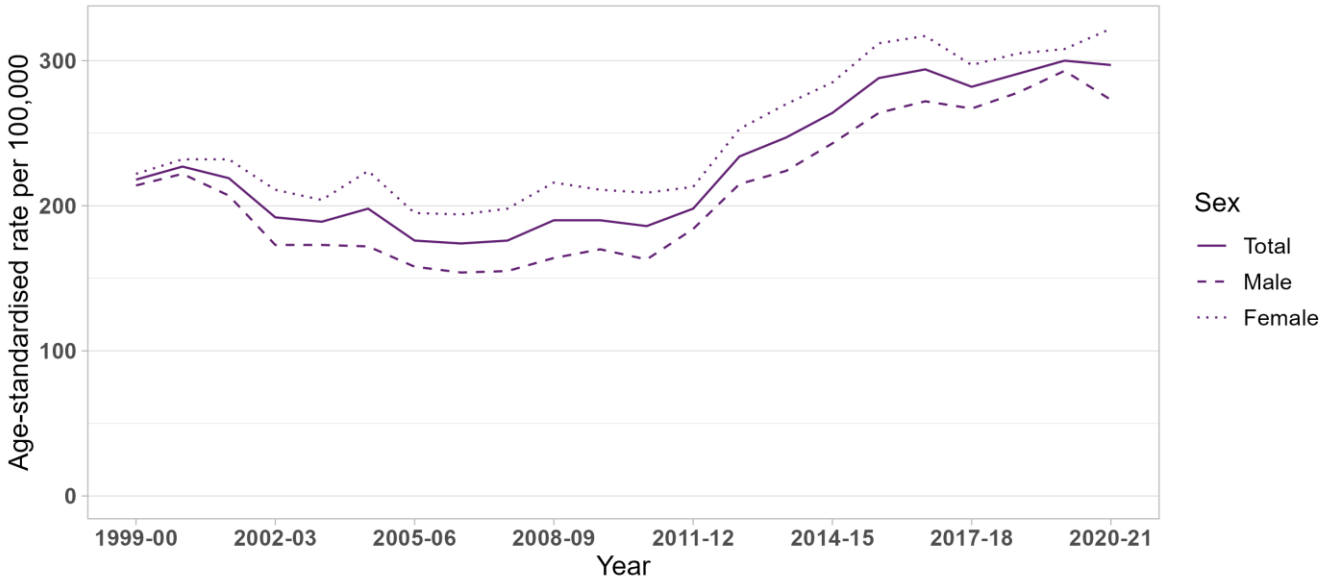
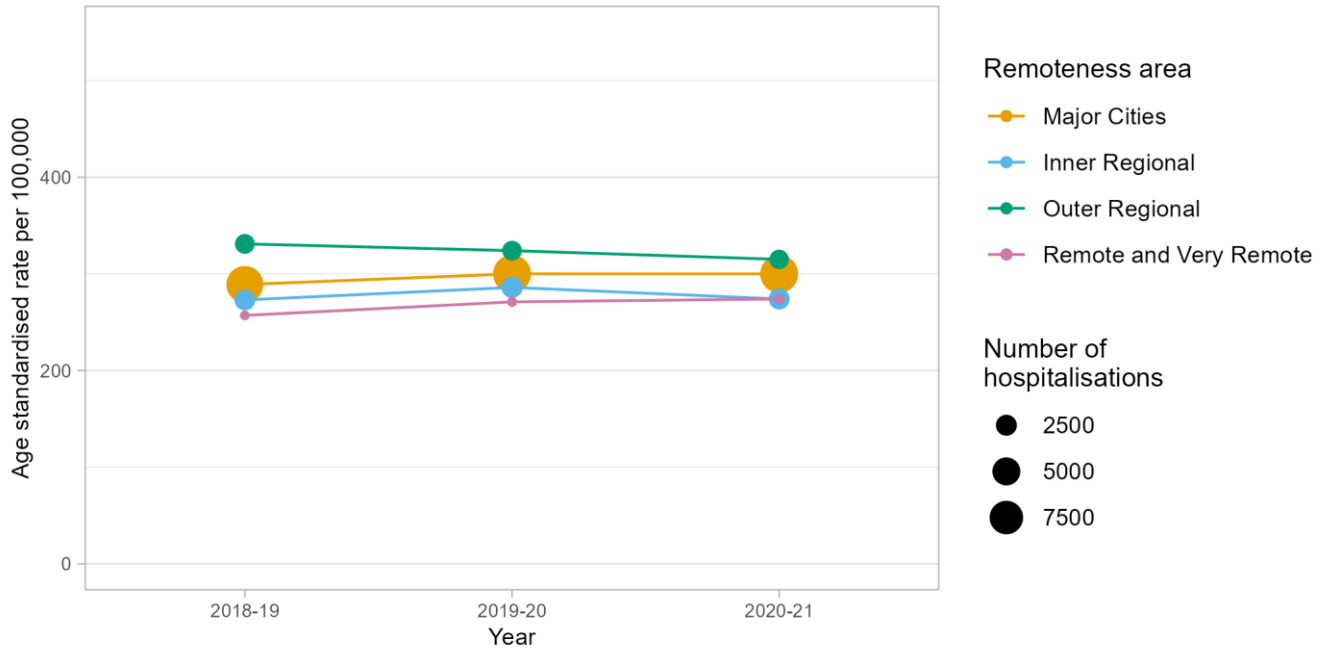


Figure 34. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Queensland, 2018-19 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. In Queensland, data by remoteness area are only available from 2018-19.

Figure 35. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), Queensland, 1999-00 to 2020-21.

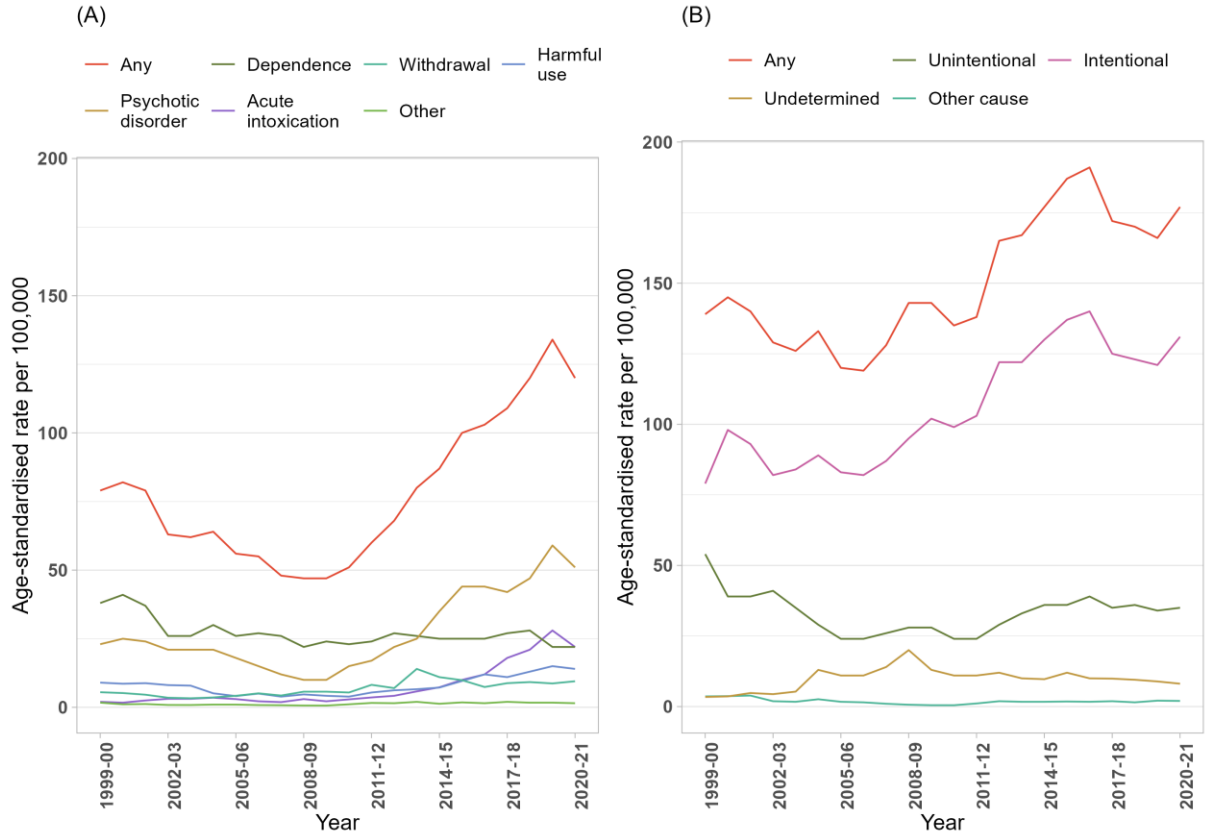
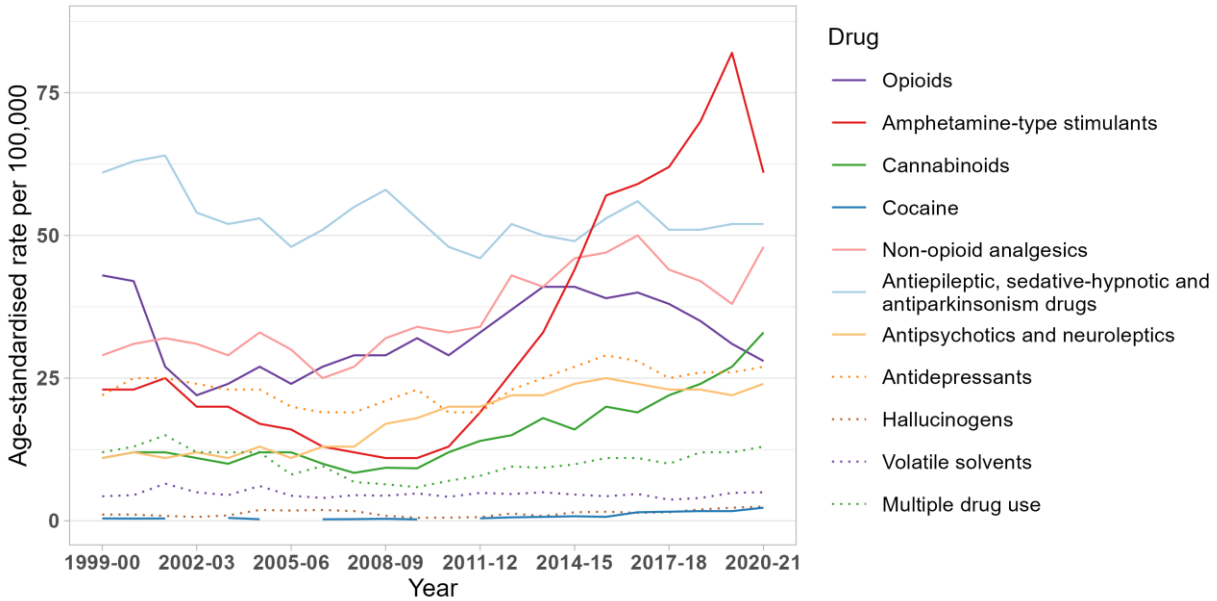
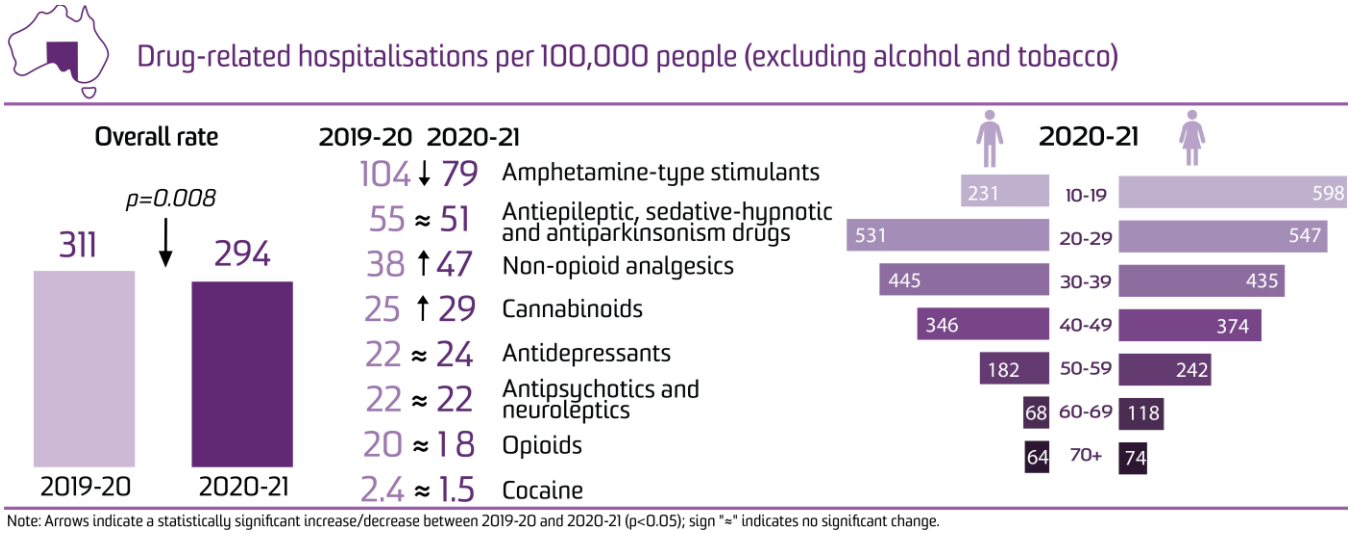


Figure 36. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Queensland, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

South Australia



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 ($p<0.05$); sign "≈" indicates no significant change.

There were 4,889 hospitalisations with a drug-related principal diagnosis in South Australia in 2020-21, equivalent to 0.60% of all hospitalisations in South Australia.

This is equivalent to 294 hospitalisations per 100,000 people, which was a significant decrease from 2019-20 (311 hospitalisations per 100,000 people; p=0.008) (Table A23), although higher than reported in 1999-00 (208 hospitalisations per 100,000 people) (Figure 37).

Sex

The rate of hospitalisations was higher among females than males in 2020-21 (328 versus 261 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 10-19 age groups (540, 440, and 409 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 20-29 age groups, and among females in the 10-19 age groups.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2020-21 was observed in outer regional South Australia (642 hospitalisations, 434 per 100,000 people), while the number of hospitalisations was highest in major city areas (3,309 hospitalisations, 264 per 100,000 people) (Figure 38).

External Cause of Drug Poisoning

In 2020-21, 56% of drug-related hospitalisations in South Australia were due to drug poisoning. Furthermore, 73% of drug poisoning related hospitalisations were intentional (119 hospitalisations per 100,000 people) and 18% were unintentional (27 hospitalisations per 100,000 people) (Figure 39).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (79 hospitalisations per 100,000 people) (Figure 40).

Compared to 2019-20, there was a significant decrease in 2020-21 in the rate of hospitalisations related to amphetamine-type stimulants (p<0.001) (Table A23).

In contrast, there were significant increases in the rates of hospitalisations related to non-opioid analgesics and cannabinoids ($p\leq$0.041) (Table A23).

Figure 37. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, South Australia, 1999-00 to 2020-21.

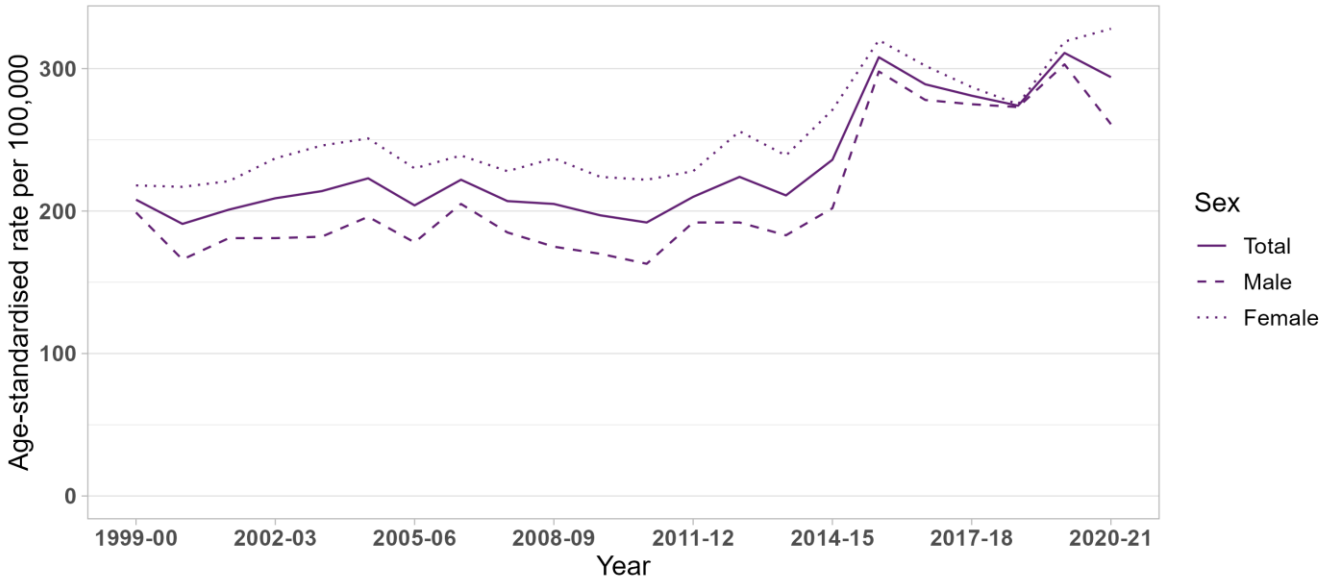
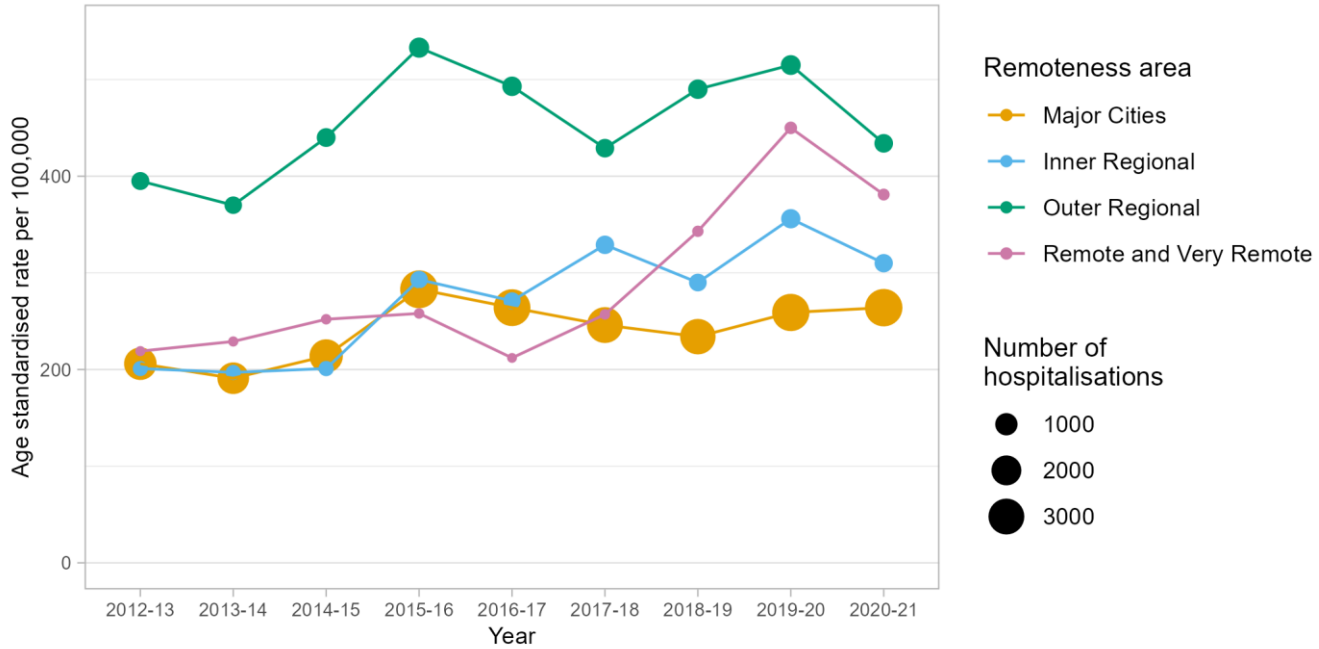


Figure 38. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, South Australia, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. Data on remoteness are only available from 2012-13.

Figure 39. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), South Australia, 1999-00 to 2020-21.

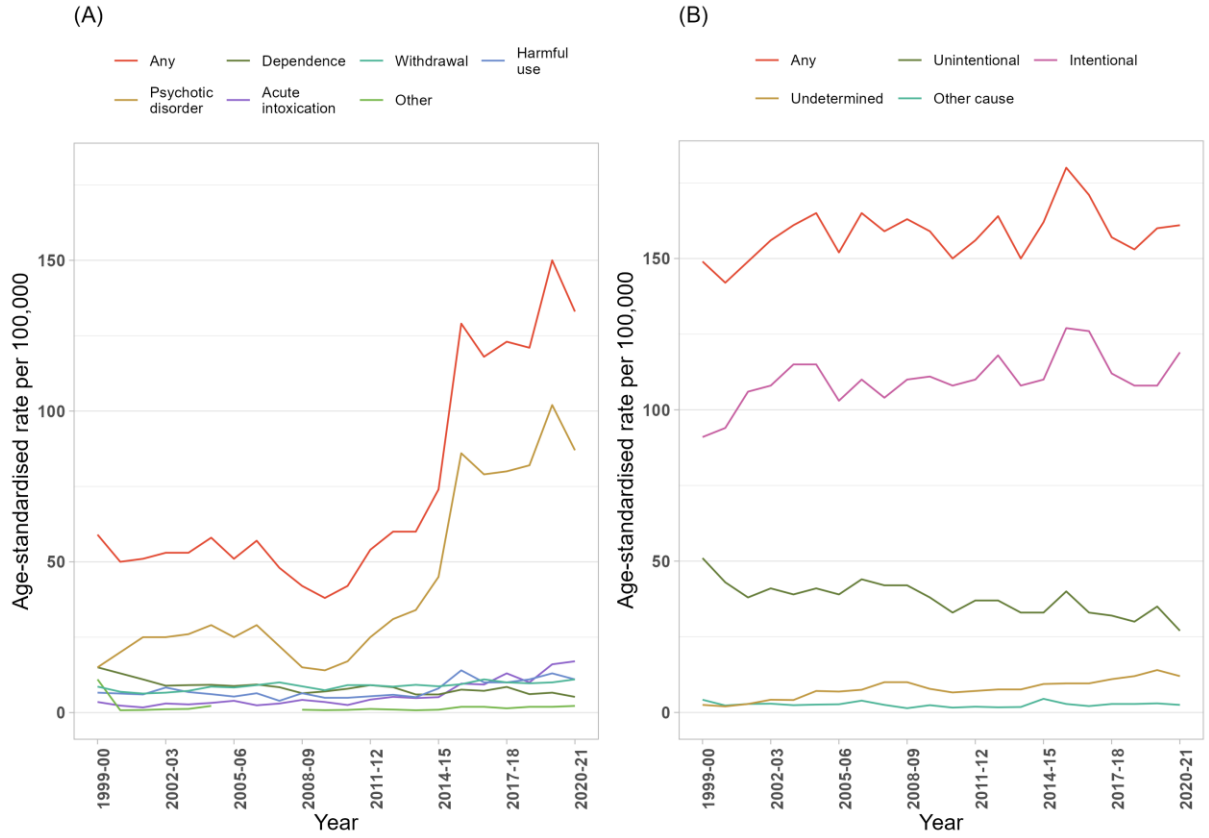
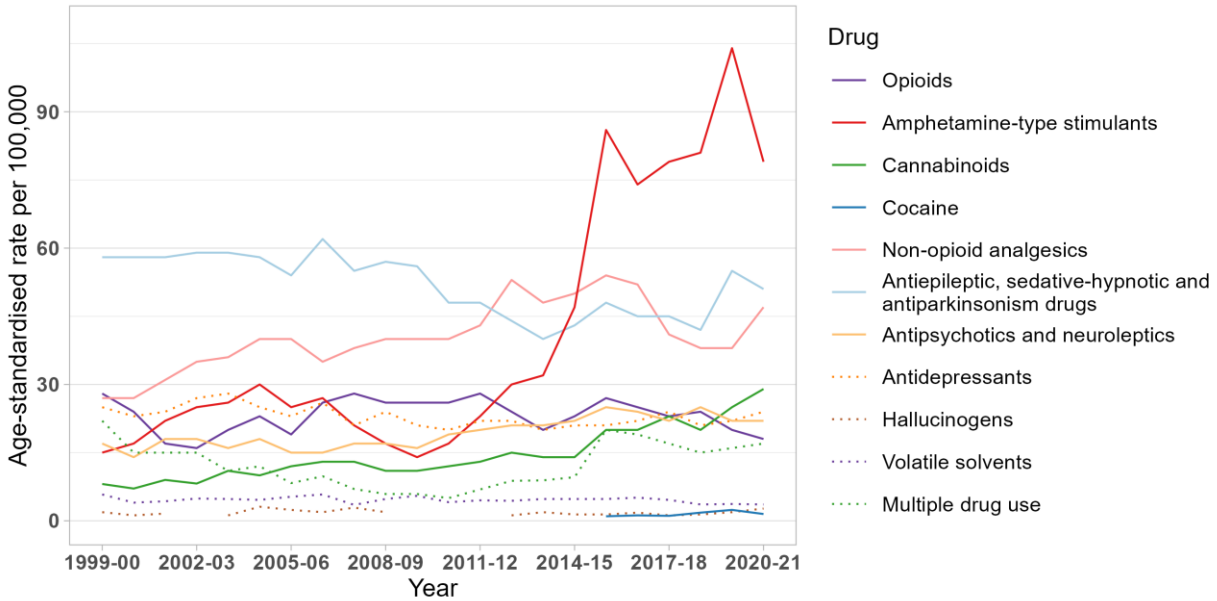
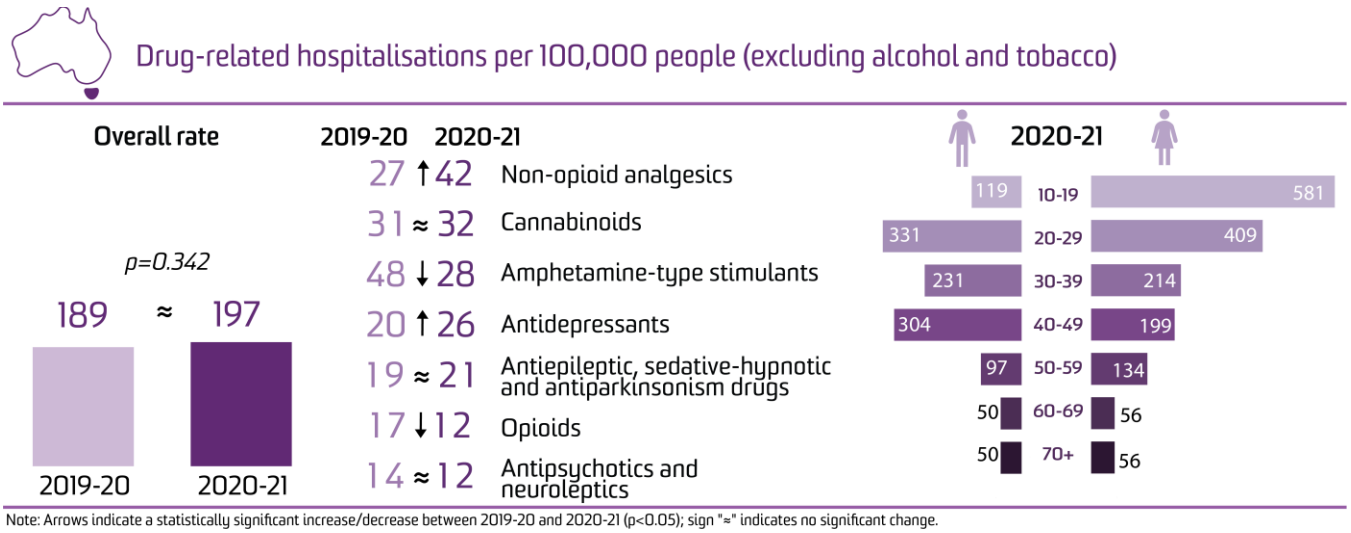


Figure 40. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, South Australia, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Tasmania



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 (p<0.05); sign "≈" indicates no significant change.

There were 1,009 hospitalisations with a drug-related principal diagnosis in Tasmania in 2020-21.

This is equivalent to 197 hospitalisations per 100,000 people, which was not significantly different from the rate in 2019-20 (189 hospitalisations per 100,000 people; *p*=0.342) (Table A24) but higher than reported in 1999-00 (127 hospitalisations per 100,000 people) (Figure 41).

Sex

The rate of hospitalisations was higher among females than males in 2020-21 (241 versus 163 hospitalisations per 100,000 people).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19 and 40-49 age groups (429, 285, and 263 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 20-29 age groups, and among females in the 10-19 age groups.

Remoteness Area of Usual Residence

The highest number and rate of hospitalisations in 2020-21 was observed in inner regional Tasmania (747 hospitalisations, 206 per 100,000 people; noting there are no major city areas in Tasmania) (Figure 42).

External Cause of Drug Poisoning

In 2020-21, 48% of drug-related hospitalisations in Tasmania were due to drug poisoning. Furthermore, 82% of drug poisoning related hospitalisations were intentional (78 hospitalisations per 100,000 people) and 11% were unintentional (9.2 hospitalisations per 100,000 people) (Figure 43).

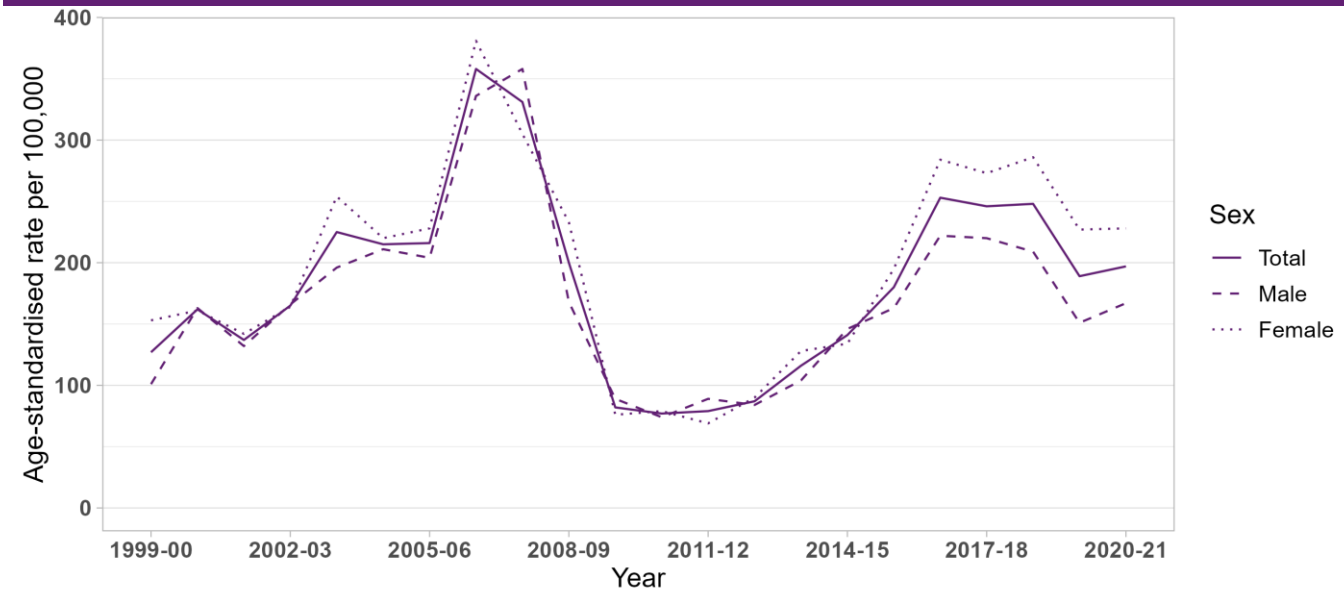
Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating non-opioid analgesics (42 hospitalisations per 100,000 people) (Figure 44).

Compared to 2019-20, there were significant decreases in 2020-21 in the rates of hospitalisations related to amphetamine-type stimulants and opioids (*p*<0.050) (Table A24).

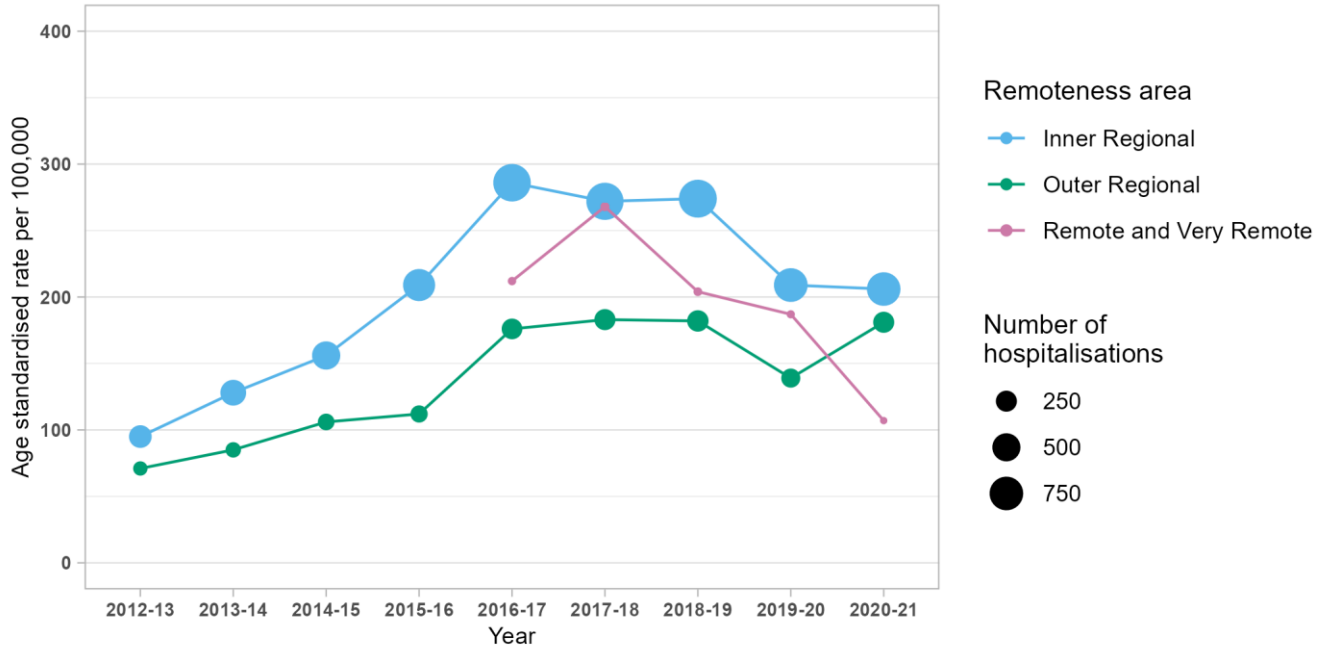
In contrast, there were significant increases in the rate of hospitalisations related to non-opioid analgesics and antidepressants (*p*<0.050) (Table A24).

Figure 41. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Tasmania, 1999-00 to 2020-21.



Provision of Tasmanian data between 2008-09 and 2015-16 was limited to drug related hospitalisations based on selected drug-related ICD-10-AM codes (see the methods for the list of ICD-10-AM codes). Estimates of drug-related hospitalisations for this period are likely to be underestimated.

Figure 42. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Tasmania, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. Data on remoteness are only available from 2012-13. There are no major city areas in Tasmania. Where the number of hospitalisations for remote and very remote Tasmania were small (less than or equal to 10) age-standardised rates were not calculated. Please refer to our methods document for details.

Figure 43. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), Tasmania, 1999-00 to 2020-21.

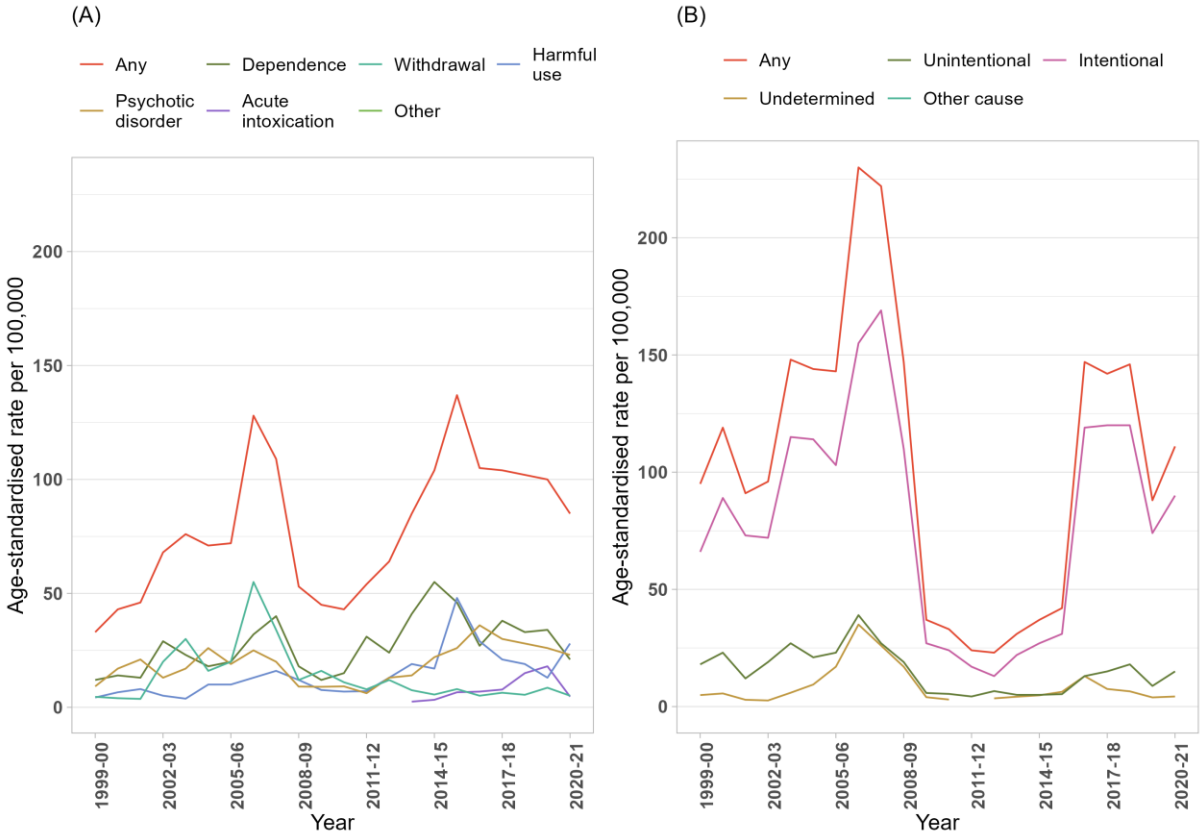
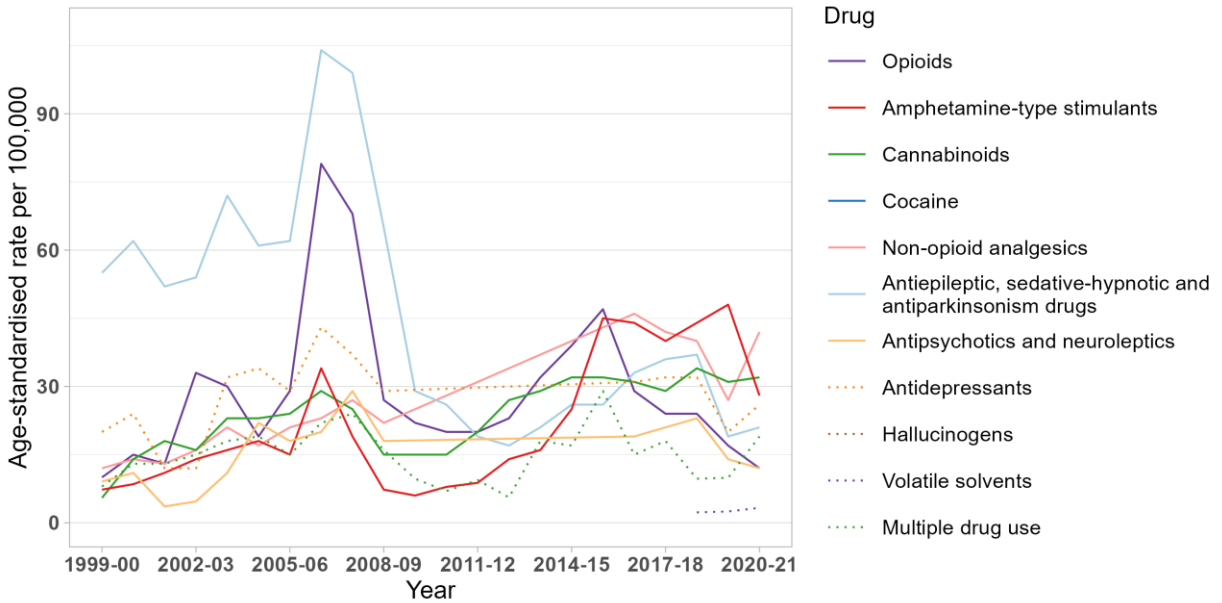
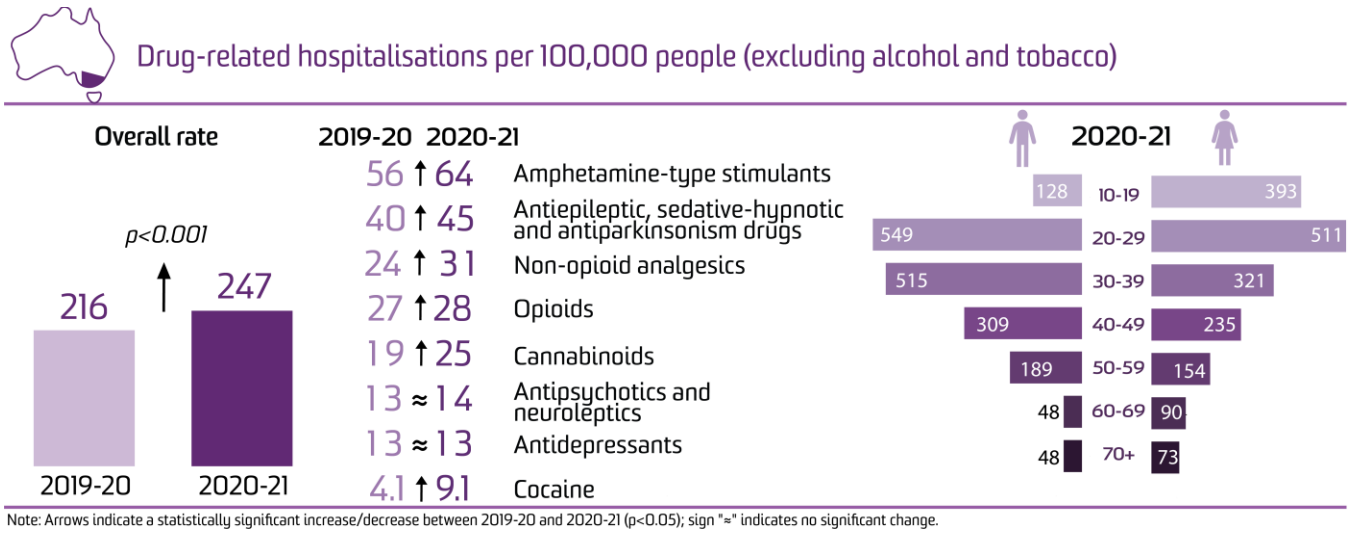


Figure 44. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Tasmania, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Victoria



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 ($p<0.05$); sign "≈" indicates no significant change.

There were 15,743 hospitalisations with a drug-related principal diagnosis in Victoria in 2020-21, equivalent to 0.54% of all hospitalisations in Victoria.

This is equivalent to 247 hospitalisations per 100,000 people, which was a significant increase from 2019-20 (216 hospitalisations per 100,000 people; $p<0.001$) (Table A25), and the highest rate over the course of monitoring (Figure 45).

Sex

The rate of hospitalisations was higher among males than females in 2020-21 (251 versus 244 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 40-49 age groups (532, 417, and 272 hospitalisations per 100,000 people, respectively). Among both males and females, the rates of drug-related hospitalisations were highest in the 20-29 age groups.

Remoteness Area of Usual Residence

The highest number and rate of hospitalisations in 2020-21 was observed in major city areas (12,279 hospitalisations, 242 hospitalisations per 100,000 people) (Figure 46).

External Cause of Drug Poisoning

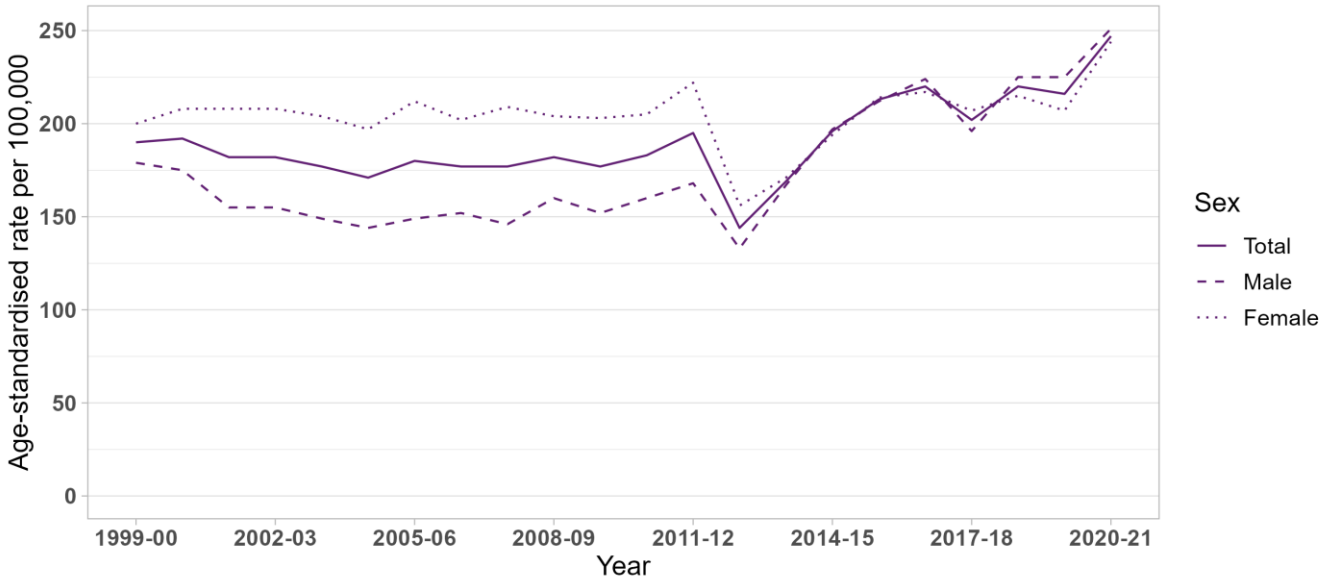
In 2020-21, 44% of drug-related hospitalisations in Victoria were due to drug poisoning. Furthermore, 68% of drug poisoning related hospitalisations were intentional (75 hospitalisations per 100,000 people) and 19% were unintentional (20 hospitalisations per 100,000 people) (Figure 47).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (64 hospitalisations per 100,000 people) (Figure 48).

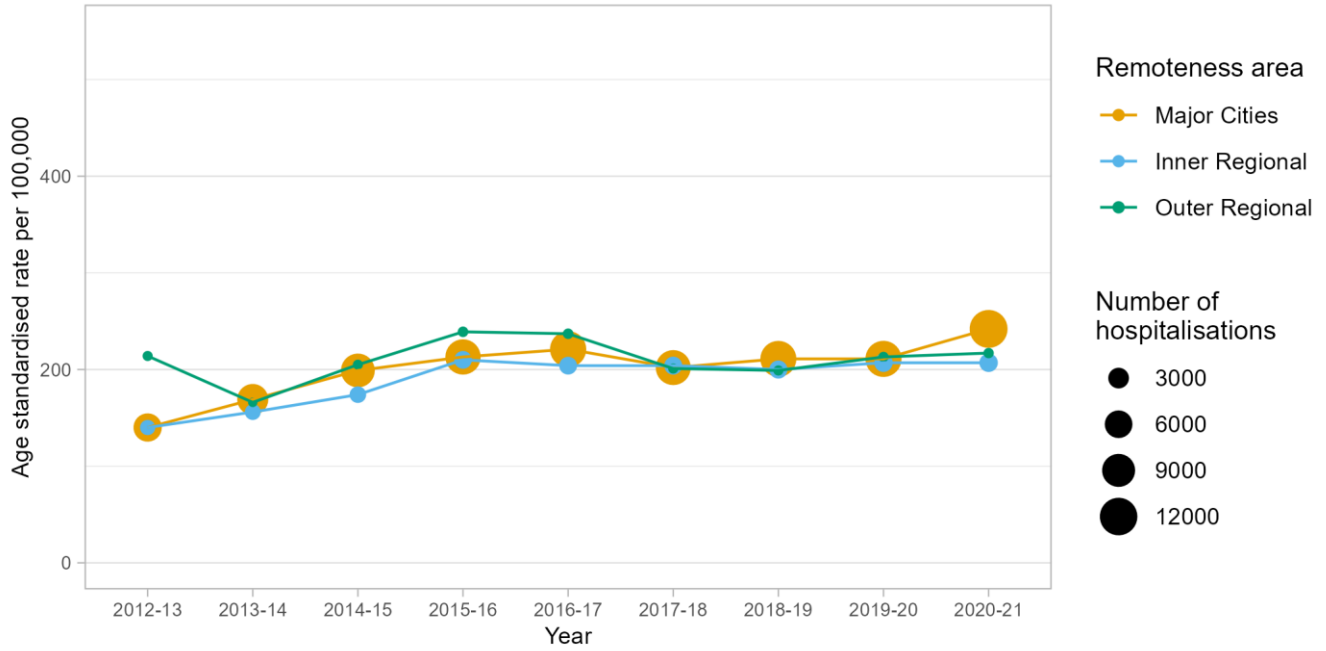
Compared to 2019-20, there were significant increases in 2020-21 in the rates of hospitalisations related to: amphetamine-type stimulants; antiepileptic, sedative-hypnotic and antiparkinsonism drugs; non-opioid analgesics; opioids; cannabinoids; and cocaine ($p<0.050$) (Table A25).

Figure 45. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Victoria, 1999-00 to 2020-21.



Note: From 1st July 2011 to 30th June 2013 (i.e., between 2011-12 and 2012-13), there was a large decrease in public hospitalisations reported for the Victorian Admitted Episodes Dataset (VAED) because episodes where the patient's entire care is provided in the emergency department were not considered for admission, irrespective of whether a criterion for admission is met. From 2013-14 onwards, "ED-only admissions" were largely replaced with admissions to Short Stay Observation Units.

Figure 46. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Victoria, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. The number of hospitalisations for remote and very remote Victoria in each year were small (less than or equal to 10) thus age-standardised rates were not calculated. Please refer to our methods document for details. Data on remoteness are only available from 2012-13.

Figure 47. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), Victoria, 1999-00 to 2020-21.

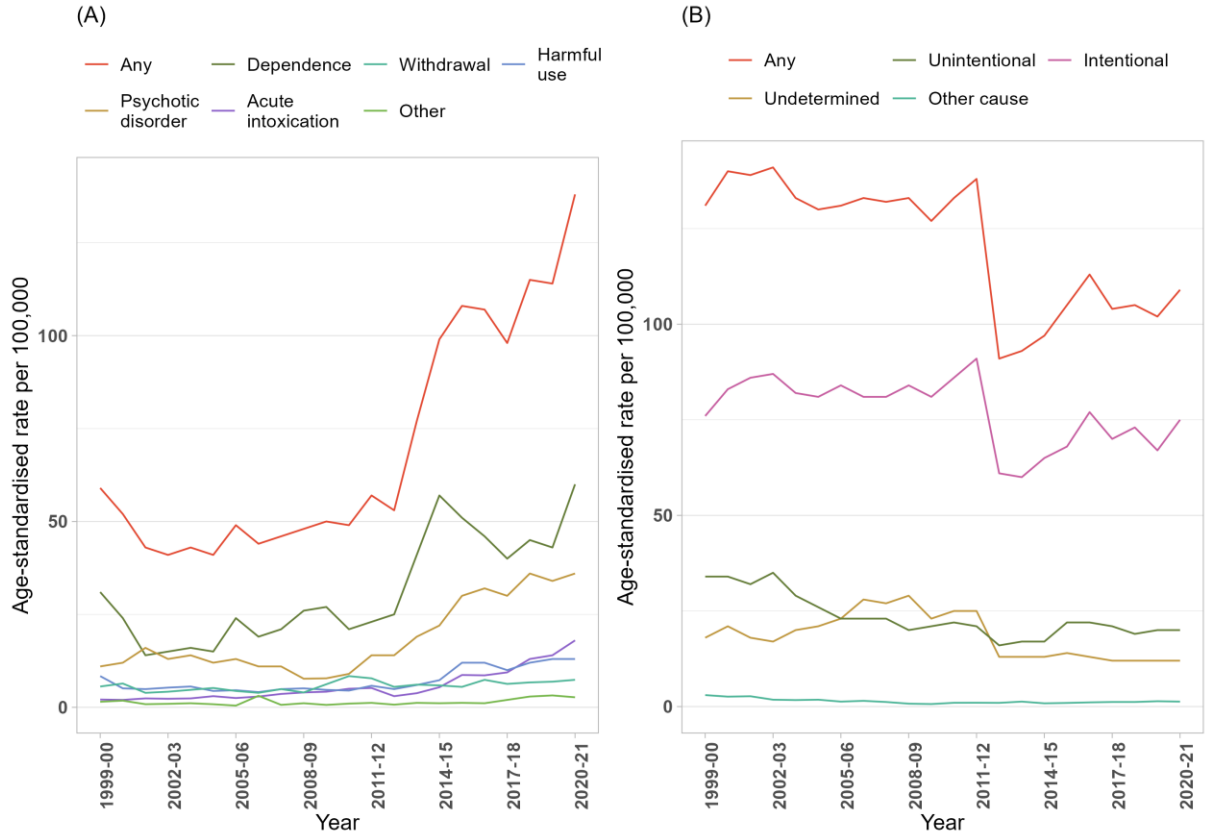
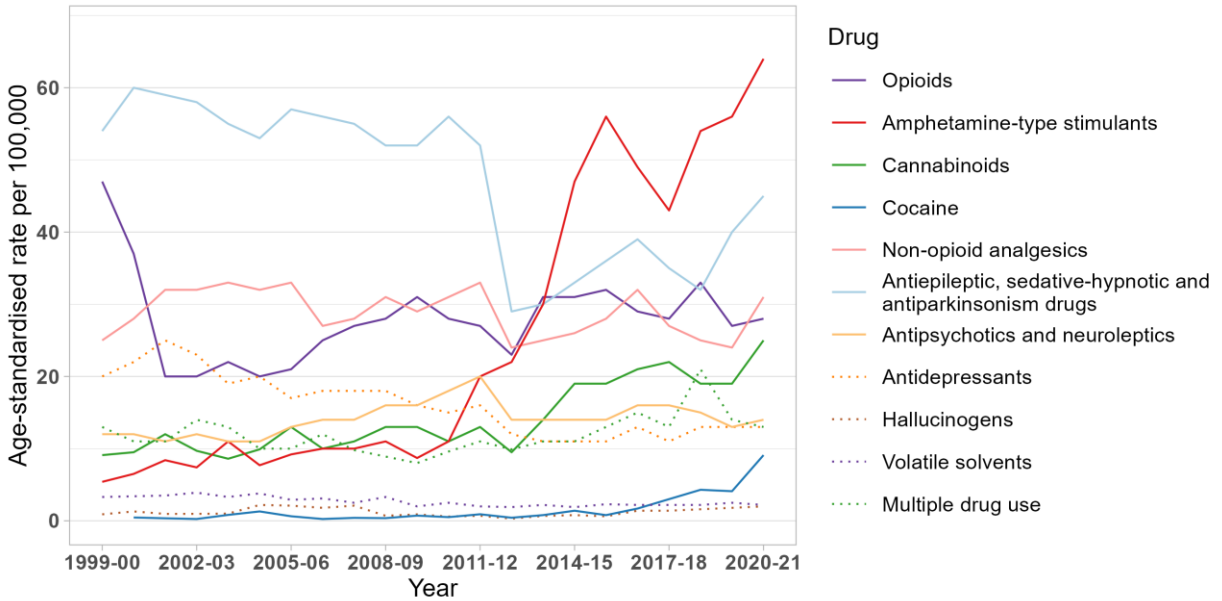
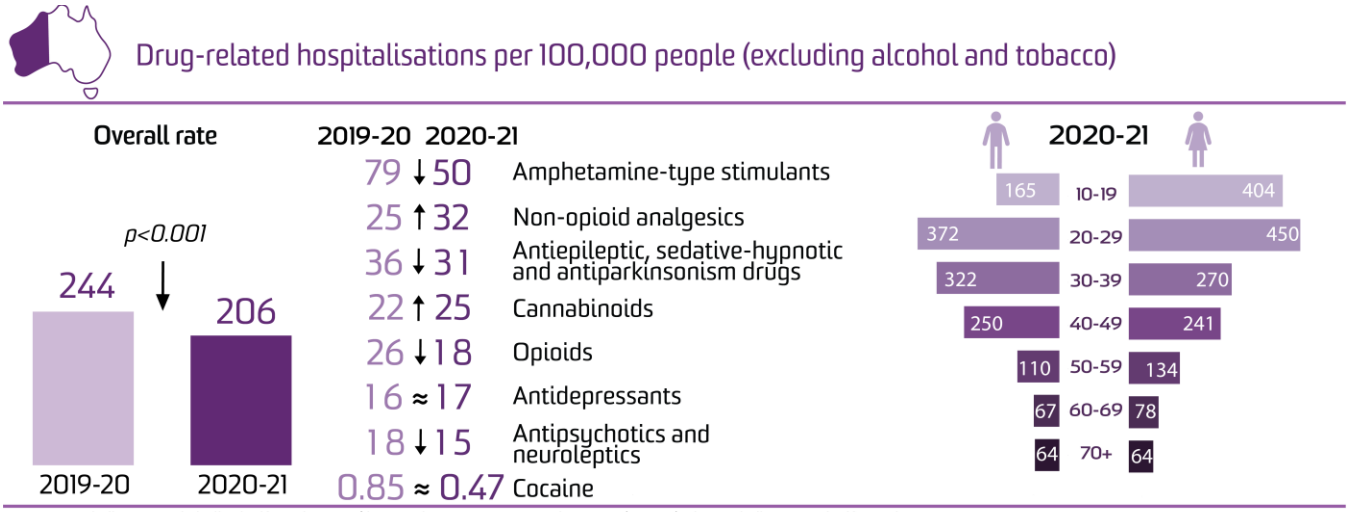


Figure 48. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Victoria, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Western Australia



Note: Arrows indicate a statistically significant increase/decrease between 2019-20 and 2020-21 (p<0.05); sign "≈" indicates no significant change.

There were 5,415 hospitalisations with a drug-related principal diagnosis in Western Australia in 2020-21, equivalent to 0.45% of all hospitalisations in Western Australia.

This is equivalent to 206 hospitalisations per 100,000 people, which was a significant decrease from 2019-20 (244 hospitalisations per 100,000 people; p<0.001) (Table A26) and similar to the rate reported in 1999-00 (209 hospitalisations per 100,000 people) (Figure 49).

Sex

The rate of hospitalisations was higher among females than males in 2020-21 (227 versus 187 hospitalisations per 100,000 people, respectively).

Age

In 2020-21, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 10-19 age groups (410, 296, and 281 hospitalisations per 100,000 people, respectively). Among both males and females, the rates of drug-related hospitalisations were highest in the 20-29 age groups.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2020-21 was observed in outer regional Western Australia (459 hospitalisations, 273 per 100,000 people), while the number of hospitalisations was highest in major city areas (4,006 hospitalisations, 192 per 100,000 people) (Figure 50).

External Cause of Drug Poisoning

In 2020-21, 54% of drug-related hospitalisations in Western Australia were due to drug poisoning. Furthermore, 71% of drug poisoning related hospitalisations were intentional (80 hospitalisations per 100,000 people) and 24% were unintentional (26 hospitalisations per 100,000 people) (Figure 51).

Drug Type

In 2020-21, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (50 hospitalisations per 100,000 people) (Figure 52).

Compared to 2019-20, there were significant decreases in 2020-21 in the rates of hospitalisations related to: amphetamine-type stimulants; antiepileptic, sedative-hypnotic and antiparkinsonism drugs; opioids; and antipsychotics and neuroleptics (p<0.050) (Table A26).

In contrast, there were significant increases in the rates of hospitalisations related to non-opioid analgesics; and cannabinoids (p<0.050) (Table A26).

Figure 49. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Western Australia, 1999-00 to 2020-21.

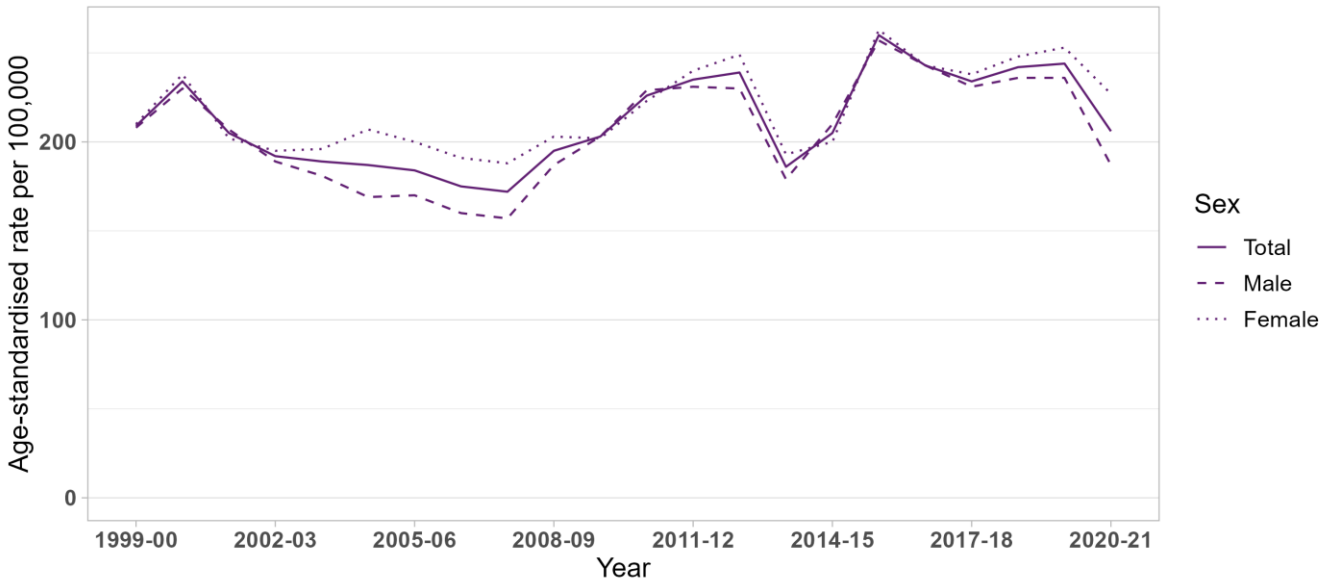
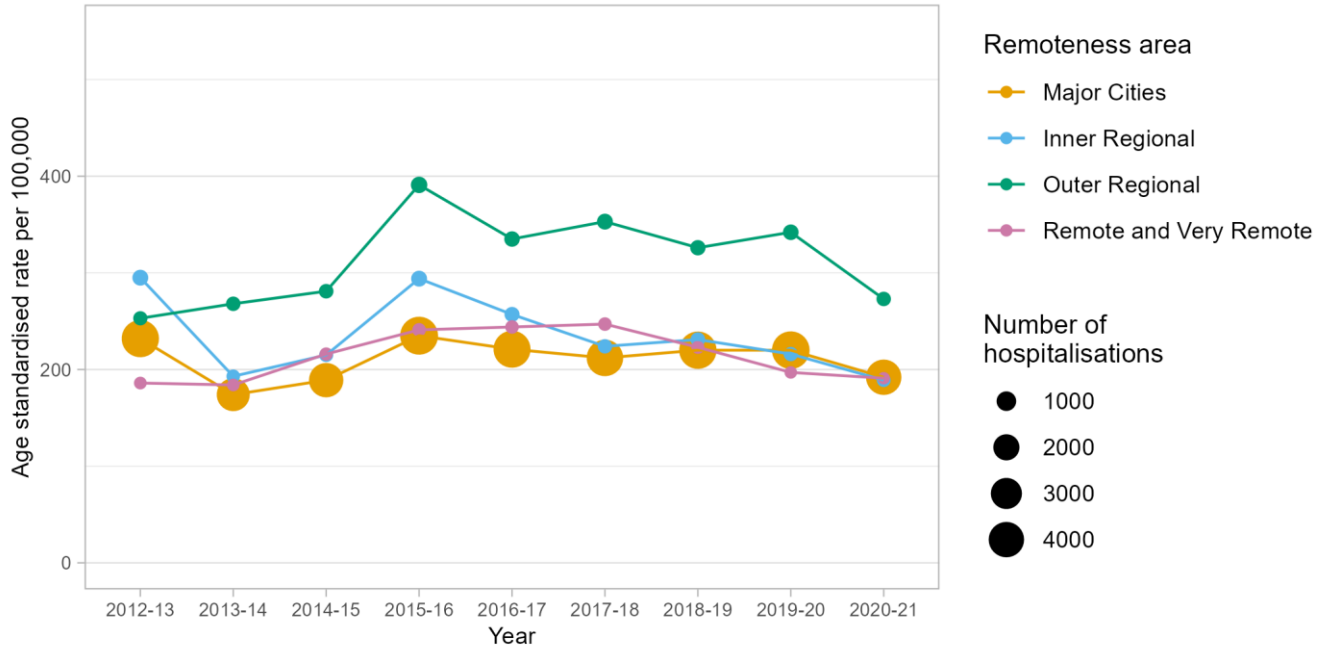


Figure 50. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Western Australia, 2012-13 to 2020-21.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. Data on remoteness are only available from 2012-13.

Figure 51. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), Western Australia, 1999-00 to 2020-21.

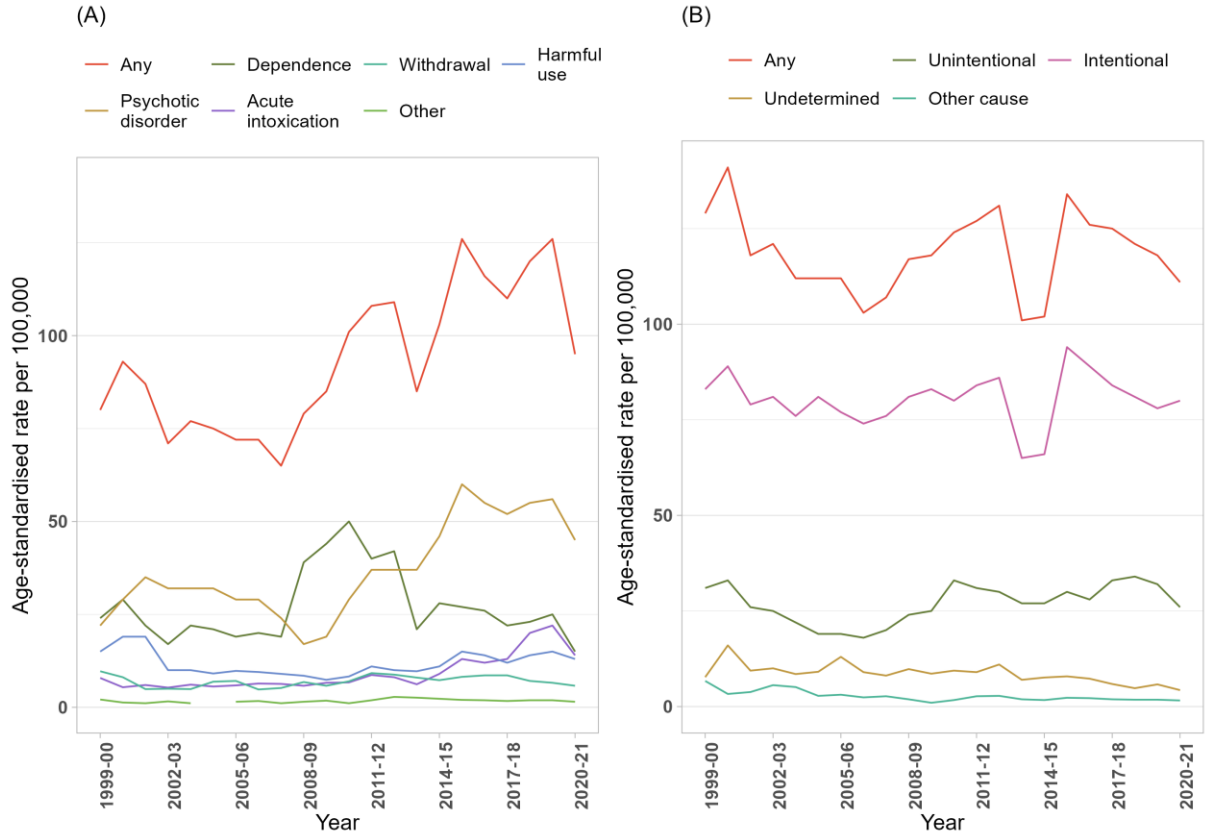
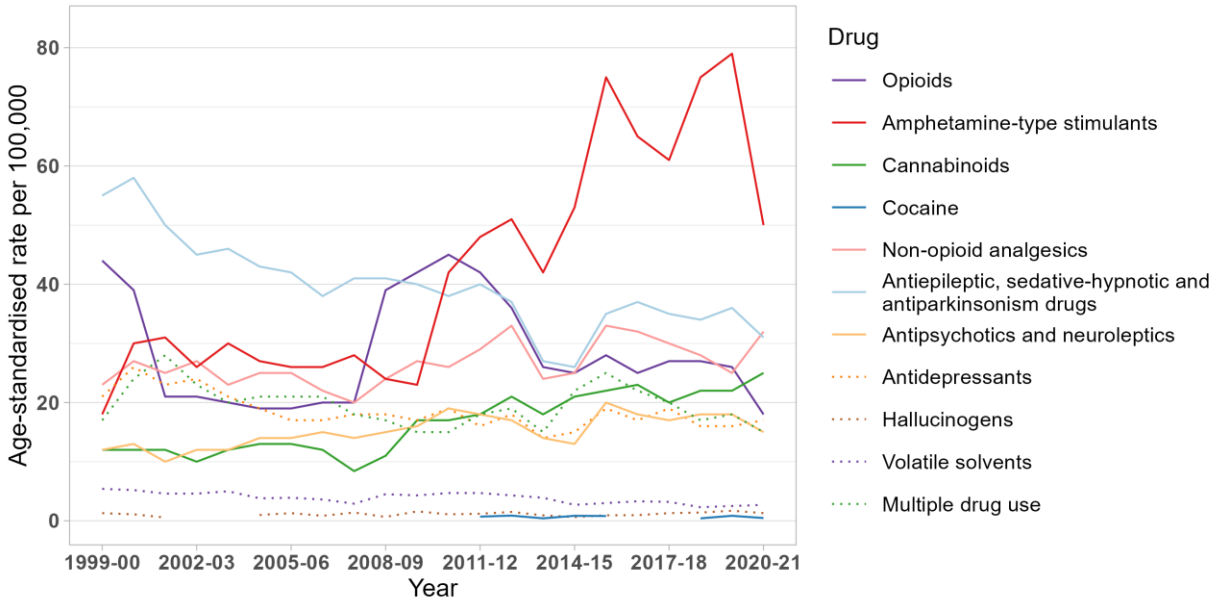


Figure 52. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Western Australia, 1999-00 to 2020-21.



Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.