NIDIP
National Illicit Drug Indicators Project

ISSN 2982-0782

Trends in DRUG-RELATED HOSPITALISATIONS in Australia, 2003-2023

Agata Chrzanowska, Nicola Man, Rachel Sutherland, Louisa Degenhardt and Amy Peacock

National Illicit Drug Indicators Project

Trends in DRUG-RELATED HOSPITALISATIONS in Australia, 2003-2023

Agata Chrzanowska[1], Nicola Man[1], Rachel Sutherland[1], Louisa Degenhardt[1] and Amy Peacock[1,2]

[1] National Drug and Alcohol Research Centre, University of New South Wales

[2] School of Psychology, University of Tasmania

ISSN 2982-0782

DOI https://doi.org/10.26190/unsworks/31344

Copyright ©NDARC, UNSW SYDNEY 2025

This report was prepared by researchers from the National Drug and Alcohol Research Centre for the Drug Trends program. The Drug Trends program is coordinated by the National Drug and Alcohol Research Centre, UNSW Sydney and undertaken in partnership with the Burnet, National Drug Research Institute, University of Queensland, and University of Tasmania.

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. All other rights are reserved. Requests and enquiries concerning reproduction and rights should be addressed to NDARC, UNSW Sydney, NSW 2052, Australia.

Recommended citation: Chrzanowska, A, Man, N, Sutherland, R, Degenhardt, L, Peacock, A. Trends in drug-related hospitalisations in Australia, 2003-2023. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2025. Available from: https://doi.org/10.26190/unsworks/31344

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.

Last updated: 5 August 2025

Table of Contents

ACKNOWLEDGEMENTS VII

INFOGRAPHICS 1

EXECUTIVE SUMMARY 2

Overall Trend 2
Sociodemographic Characteristics 2
Clinical Characteristics 2
Drug Type 2
Jurisdiction 3

BACKGROUND AND METHODS 4

Data Source 4
Scope of Reporting 4
Data Coverage and Limitations 4
Panel A. Terminology 5
Reporting of Results 5
Supporting Resources 5

TRENDS IN DRUG-RELATED HOSPITALISATIONS AMONG AUSTRALIANS 6

Overall Trend 6
Panel B. Impact of COVID-19 on Hospital Activity in Australia 7
Panel C. Alcohol-Related Hospitalisations 8

SOCIODEMOGRAPHIC CHARACTERISTICS OF DRUG-RELATED HOSPITALISATIONS 9

Sex 9
Age 10
Sex and Age 11
Remoteness Area of Usual Residence 11
Remoteness Area and Sex 12
Remoteness Area and Age 13
Socio-Economic Advantage and Disadvantage 14
Profile in 2022-23 14

CLINICAL CHARACTERISTICS OF DRUG-RELATED HOSPITALISATIONS 16

Principal Diagnosis: Mental and Behavioural Disorder Due to Substance Use 17
Sex 17
Age 18
Remoteness Area 19
Principal Diagnosis of Drug Poisoning 20
Sex 21
Age 21
Remoteness Area 22
Care Type 22
Profile in 2022-23 22
Length of Stay 24

Profile in 2022-23 24
Intensive Care Unit Admission 25
Profile in 2022-23 26

DRUG-RELATED HOSPITALISATIONS BY DRUG TYPE 28

Drug Type and Remoteness Area of Usual Residence 30

OPIOID-RELATED HOSPITALISATIONS 32

Sex 32
Age 33
Sex and Age 34
Remoteness Area 34
Principal Diagnosis 34
Opioid Type 35
Opioid Type and Remoteness Area of Usual Residence 37

AMPHETAMINE-TYPE STIMULANT-RELATED HOSPITALISATIONS 39

Sex 39
Age 40
Sex and Age 41
Remoteness Area 41
Principal Diagnosis 41
Methamphetamine 43
MDMA/ecstasy 44

CANNABINOID-RELATED HOSPITALISATIONS 45

Sex 45
Age 46
Sex and Age 47
Remoteness Area 47
Principal Diagnosis 48

COCAINE-RELATED HOSPITALISATIONS 49

Sex 49
Age 49
Sex and Age 50
Remoteness Area 50
Principal Diagnosis 51

HOSPITALISATIONS RELATED TO OTHER DRUGS 52

Panel D. GHB-Related Hospitalisations 53

DRUG-RELATED HOSPITALISATIONS BY JURISDICTION 55

Australian Capital Territory 56
New South Wales 59
Northern Territory 62
Queensland 65
South Australia 68
Tasmania 71

Victoria 74
Western Australia 77

List of Figures

Figure 1. Age-standardised rate per 100,000 people of drug-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 7

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, 2003-04 to 2022-23. 10

Figure 3. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness area, 2018-19 to 2022-23. 12

Figure 4. Rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness area, sex and age group, 2018-19 to 2022-23. 13

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, 2003-04 to 2022-23. 18

Figure 6. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by external cause of poisoning, 2003-04 to 2022-23. 20

Figure 7. Number of selected hospitalisations in Australia identified in the principal diagnosis and in the first 20 diagnosis fields, 2022-23. 29

Figure 8. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by drug identified in the principal diagnosis, 2003-04 to 2022-23. 30

Figure 9. 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, 2018-19 to 2022-23. 31

Figure 10. Age-standardised rate per 100,000 people of opioid-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 33

Figure 11. Crude rate per 100,000 people of opioid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 2003-04 to 2022-23. 34

Figure 12. 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), 2003-04 to 2022-23. 35

Figure 13. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by opioid type, 2003-04 to 2022-23. 36

Figure 14. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by remoteness and opioid type, 2018-19 to 2022-23. 38

Figure 15. Age-standardised rate per 100,000 people of amphetamine-type stimulant-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 40

Figure 16. 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, 2003-04 to 2022-23. 41

Figure 17. 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), 2003-04 to 2022-23. 42

Figure 18. Age-standardised rate per 100,000 people of methamphetamine-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 43

Figure 19. Age-standardised rate per 100,000 people of MDMA/ecstasy-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 44

Figure 20. Age-standardised rate per 100,000 people of cannabinoid-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23. 46

Figure 21. Crude rate per 100,000 people of cannabinoid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 2003-04 to 2022-23. 47

Figure 22. 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), 2003-04 to 2022-23. 48

Figure 23. 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), 2003-04 to 2022-23. 50

Figure 24. 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), 2003-04 to 2022-23. 51

Figure 25. Age-standardised rate per 100,000 people GHB-related hospitalisations among the total Australian population by selected drug type, 2003-04 to 2022-23. 53

Figure 26. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Australian Capital Territory, 2003-04 to 2022-23. 57

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), Australian Capital Territory, 2003-04 to 2022-23. 57

Figure 28. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Australian Capital Territory, 2003-04 to 2022-23. 58

Figure 29. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, New South Wales, 2003-04 to 2022-23. 60

Figure 30. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, New South Wales, 2012-13 to 2022-23. 60

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), New South Wales, 2003-04 to 2022-23. 61

Figure 32. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, New South Wales, 2003-04 to 2022-23. 61

Figure 33. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Northern Territory, 2003-04 to 2022-23. 63

Figure 34. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Northern Territory, 2012-13 to 2022-23. 63

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), Northern Territory, 2003-04 to 2022-23. 64

Figure 36. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Northern Territory, 2003-04 to 2022-23.....64

Figure 37. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Queensland, 2003-04 to 2022-23. 66

Figure 38. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Queensland, 2018-19 to 2022-23. 66

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), Queensland, 2003-04 to 2022-23. 67

Figure 40. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Queensland, 2003-04 to 2022-23. 67

Figure 41. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, South Australia, 2003-04 to 2022-23. 69

Figure 42. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, South Australia, 2012-13 to 2022-23.....69

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), South Australia, 2003-04 to 2022-23. 70

Figure 44. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, South Australia, 2003-04 to 2022-23.....70

Figure 45. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Tasmania, 2003-04 to 2022-23. 72

Figure 46. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Tasmania, 2012-13 to 2022-23.....72

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), Tasmania, 2003-04 to 2022-23. 73

Figure 48. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Tasmania, 2003-04 to 2022-23.....73

Figure 49. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Victoria, 2003-04 to 2022-23. 75

Figure 50. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Victoria, 2012-13 to 2022-23. 75

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), Victoria, 2003-04 to 2022-23. 76

Figure 52. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Victoria, 2003-04 to 2022-23. 76

Figure 53. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Western Australia, 2003-04 to 2022-23.....78

Figure 54. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Western Australia, 2012-13 to 2022-23.....78

Figure 55. 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, 2003-04 to 2022-23. 79

Figure 56. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Western Australia, 2003-04 to 2022-23. 79

List of Tables

Table 1. Percentage of hospitalisations by the index of relative socio-economic advantage and disadvantage quintiles by sex, age group, diagnosis and drug class, Australia, 2022-23 15

Table 2. Percentage and crude rate of hospitalisations with a mental and behavioural disorder due to substance use by diagnosis type and age group, Australia, 2022-23. 18

Table 3. Percentage, number and age-standardised rate of hospitalisations with a mental and behavioural disorder due to substance use by remoteness area, Australia, 2022-23. 19

Table 4. Percentage of drug-related hospitalisations by the care type and by sex, age group, principal diagnosis and drug class, Australia, 2022-23 23

Table 5. Percentage of drug-related hospitalisations by the length of stay and by sex, age group, principal diagnosis and drug class, Australia, 2022-23 25

Table 6. Percentage of hospitalisations involving admission to the intensive care unit (ICU), by length of stay in ICU, sex, age group, diagnosis and drug class, Australia, 2022-23 26

Table 7. Percentage and number of hospitalisations by drug type, Australia, 2022-23 28

Table 8. Percentage, number and age-standardised rate of optioid-related hospitalisations by age, Australia, 2022-23. 33

Table 9. Percentage, number and age-standardised rate of amphetamine-type stimulants-related hospitalisations by age, Australia, 2022-23. 40

Table 10. Percentage, number and age-standardised rate of methaphetamine-related hospitalisations by age, Australia, 2022-23. 43

Table 11. Percentage, number and age-standardised rate of MDMA/ecstasy-related hospitalisations by age, Australia, 2022-23. 44

Table 12. Percentage, number and age-standardised rate of cannabinoid-related hospitalisations by age, Australia, 2022-23. 46

Acknowledgements

Funding

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

Data source

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

Acknowledgements

We thank Dr Louise Tierney and her team from the Tobacco, Alcohol and Other Drugs Unit at the Australian Institute of Health and Welfare for reviewing the report.

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.

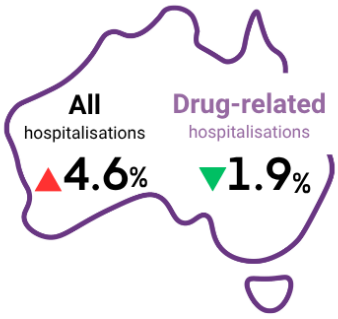
Related Links

- Hospitalisations data visualisations: https://drugtrends.shinyapps.io/hospital_separations
- Hospitalisations methods document: https://www.unsw.edu.au/research/ndarc/resources/trends-drug-related-hospitalisations-australia-2003-2023
- For other Drug Trends publications on drug-related hospitalisations and drug-induced deaths in Australia, go to: National Illicit Drug Indicators Project (NIDIP)
- For more information on NDARC research, go to: National Drug & Alcohol Research Centre | Medicine & Health - UNSW Sydney
- For more information about the AIHW and NHMD, go to: https://www.aihw.gov.au/
- For more information on ICD coding go to: ICD-10-AM/ACHI/ACS Eleventh Edition | Resources | IHACPA
- For more research from the Drug Trends program go to: Drug Trends | National Drug & Alcohol Research Centre - UNSW Sydney

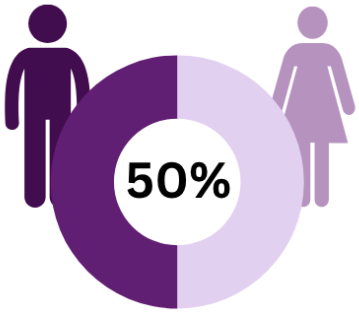
Drug-Related Hospitalisations, Australia, 2022-23

NIDIP
National Illicit Drug Indicators Project

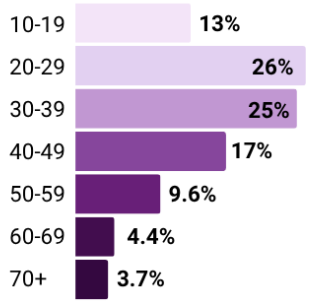
There were 51,413 drug-related hospitalisations (excluding alcohol and tobacco) in Australia in 2022-23.



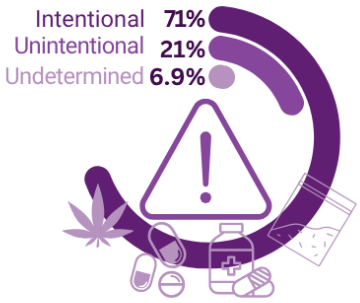
The number of drug-related hospitalisations decreased by 1.9% in 2022-23 relative to the previous year; by contrast, total number of all-cause hospitalisations increased by 4.6%



Males and females were equally represented among drug-related hospitalisations.



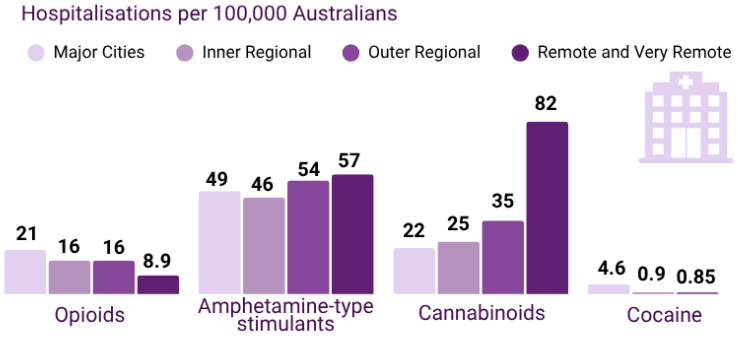
The highest percentage of drug-related hospitalisations occurred amongst Australians aged 20-29 and 30-39 years.



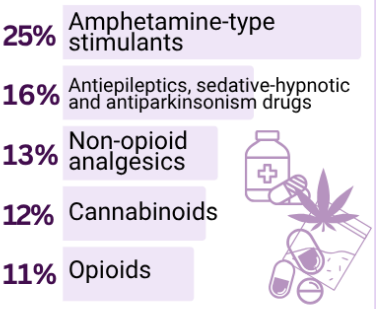
Intentional poisoning was the most common external cause of hospitalisations due to drug poisoning.

37% Drug induced psychotic disorder
32% Dependence syndrome
31% Other diagnoses

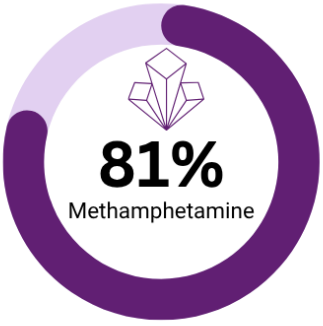
Drug-induced psychotic disorder and dependence syndrome were the leading diagnoses of mental and behavioural disorders due to substance use.



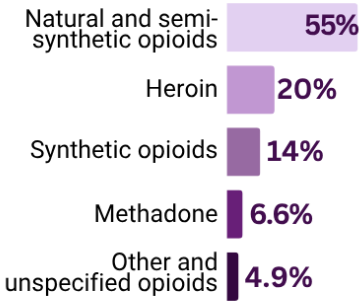
The highest rates of opioid- and cocaine-related hospitalisations were in major city areas. Amphetamine-type stimulant-related hospitalisations were highest in outer regional areas, and cannabinoid-related hospitalisations in remote and very remote areas.



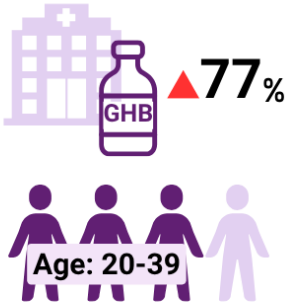
The five drug classes most commonly identified as the principal diagnosis in drug-related hospitalisations.



Methamphetamine-related hospitalisations comprised 81% of all hospitalisations related to amphetamine-type stimulants.

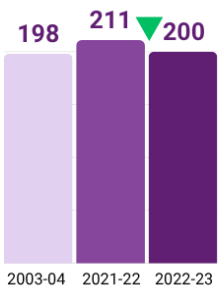


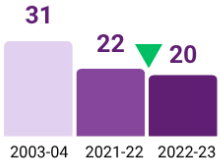
Natural and semi-synthetic opioids were the principal diagnosis in over half of opioid poisoning hospitalisations.

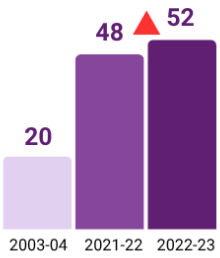


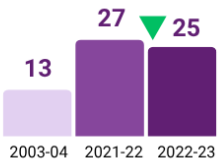
GHB-related hospitalisations increased 77% from 2021–22 to 2022–23, with 76% (765 hospitalisations) among the 20–39 age group.

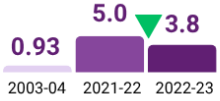
Change in Rate of Hospitalisations (per 100,000 people)











The total rate of drug-related hospitalisations generally increased from 2002-03 to 2015-16, thereafter declining through to 2022-23.
Each drug type exhibited its own distinct pattern of change over time, but most saw a decline from 2021-22 to 2022-23, with the exception of amphetamine-type stimulants.

Executive Summary

In 2022-23, there were **51,413** **drug-related hospitalisations** (excluding alcohol and tobacco) among Australians, representing 0.42% of all-cause hospitalisations in Australia and an average of 141 hospitalisations per day.

Overall Trend

The rate of drug-related hospitalisations peaked in 2015-16 at 272 per 100,000 people and has generally declined since, reaching **200 per 100,000 people** in 2022-23, a **5.1% decrease** from 2021-22.

Impact of COVID-19 on Hospital Activity

All-cause hospitalisations in Australia fluctuated during the pandemic, rebounding by 4.6% in 2022–23. In contrast, drug-related hospitalisations have declined for the third consecutive year since the onset of COVID-19.

Sociodemographic Characteristics

- **Sex:** Drug-related hospitalisations were evenly split between males (50%) and females (50%), with both experiencing a decline in rates since 2021-22.
- **Age:** The highest rates were among the 20-29 and 30-39 age groups, accounting for 26% and 25% of drug-related hospitalisations, respectively. Compared to 2021-22, the rate declined in the two youngest age groups (i.e., 10-19 and 20-29 years), while an increase was recorded in the 40-49 age group. Despite the decrease, the 10-19 and 20-29 age groups remained the most commonly represented among females.
- **Remoteness:** Most drug-related hospitalisations occurred in major cities (72%), but the highest rate remained in remote and very remote areas (247 per 100,000 people).
- **Socio-Economic Advantage and Disadvantage**: People in the most disadvantaged areas accounted for nearly a quarter of drug-related hospitalisations in 2022–23, though patterns varied by drug type, with cocaine and opioid-related admissions more common in the most advantaged areas.

Clinical Characteristics

- **Mental and Behavioural Disorders:** **54%** of drug-related hospitalisations were due to mental and behavioural disorders related to substance use, with the majority (69%) of these being drug-induced psychotic disorder (37%) and dependence syndrome (32%).
- **Drug Poisoning:** 46% of drug-related hospitalisations were due to drug poisoning, with 71% of these being intentional. Intentional poisonings were more common among females and younger age groups (10-29 years).
- **Care Type:** 61% of drug-related hospitalisations were classified as episodes of acute care, while mental health care accounted for 38%. Antiepileptic, sedative-hypnotic & antiparkinsonism drugs were the most common drug class recorded for acute care hospitalisations; amphetamine-type stimulants was the most common among mental health care hospitalisations.
- **Length of Stay:** 57% of drug-related hospitalisations were short one-day stays. Extended stays of 15 days or more accounted for 6.7% of hospitalisations. Amphetamine-type stimulants were the most commonly involved drug class across all length-of-stay categories, with the highest proportion observed in long-stay hospitalisations.
- **Intensive Care Unit Admission:** 6% of drug-related hospitalisations involved admission to the ICU; 94% of them were related to drug poisoning. The drug types most commonly involved in hospitalisations with ICU admissions included antiepileptic, sedative-hypnotic & antiparkinsonism drugs, opioids, antipsychotics & neuroleptic, and antidepressants.

Drug Type

Alcohol-Related Hospitalisations

While hospitalisations where the principal diagnosis was related to alcohol are excluded from estimates of drug-related hospitalisations (see Background and Methods), we include a brief analysis of the alcohol-related hospitalisations for context. In 2022-23, there were over 184,000 hospitalisations with an alcohol-related diagnosis, of which 77,324 hospitalisations had an alcohol-related principal diagnosis (287 per 100,000 people). The hospitalisation rate increased steadily from 2003-04, peaking at 324 per 100,000 in 2020-21 before declining.

- **Most Common Drugs**: Amphetamine-type stimulants accounted for the largest proportion of drug-related hospitalisations (25%), followed by antiepileptic, sedative-hypnotic, and antiparkinsonism drugs (16%), non-opioid analgesics (13%), cannabinoids (12%), and opioids (11%).
- **Amphetamine-Type Stimulants:** Despite the overall decline in drug-related hospitalisations in 2022-23, the hospitalisation rate for amphetamine-type stimulants increased from 48 in 2021-22 to 52 hospitalisations per 100,000 people in 2022-23; this change was driven by increased rates among people aged 30-69 years.
- **Methamphetamine:** Methamphetamine accounted for 81% of amphetamine-type stimulant-related hospitalisations, making it the most common drug type identified. It was one of the two drug types that saw an increase in rate in 2022-23 compared to 2021-22 (GHB being the other drug type; see below).
- **Opioids**: The rate of opioid-related hospitalisations has decreased since 2015-16, with a further decline from 2021-22 to 2022-23, reaching its lowest level in two decades. The largest decrease was observed in heroin- and synthetic opioid-related hospitalisations.
- **Cannabinoids**: After peaking in 2020-21, the rate of cannabinoid-related hospitalisations has declined for the second consecutive year in 2022-23, largely driven by a decrease among males, but still remaining twice the rate recorded in 2003-04.
- **Cocaine**: Cocaine-related hospitalisations have declined since peaking in 2019-20, with a further decrease observed in 2022-23. Males accounted for 79% of these hospitalisations, with the 30-39 age group being the most affected.

GHB-Related Hospitalisations

GHB-related hospitalisations peaked in 2022-23 at 8.3 hospitalisations per 100,000 people, a result of a **77%** increase from 4.7 hospitalisations per 100,000 people in 2021-22. Hospitalisations were equally represented by males and females, with the majority (76%) occurring in individuals aged **20-39**. **Half** of hospitalisations related to GHB **poisoning** were unintentional (26% undetermined intent) and **40%** of mental and behaviour use disorder diagnoses were related to **acute intoxication from GHB**.

Jurisdiction

From 2021-22 to 2022-23, the age-standardised rate of drug-related hospitalisations further decreased in New South Wales, Queensland and Victoria, while changes in the other states and territories were not statistically significant.

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

Data Source

This report presents data on drug-related hospitalisations (see **Panel A** for definition) in Australia from 2003-04 to 2022-23, focusing on hospitalisations related to opioids, amphetamine-type stimulants, cannabinoids, cocaine and other drugs, in line with the aims of the Drug Trends program. Data were extracted from the National Hospital Morbidity Database (NHMD) held by the Australian Institute of Health and Welfare (AIHW). Full methodological details are available for download and should be read alongside this report.

Scope of Reporting

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). The main data presented here describe drug-related hospitalisations where the principal diagnosis was directly attributable to the use of *illicit drugs* (e.g., heroin), *prescription medicines* (e.g., antidepressants) or *medicines available without a prescription* (e.g., paracetamol). To provide a broader view of drug involvement, we also present the total number of hospitalisations with drug-related codes listed among the first 20 diagnoses, broken down by drug type and overall.

Data Coverage and Limitations

Key aspects of reporting comprise the following:

- 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, the 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 on the remoteness area of usual residence were unavailable for Queensland prior to 2018-19. Therefore, we present data by remoteness area in Australia for the years 2018-19 to 2022-23.
- We have only been able to access Socio-Economic Indexes for Areas (SEIFA) index data for the period from 2021-22. Due to the limited data points, the estimates presented in this report are confined to the latest 2022-23 data.
- Data on care type, length of stay in hospital and length of stay in Intensive Care Unit presented in this report are also confined to the latest 2022-23 data.

Data presented here may underestimate the total number of hospitalisations related to drug use for several reasons. Firstly, hospitalisations where the principal diagnosis was related to tobacco or alcohol use are not included 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. Secondly, hospitalisations where drugs are coded as an additional diagnosis (but not the primary diagnosis) are excluded unless otherwise indicated. Thirdly, some data were not provided by the data custodians as outlined above for reasons of confidentiality; for this reason, estimates may be smaller than in the Australian Institute of

Health and Welfare's latest report Alcohol, tobacco & other drugs in Australia. Finally, these data will not capture cases where drug contributed to the hospitalisation but were not captured in diagnosis coding.

In studying hospitalisations by drug type, 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'. In some cases, it is not possible to determine one substance as the primary drug leading to hospitalisation. These instances are coded and presented as 'multiple drug use' and are not included in the count for any individual substance.

Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for details on data selected and all exclusions.

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.

Reporting of Results

We present hospitalisations data as raw 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). To protect privacy, hospitalisations of five or fewer are suppressed. Age-standardised rates were not calculated when the total number of hospitalisations was 10 or fewer, in line with recommendations for data stability. Estimates for specific age groups are provided only as crude rates per 100,000 people. Unless otherwise stated, all other rates described in this report are age-standardised. Statistical tests for significant percent changes were conducted between 2022-23 and 2021-22 estimates. A percent change is considered statistically significant if zero falls outside the 95% confidence interval. Results of these tests are presented in tables within a separate Appendix document.

Supporting Resources

An interactive online data visualisation accompanies this report, allowing users to disaggregate and download figures. Data can be viewed by drug, jurisdiction, remoteness area, sex, age group, and diagnosis, and presented as numbers, crude rates or age-standardised rates per 100,000 population (with 95% confidence intervals).

Full details of the methods, including the codes used, are also available for download.

1

Trends in Drug-Related Hospitalisations among Australians

2022-23

51,413 drug-related hospitalisations

200 drug-related hospitalisations per 100,000 Australians

141 drug-related hospitalisations per day

0.42% of all hospitalisations in Australia

Overall Trend

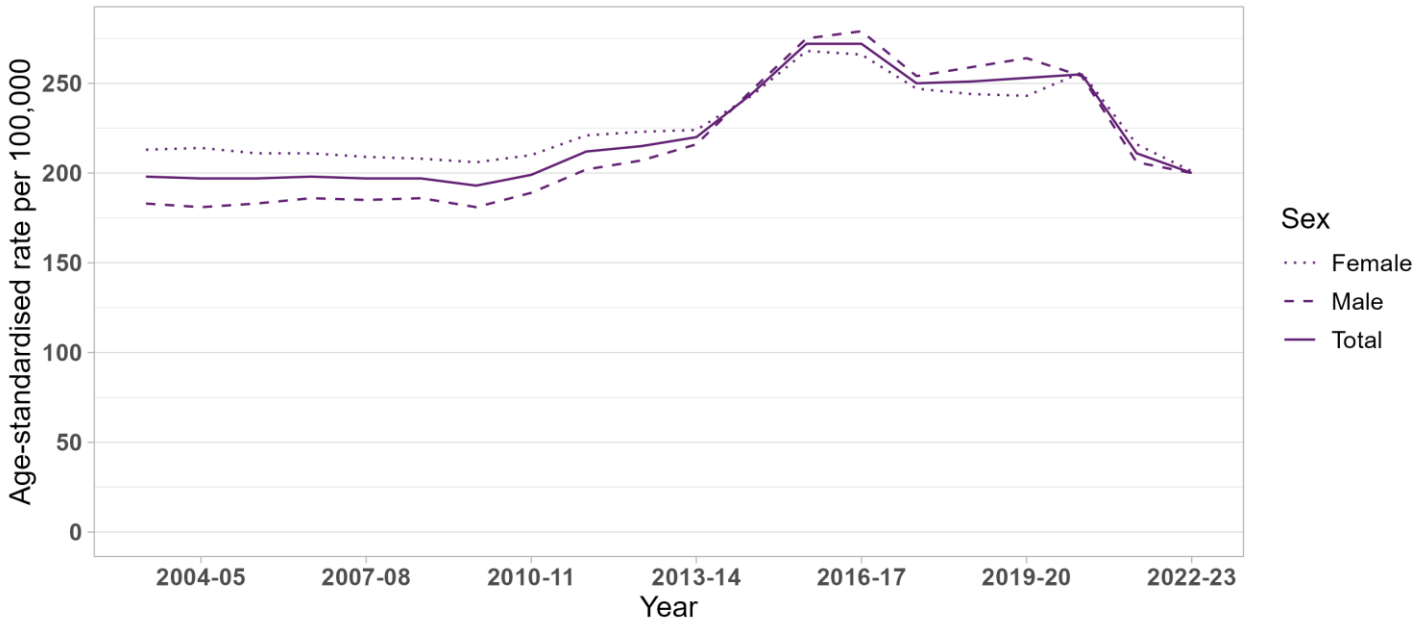
In 2022-23, there were 12.1 million hospitalisations in Australia's public and private hospitals. Among them, 116,013 hospitalisations had a drug-related diagnosis recorded in the first 20 diagnosis fields (i.e., principal or additional diagnosis), with 51,413 having a drug-related principal diagnosis. This latter figure represents 0.42% of all-cause hospitalisations and an average of 141 drug-related hospitalisations per day. While the number of all-cause hospitalisations in 2022-23 increased by 4.6% compared to 2021-22, the number of drug-related hospitalisations specifically decreased by 1.9% over the same period.

Adjusting for population size and age distribution, we estimate 200 drug-related hospitalisations per 100,000 people in 2022-23 (**Figure 1**). These figures exclude episodes of care where alcohol or tobacco were the principal reason for hospitalisation, although a summary of rates of alcohol-related hospitalisations is presented in **Panel C** for reference.

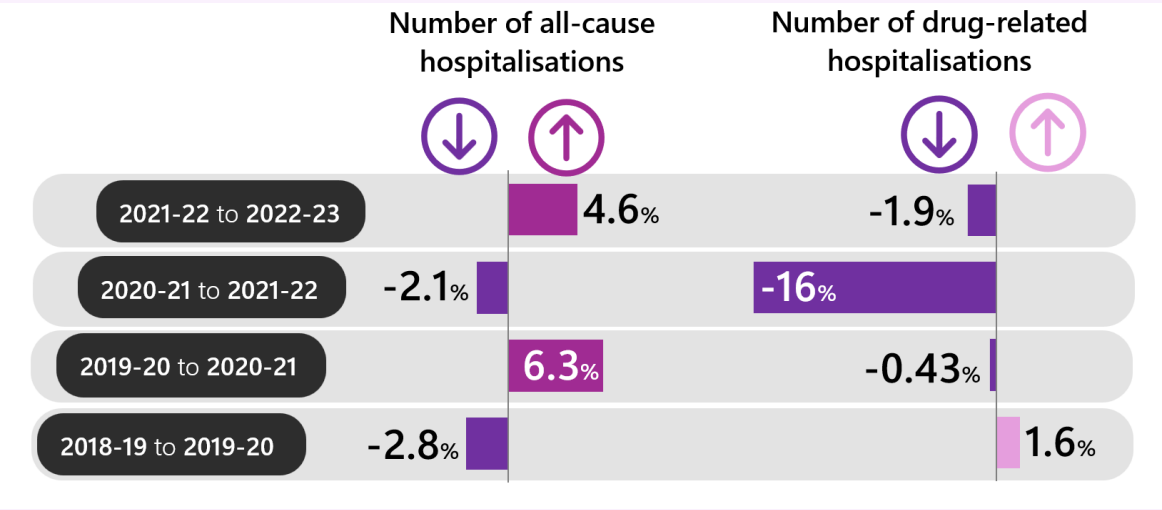
Trend since 2003-04

- From 2003-04 to 2015-16, there was an overall increase in drug-related hospitalisations, reaching a peak of 272 hospitalisations per 100,000 people in 2015-16 and 2016-17, before subsequently stabilising and then declining since 2020-21.
- In 2022-23, the rate of drug-related hospitalisations declined by 5.1% compared to 2021-22 (200 versus 211 hospitalisations per 100,000 people) (Table A1 in Appendix). This marks the second consecutive year of declining rates, bringing the rate down to levels observed in the 2000s, and contrasting with the recent increase in total hospitalisations in Australia.

Figure 1. Age-standardised rate per 100,000 people of drug-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



Panel B. Impact of COVID-19 on Hospital Activity in Australia



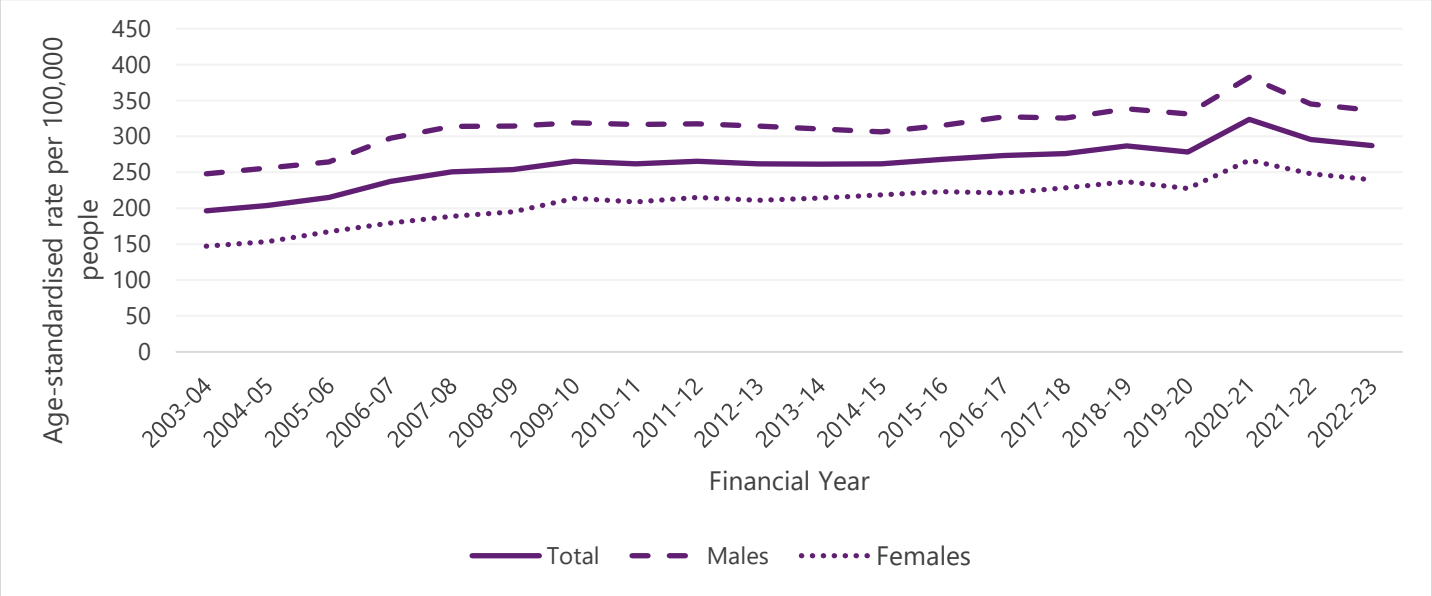
The emergence of the COVID-19 pandemic in Australia in early 2020 impacted the operations and use of emergency departments and admitted patient hospital services. As reported by the Australian Institute of Health and Welfare, the total number of all-cause hospitalisations in Australia increased by 6.3% between 2019–20 and 2020–21, contrasting with a 2.8% decrease between 2018–19 and 2019–20 prior to the pandemic. This increase was likely due in part to hospitalisations related to a COVID-19 diagnosis. Subsequently, hospitalisations declined in 2021-22 by 2.1%, likely due to associated preventative measures. However, in 2022–23, the number rebounded, increasing by 4.6% from the previous year - from 11.6 million to 12.1 million.

In contrast, the number of drug-related hospitalisations has decreased since the pandemic onset for the third consecutive year.

Panel C. Alcohol-Related Hospitalisations

Hospitalisations where the principal diagnosis was related to alcohol are excluded from the analysis presented in this report. However, alcohol is a major contributor to the overall burden of disease in Australia. According to the latest available data, alcohol-induced deaths in Australia reached a 10-year peak in 2022, accounting for 6.2 deaths per 100,000 people. In 2022-23, there were **184,725** hospitalisations with an alcohol-related diagnosis recorded (i.e., principal or additional diagnosis). Of these, **77,324** hospitalisations had an alcohol-related principal diagnosis, representing 0.64% of all-cause hospitalisations, and an average of 212 alcohol-related hospitalisations per day.

Age-standardised rate per 100,000 people of alcohol-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



Adjusting for age distribution, we estimate 287 alcohol-related hospitalisations per 100,000 people in 2022-23.

Alcohol-related hospitalisations were more common among males in 2022-23 (58%; 44,628 hospitalisations).

Half of all alcohol-related hospitalisations in 2022-23 occurred among individuals aged 40-59 years:

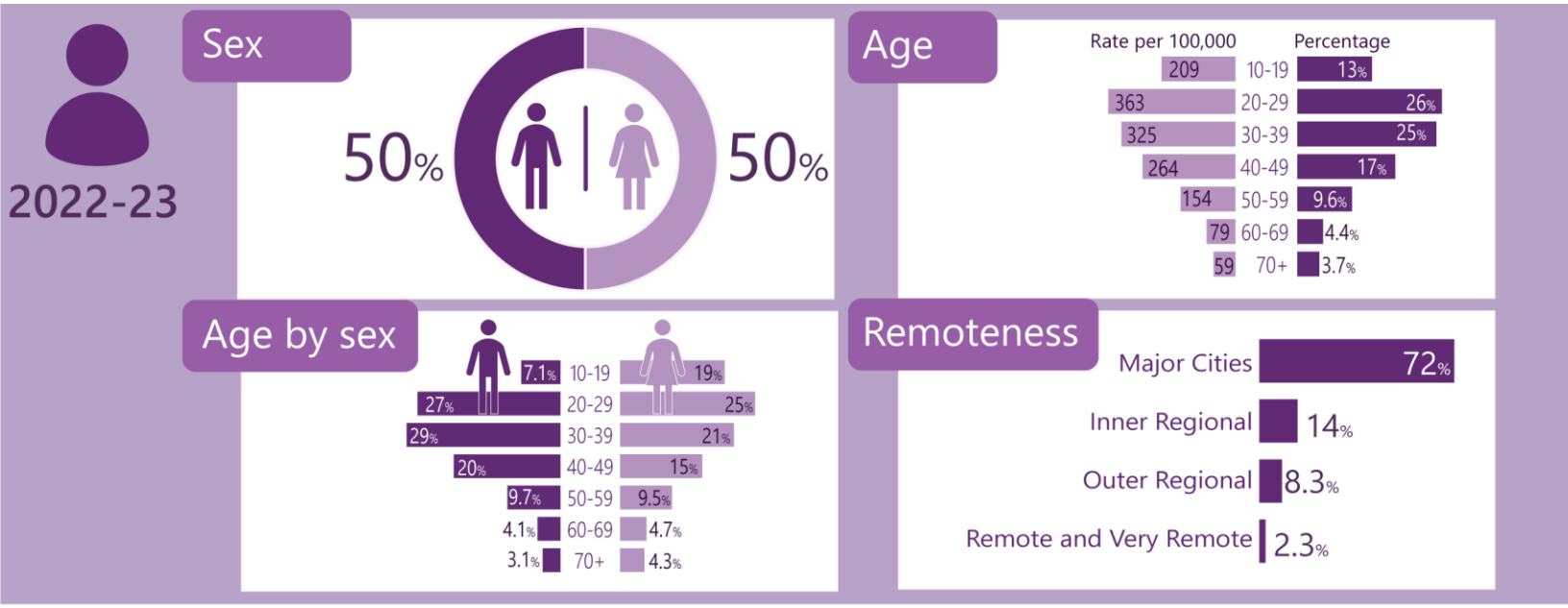
- 10-19 years – 1.5%, 1,197 hospitalisations
- 20-29 years – 8.0%, 6,199 hospitalisations
- 30-39 years – 18%, 13,555 hospitalisations
- 40-49 years – 26%, 20,444 hospitalisations
- 50-59 years – 25%, 19,705 hospitalisations
- 60-69 years – 15%, 11,606 hospitalisations
- 70 years and over – 5.9%, 4,598 hospitalisations

Principal diagnosis of mental and behavioural disorders due to use of alcohol was the leading cause of alcohol-related hospitalisations in 2022-23 (81%). Among these, 52% were related to dependence syndrome and 19% to acute intoxication. Additionally, alcohol-induced diseases constituted 18% of alcohol-related hospitalisations, while incidents of alcohol poisoning were less than 1%.

Note: Figures presented here are smaller than those reported by the Australian Institute of Health and Welfare in their latest report Alcohol, tobacco & other drugs in Australia. This difference arises from exclusions applied to the data by the data custodians. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

2

Sociodemographic Characteristics of Drug-Related Hospitalisations



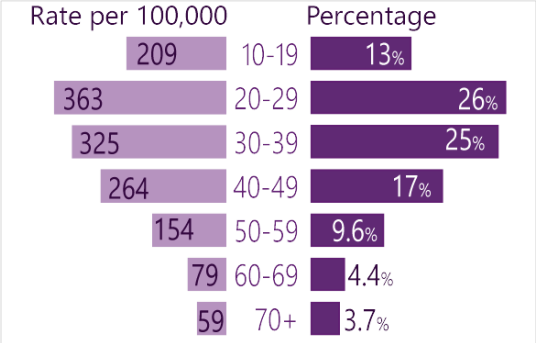
Sex

In 2022-23, drug-related hospitalisations were equally distributed among males and females (50% and 50%, respectively), with 25,686 hospitalisations among males and 25,673 among females. These numbers are equivalent to 200 drug-related hospitalisations per 100,000 Australian males and 201 drug-related hospitalisations per 100,000 Australian females (**Figure 1**).

Trend since 2003-04

- From 2003-04 to 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 of drug-related hospitalisations among males and an increase in the rate among females.
- In 2022-23, the age-standardised rate of drug-related hospitalisations declined for males and females compared to 2021-22, by 3.0% and 7.1%, respectively (Table A1, Appendix). For females, the rate fell below the levels observed in the 2000s.

Age



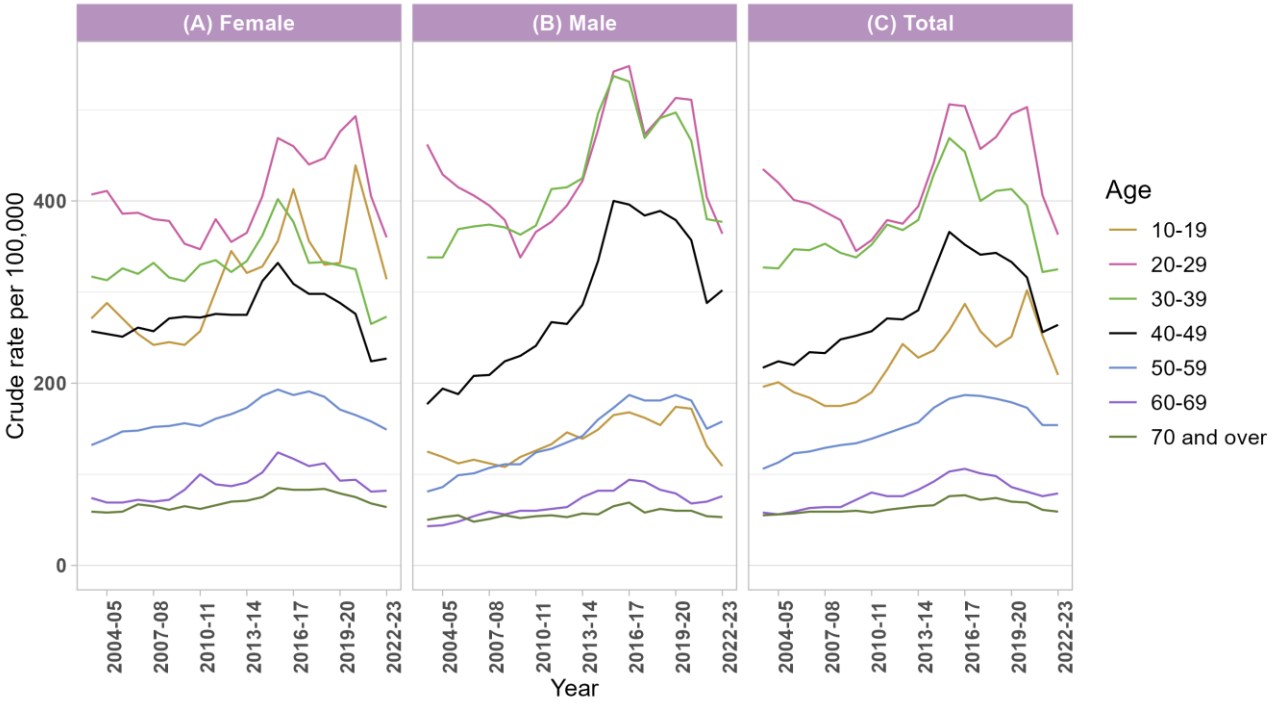
In 2022-23, the most common age groups represented among drug-related hospitalisations were 20-29 and 30-39, accounting for 26% (13,272 hospitalisations) and 25% (12,756 hospitalisations) of drug-related hospitalisations, respectively. The highest rates were also observed in these age groups, followed by the 40-49 and 10-19 age groups. It is important to note that about 80% of drug-related hospitalisations within the age group 10-19 years occurred among those aged between 15 and 19 years. The 70 and over age group was the least commonly represented (3.7%, 1,901 hospitalisations, 59 hospitalisations per 100,000 people). A small proportion of drug-related hospitalisations (1.0%) did not have an identified age or fell in the 0-9 age group.

Trend since 2003-04

- From 2003-04 to 2022-23, the age distribution of drug-related hospitalisations changed. Specifically, the percentage of people aged 50-59 years, 60-69 years and ≥70 years increased (from 6.8%, 2.4% and 2.6% to 9.6%, 4.4% and 3.7%, respectively), while the percentage of people aged 20-29 years decreased (from 30% to 26%).
- In terms of population rates, the highest rate of hospitalisations has consistently been observed among the 20-29 age group, followed by the 30-39 age group (**Figure 2**).
- Relative to 2021-22, the 2022-23 estimates declined in the two youngest age groups (Table A2, Appendix) by:
  - 17% in the 10-19 age group, and
  - 11% in the 20-29 age group,

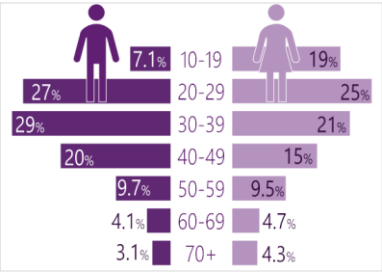
  while an increase of 3.2% was recorded in the 40-49 age group.

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, 2003-04 to 2022-23.



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

Sex and Age



In 2022-23, the highest percentage and population rate of drug-related hospitalisations among males were in the 30-39 and 20-29 age groups (29% and 27%, 377 and 364 hospitalisations per 100,000 males, respectively). Among females, drug-related hospitalisations were more common among the 20-29 than the 30-39 age group (25% versus 21%, 360 versus 273 hospitalisations per 100,000 females, respectively), followed by the 10-19 age group (19%, 314 hospitalisations per 100,000 females) (**Figure 2**).

Trend since 2003-04

- Between 2003-04 and 2022-23, the age distribution of drug-related hospitalisations among females and males has shifted:
    - **Females:**
        - The highest rate of drug-related hospitalisations has consistently been observed in the 20-29 age group (**Figure 2**).
        - Among females aged 10-19, the rate of drug-related hospitalisations increased from 271 in 2003-04 to 314 hospitalisations per 100,000 females in 2021-22, peaking at 439 per 100,000 in 2020-21. This made it the age group with the second-highest hospitalisation rate.
        - Hospitalisation rates in the 30-39 and 40-49 age groups peaked in 2015-16 at 402 and 332 hospitalisations per 100,000 people. Following these peaks, rates declined, reaching their lowest levels in 2021-22.
        - In 2022-23, significant declines were observed in the hospitalisation rates of females aged 10-19, 20-29 and 50-59 (Table A3, Appendix).
    - **Males:**
        - Throughout the monitoring period, the highest rate of drug-related hospitalisations has been recorded in either the 20-29 or 30-39 age groups (**Figure 2**).
        - Compared to females, males aged 10-19 had relatively low representation in drug-related hospitalisations (less than 10% each year), with a peak of 172 per 100,000 in 2020-21.
        - A notable increase in hospitalisation rates was observed among males aged 40-49, peaking in 2015-16 at 400 hospitalisations per 100,000 people.
        - In 2022-23, significant declines were observed in hospitalisation rates among males aged 10-19 and 20-29 compared to 2021-22. However, the rate of hospitalisations increased among males aged 40-49 (Table A3, Appendix).

Remoteness Area of Usual Residence

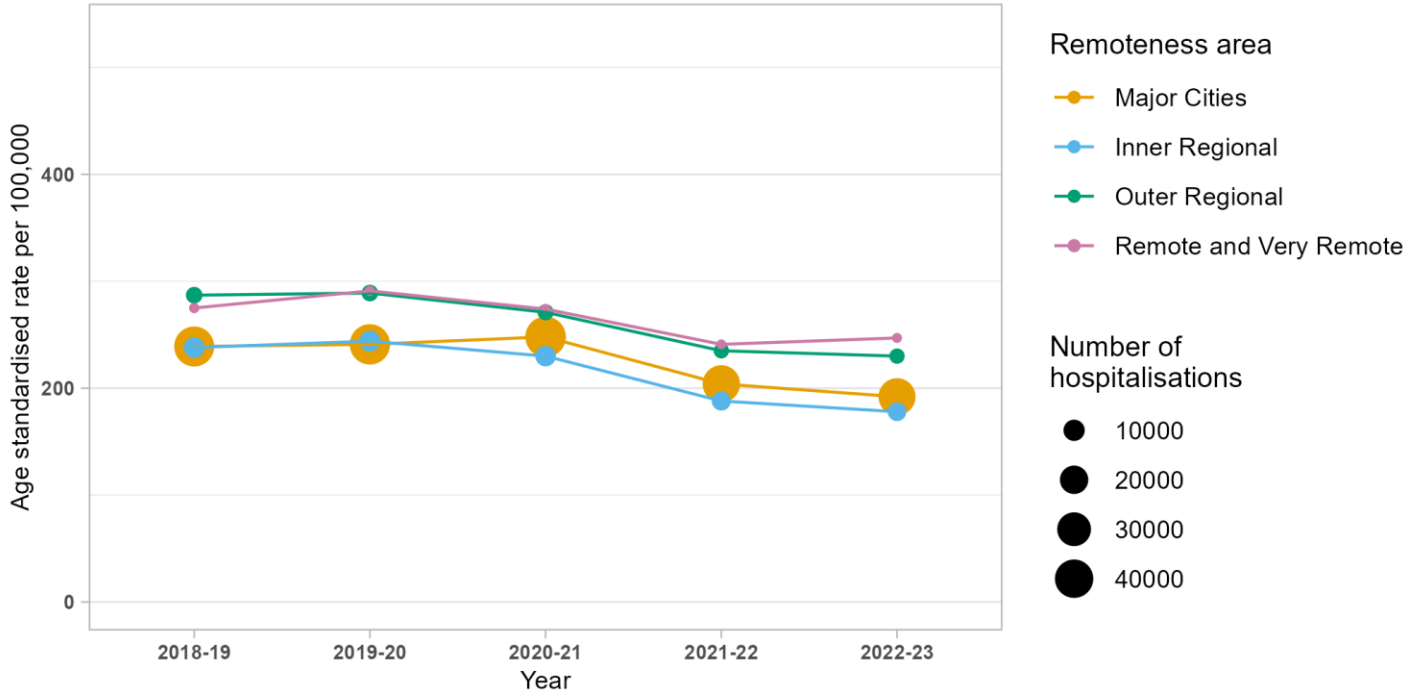
In 2022-23, the majority of drug-related hospitalisations occurred among people residing in major city areas however the age-standardised rate was highest in remote and very remote areas:

- 72% in major city (36,942 hospitalisations, 192 hospitalisations per 100,000 people),
- 14% in inner regional (7,254 hospitalisations, 178 hospitalisations per 100,000 people),
- 8.3% in outer regional (4,289 hospitalisations, 230 hospitalisations per 100,000 people), and
- 2.3% in remote and very remote (1,193 hospitalisations, 247 hospitalisations per 100,000 people) areas.

Trend since 2018-19

- The above profile by remoteness area of usual residence (hereafter 'remoteness area') has been consistent since 2018-19, with 71-72% of all hospitalisations occurring among people from major city areas and the population rate being the highest in the remote and very remote areas since 2019-20 (**Figure 3**).
- In 2022-23, there was a decrease in the population rates of drug-related hospitalisations in major city and inner regional areas, while the rate remained stable in outer regional, remote and very remote areas (Table A4, Appendix). Specifically, drug-related hospitalisations **decreased** by:
  - 6.1% in major cities, and
  - 5.0% in inner regional.

Figure 3. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness area, 2018-19 to 2022-23.



Note: Remoteness area could not be identified in 3.4% of hospitalisations in 2022-23 (n=1,735).

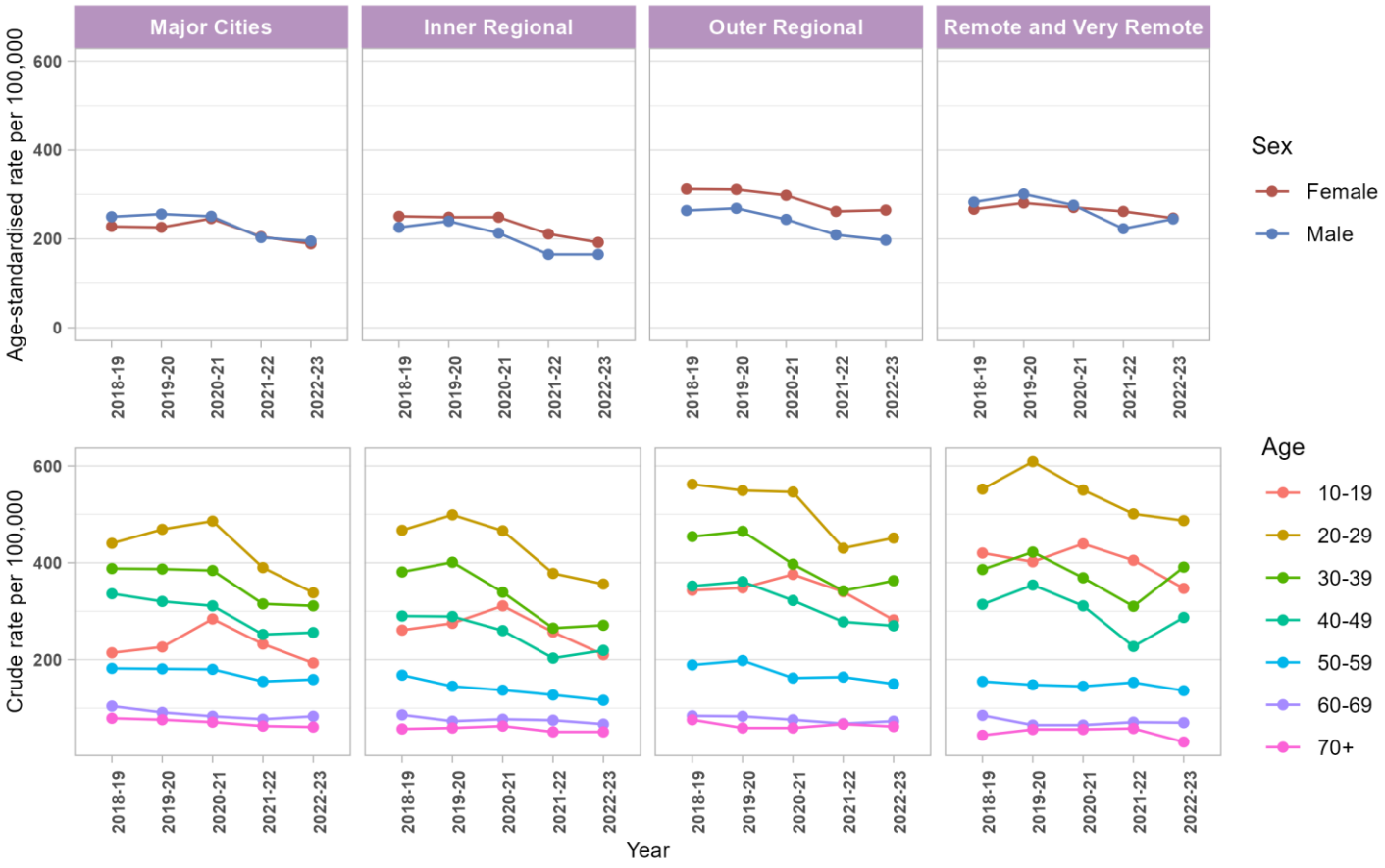
Remoteness Area and Sex

In 2022-23, drug-related hospitalisations were nearly equally common among male and female residents of major city areas, accounting for 51% and 49%, respectively (195 and 189 hospitalisations per 100,000 people, respectively). In inner and outer regional areas, females made up a greater proportion of hospitalisations than males (54% and 57%, respectively). In remote and very remote areas, males accounted for 52% of hospitalisations, though the population rate was similar for both sexes in these areas (**Figure 4**).

Trend since 2018-19

- The rates of drug-related hospitalisations followed a similar pattern for males and females in inner and outer regional areas.
- In major city and remote and very remote areas, the rates for males were higher than those for females in 2018-19. Rates equalised in 2020-21, remaining equal in major cities in 2022-23. In remote and very remote areas, however, the male rate dropped below the female rate in 2021-22 then converged again in 2022-23.
- In 2022-23, a significant decrease in rates compared to 2021-22 was observed in major city area for both males and females in inner regional area (Table A4, Appendix).

Figure 4. Rate per 100,000 people of drug-related hospitalisations among the Australian population, by remoteness area, sex and age group, 2018-19 to 2022-23.



Remoteness Area and Age

In 2022-23, the highest percentages and rates of hospitalisations were observed among the 20-29 and 30-39 age groups in all remoteness areas. The rates for these age groups were highest in remote and very remote areas (487 and 391 hospitalisations per 100,000 people, respectively) (**Figure 4**).

Trend since 2018-19

- The rate of drug-related hospitalisations has been consistently highest in the 20-29 age groups in all remoteness areas and lowest in the 50-59, 60-69 and 70 and over age groups.
- The rate in the 10-19 age group was higher in the remote and very remote area compared to other regions.
- Compared to 2021-22, significant decreases in rates were observed in:
    - the 10-19 (-17%), and 20-29 (-14%) age groups in major cities, and
    - the 10-19 (-18%) age group in inner and outer regional areas.
- Compared to 2021-22, significant increases in rates were observed in:
    - the 60-69 (8.2%) age group in major cities, and
    - the 30-39 (26%) and 40-49 (27%) age groups in remote and very remote areas.

Socio-Economic Advantage and Disadvantage

Socio-Economic Indexes for Areas (SEIFA) is a product developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The SEIFA index used in this report is based on the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) which summarises information about the economic and social conditions of people and households within an area, including both relative advantage and disadvantage measures. Data are presented as SEIFA quintiles ranging from 1 to 5 where:

- A **lower** score indicates relatively greater disadvantage and a lack of advantage in general. For example, an area could have a low score if there are:
    - many households with low incomes, or many people in unskilled occupations, AND
    - few households with high incomes, or few people in skilled occupations.
- A **higher** score indicates a relative lack of disadvantage and greater advantage in general. For example, an area may have a high score if there are:
    - many households with high incomes, or many people in skilled occupations, AND
    - few households with low incomes, or few people in unskilled occupations.

The SEIFA index data has been available only since 2021-22; therefore, due to the limited time span, the estimates presented here are based solely on the most recent 2022–23 data.

Profile in 2022-23

In 2022-23, 23% of drug-related hospitalisations (11,923 admissions) occurred among residents of the most disadvantaged areas. The remaining hospitalisations were fairly equally distributed across other socioeconomic areas, each accounting for 18%-19%. This pattern was similar across sexes, with 23% (5,861 admissions) of all drug-related hospitalisations among males and 24% (6,056 hospitalisations) among females occurring in the most disadvantaged areas (**Table 1**).

The greatest proportion of hospitalisations across all age groups lived in the two most disadvantaged areas (quintiles 1 and 2).

Both drug-related poisoning and mental and behavioural disorder diagnoses were most common among individuals from the most disadvantaged areas, accounting for 24% (5,691 hospitalisations) and 22% (6,218 hospitalisations), respectively. However, within the diagnoses of mental and behavioural disorder due to substance use, dependence syndrome and harmful use showed a different pattern. They were most common among residents of the most advantaged area, with 32% and 25% of admissions in quintile 5 compared to 14% and 19% in quintile 1, respectively.

People living in the most disadvantaged areas accounted for the highest proportion of hospitalisations related to most drug classes. However, there were some exceptions:

- **Opioids**: 23% of hospitalisations occurred among individuals in the most advantaged areas.
- **Cocaine**: 31% of hospitalisations were among people in the most advantaged areas.
- **Hallucinogens**: The highest proportion was recorded in the second most advantaged area, accounting for 24% of hospitalisations.
- **Antiepileptic, sedative-hypnotic, and antiparkinsonism drugs** (including GHB): Hospitalisations were more evenly distributed across socioeconomic areas, ranging from 18% to 20%.

Table 1. Percentage of hospitalisations by the index of relative socio-economic advantage and disadvantage quintiles by sex, age group, diagnosis and drug class, Australia, 2022-23

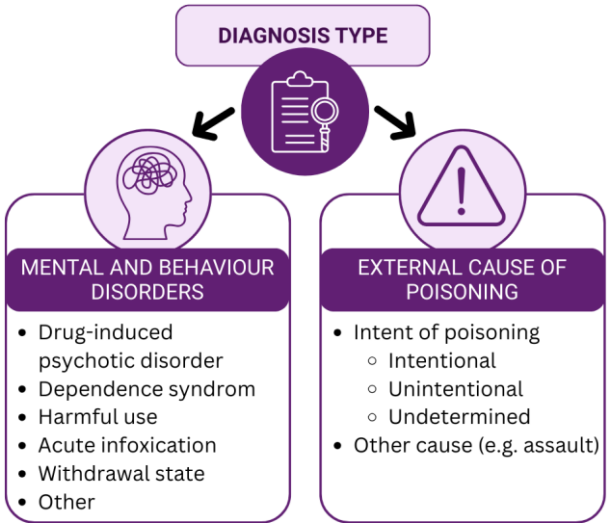
	Disadvantaged		← SEIFA →		Advantaged	
	Quintile 1 %	Quintile 2 %	Quintile 3 %	Quintile 4 %	Quintile 5 %	Total with SEIFA %
Total	**23**	19	18	18	18	97
Sex						
Male	**23**	19	18	18	19	96
Female	**24**	20	19	19	17	98
Age						
10-19	**23**	20	20	18	17	99
20-29	**22**	19	18	18	19	96
30-39	**24**	18	17	19	18	95
40-49	**24**	19	17	18	17	95
50-59	**23**	20	20	18	16	97
60-69	**25**	20	19	18	17	99
70 and over	20	**22**	20	17	20	99
PRINCIPAL DIAGNOSIS						
Mental and behavioural disorder	**22**	18	18	18	20	96
Drug-induced psychotic disorder	**30**	21	18	15	10	94
Dependence syndrome	14	15	17	21	**32**	99
Harmful use	19	17	17	18	**25**	96
Acute intoxication	**23**	17	16	19	14	89
Withdrawal syndrome	**25**	22	19	18	13	97
Poisoning	**24**	20	19	19	15	98
Unintentional	**24**	20	19	19	14	96
Intentional	**24**	21	19	19	16	99
Drug type						
Amphetamine-type stimulants	**25**	19	18	17	15	94
Antidepressants	**25**	22	20	18	15	99
Antiepileptic, sedative-hypnotic & antiparkinsonism drugs	**20**	18	**20**	**20**	18	96
Antipsychotics & neuroleptics	**26**	19	18	18	16	98
Cannabinoids	**26**	21	17	16	18	98
Cocaine	12	15	16	24	**31**	99
Hallucinogens	16	17	20	**24**	19	95
Non-opioid analgesics	**25**	21	20	18	15	99
Opioids	19	19	18	18	**23**	96

Note: A lower score indicates relatively greater disadvantage and a lack of advantage in general. A higher score indicates a relative lack of disadvantage and greater advantage in general. Bolded values represent the highest percentages within the characteristics. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

3

Clinical Characteristics of Drug-Related Hospitalisations

This chapter explores the types and patterns of drug-related hospitalisation, including principal diagnoses type and the nature of drug involvement (e.g. poisoning, dependence, withdrawal). It also covers the severity of presentations (e.g. ICU admissions), length of stay, and types of care provided (e.g. acute, mental health).



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 2022-23, diagnoses of **mental and behavioural disorder due to substance use** were identified as the principal diagnosis in **54%** of all drug-related hospitalisations, while **drug poisoning** accounted for **46%**. Between 2003-04 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. Between 2009-10 and 2017-18, this difference decreased and then reversed from 2018-19 onwards. It is important to exercise caution when comparing diagnoses over time, as the classifications and coding standards for those data can change.

Principal Diagnosis: Mental and Behavioural Disorder Due to Substance Use

2022-23

54% mental and behavioural disorder due to substance

- **37%** Drug-induced psychotic disorder
- **32%** Dependence syndrome
- **12%** Harmful use
- **11%** Acute intoxication
- **7.1%** Withdrawal state

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 and dependence syndrome were the leading diagnoses over the course of monitoring, and in 2022-23 accounted for 37% and 32%, respectively, of hospitalisations with a principal diagnosis of mental and behavioural disorder due to substance use. Hospitalisations with a principal diagnosis of harmful use (12%), acute intoxication (11%), withdrawal state (7.1%) and other use disorders (1.2%) accounted for the remaining 31% of hospitalisations coded to 'mental and behavioural disorder due to substance use'.

Trend since 2003-04

- From 2003-04 to 2021-22, the rate of hospitalisations with a principal diagnosis of drug-induced psychotic disorder nearly doubled, peaking at 51 hospitalisations per 100,000 people in 2019-20 (**Figure 5**).
- An overall increase from 2003-04 to 2021-22 was also observed in the rates of hospitalisations with a principal diagnosis of:
    - **acute intoxication**, from 3.0 to 11 hospitalisations per 100,000 people,
    - **harmful use**, from 7.8 to 14 hospitalisations per 100,000 people, and
    - **dependence**, from 32 to 37 hospitalisations per 100,000 people.
- Compared to 2021-22, the 2022-23 rates significantly decreased for harmful use and dependence, while an increase was observed in diagnosis of psychotic disorder (Table A6, Appendix).

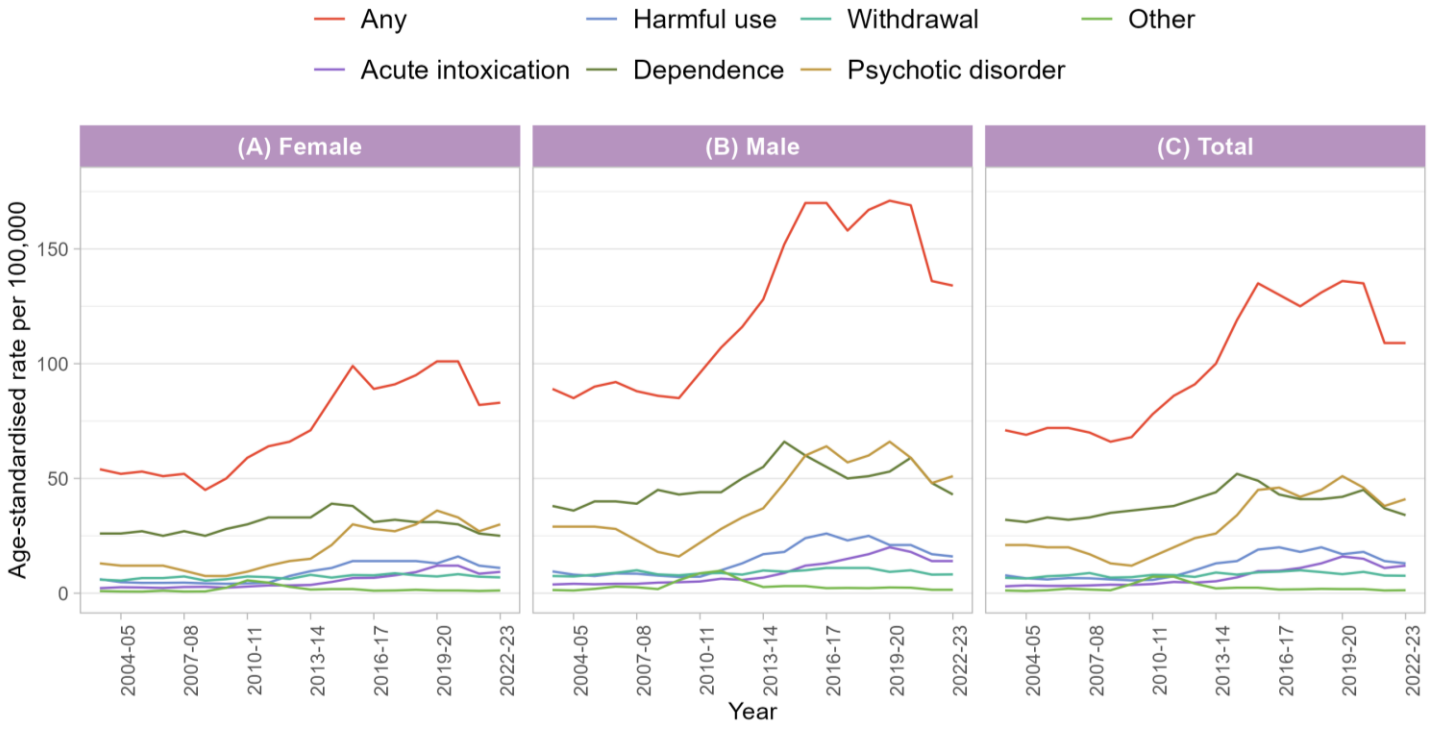
Sex

In 2022-23, males were more frequently represented than females across all diagnosis types of mental and behavioural disorders due to substance use. The biggest difference in the distribution was observed for dependence, psychotic disorder and acute intoxication, where males accounted for over 60% of hospitalisations.

Trend since 2003-04

- 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 (**Figure 5**). This has been consistent across all diagnoses within this cluster of ICD-10-AM codes.
- In 2022-23, the rate of hospitalisations increased compared to 2021-22 for:
    - psychotic disorder diagnosis for both males and females,
    - acute intoxication for females.
- Significant decreases were recorded in dependence-related hospitalisations for males, and in harmful use for females (Table A6, Appendix).

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, 2003-04 to 2022-23.



Age

In 2022-23, the proportion 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, with the 30-39 age group leading in nearly all diagnosis types. A similar pattern was observed when adjusting for population size (Table 2).

Table 2. Percentage and crude rate of hospitalisations with a mental and behavioural disorder due to substance use by diagnosis type and age group, Australia, 2022-23.

Age group	Any mental and behavioural disorder due to substance use		Acute intoxication		Dependence		Harmful use		Psychotic disorder		Withdrawal	
	%	Rate	%	Rate	%	Rate	%	Rate	%	Rate	%	Rate
10-19	5.4	46	6.3	5.8	3.3	8.8	7.0	7.3	6.3	20	5.2	3.1
20-29	30	224	28	23	28	68	**31**	**29**	31	87	26	**14**
30-39	**32**	**227**	**33**	**25**	**32**	**71**	29	25	**34**	**90**	**27**	13
40-49	21	168	22	19	22	56	18	18	20	61	21	12
50-59	8.8	76	7.7	7.1	11	30	9.4	9.9	7	22	9.8	6
60-69	2.7	26	1.8	1.8	3.1	9.7	5.0	6.0	1.1	4.1	5.5	3.8
70 and over	1.0	8.8	1.1	1.0	1.0	2.7	0.5	0.5	0.3	0.9	5.8	3.5

Note: The estimates for other mental and behavioural disorder due to substance use identified in the principal diagnosis are not presented due to small numbers. The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions. Bolded values represent the highest percentages and rates.

Trend since 2003-04

- In 2003-04 the rate of hospitalisations with a principal diagnosis of any mental and behavioural disorder due to substance use was highest in the 20-29 age group and about 50% higher than the 30-39 age group. Rates for these two age groups converged in 2009-10 (148 and 150 per 100,000 people, respectively), following a similar trend (typically increasing).
- Hospitalisation rates in the 40-49 and 50-59 age groups increased by about 300% between 2003-04 and 2020-21, rising from 63 to 191 and from 23 to 82 hospitalisations per 100,000 people, respectively. This was followed by a decline in 2021-22.
- The rate of hospitalisations in the 60-69 and 70 and over age groups remained low throughout monitoring.
- The 2022-23 rates recorded a significant **decrease** compared to 2021-22 for:
    - acute intoxication in the 10-19 age group,
    - harmful use in the 10-19 and 40-49 age groups,
    - dependence in the 20-29 and 30-39 age groups (Table A7, Appendix).
- The **increase** in 2022-23 rates compared to 2021-22 was observed in:
    - acute intoxication in the 30-39, 40-49 and 50-59 age groups,
    - harmful use in the 30-39 age group,
    - dependence in the 40-49 and 50-59 age groups, and
    - psychotic disorder in 30-39, 40-49 and 50-59 age groups (Table A7, Appendix).

Remoteness Area

In 2022-23, the majority of hospitalisations with a principal diagnosis of mental and behavioural disorder due to substance use were among major city residents, however the highest rate continued to be recorded among those from remote and very remote areas (**Table 3**).

This varied, however, depending on the principal diagnosis. The rate of dependence-related hospitalisations was highest in major city areas, while drug-induced psychotic disorder, withdrawal, harmful use and acute intoxication-related hospitalisations were highest in remote and very remote areas.

Table 3. Percentage, number and age-standardised rate of hospitalisations with a mental and behavioural disorder due to substance use by remoteness area, Australia, 2022-23.

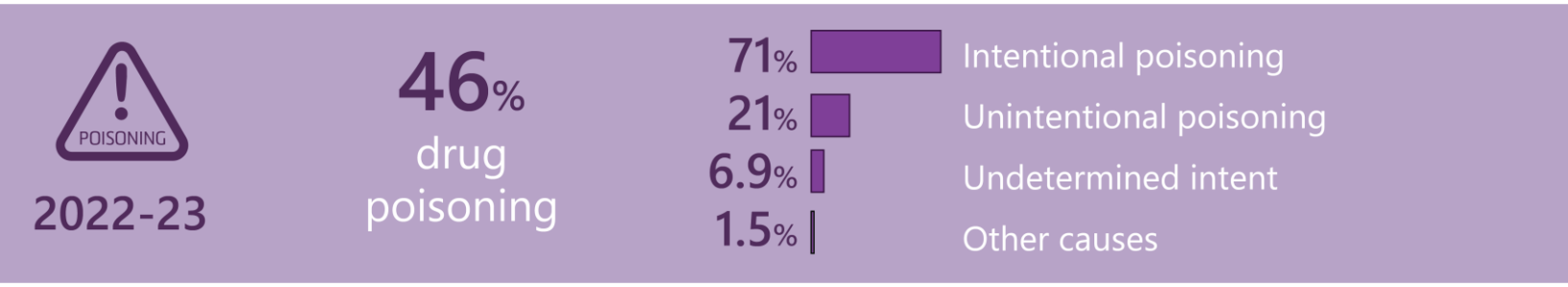
	Percentage	Number of hospitalisations	Rate per 100,000 people
Major cities	74%	**20,624**	106
Inner regional	12%	3,405	89
Outer regional	6.5%	1,810	103
Remote and very remote	2.6%	725	**151**
Total Australia	100%	27,780	109

Note: Remoteness area was not identified in 1,216 (4.4%) hospitalisations with a principal diagnosis of mental and behavioural disorder due to substance use in 2022-23. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions. Bolded values represent the highest percentages, numbers and rates.

Trends since 2018-19

- Since 2018-19, the rate of hospitalisations with a principal diagnosis of mental and behavioural disorder due to substance use has been consistently highest in remote and very remote areas.
- The 2022-23 rates of hospitalisation with a principal diagnosis of mental and behavioural disorder due to substance use decreased in all major cities compared to 2021-22 estimate and an increase was observed Inner regional, remote and very remote areas (Table A8, Appendix).

Principal Diagnosis of Drug Poisoning

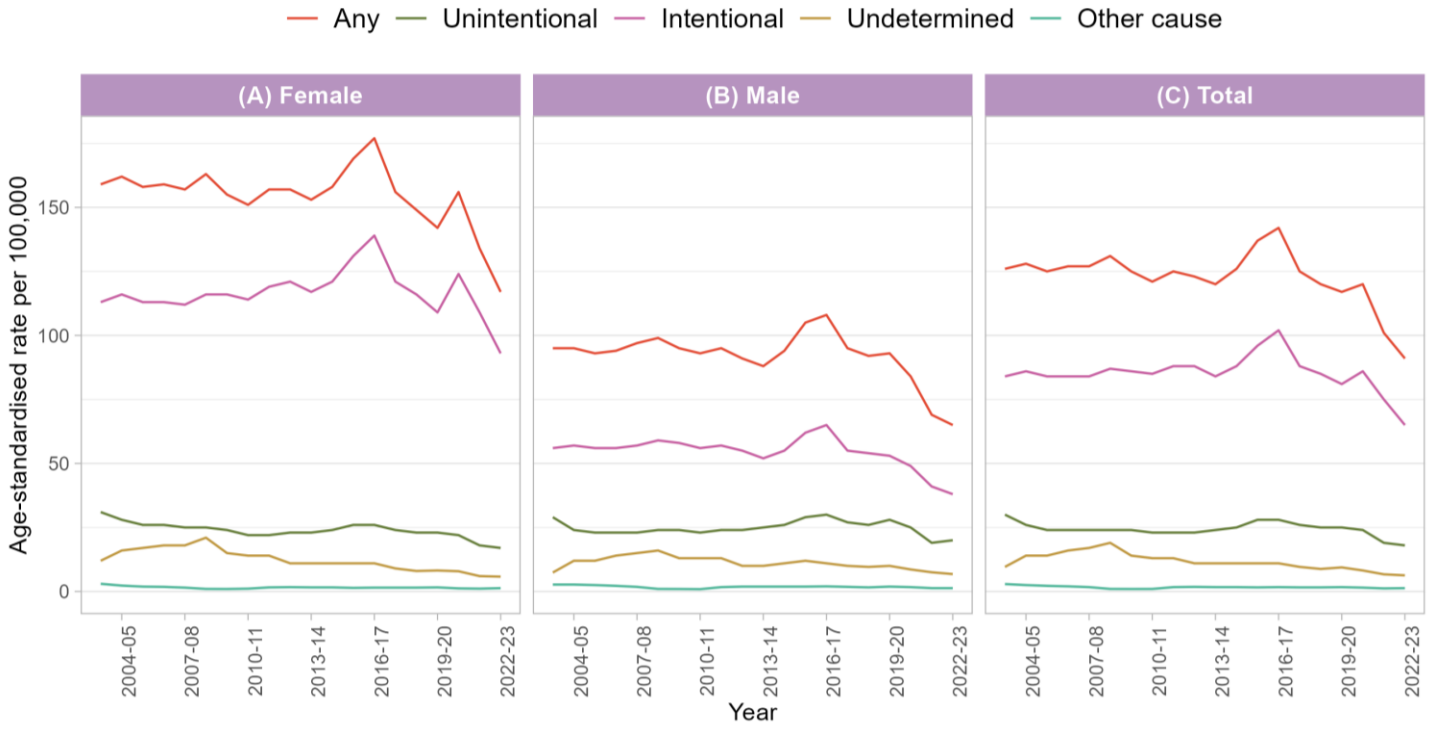


Over the course of monitoring, nearly three-quarters of drug poisonings were intentional, accounting for 71% in 2022-23 (16,682 hospitalisations), equivalent to 65 hospitalisations per 100,000 people.

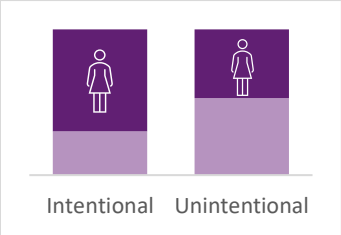
Trend since 2003-04

- The rate of intentional drug poisoning was relatively stable between 2003-04 and 2014-15. It peaked at 102 hospitalisations per 100,000 people in 2016-17 and subsequently decreased. Indeed, the rate in 2022-23 was the lowest observed across the monitoring period (**Figure 6**).
- The rate of hospitalisations due to unintentional drug poisoning declined from 30 hospitalisations per 100,000 people in 2003-04 to 19 hospitalisations per 100,000 people in 2021-22; the 2022-23 rate remained similar (18 hospitalisations per 100,000 people) (Table A9, Appendix).

Figure 6. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by external cause of poisoning, 2003-04 to 2022-23.



Sex

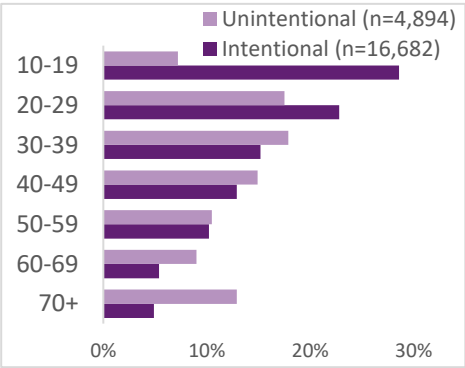


In 2022-23, 70% of intentional drug poisoning hospitalisations occurred among females, with a population rate of 93 hospitalisations per 100,000 females. In contrast, the rate of intentional drug poisoning hospitalisations among males was 38 hospitalisations per 100,000 males. Unintentional drug poisoning hospitalisations were approximately equally distributed between males (53%, 20 hospitalisations per 100,000 males) and females (47%, 17 hospitalisations per 100,000 females).

Trend since 2003-04

- Over the monitoring period, the rate of **intentional** drug poisoning among females has more than double that observed among males. Both rates declined in 2022-23 compared to 2021-22, with the female rate decreasing by 14% and the male rate by 8.7%, making the rates of both females and males the lowest observed in the monitoring period.
- In contrast, the rates of **unintentional** drug poisoning hospitalisations were similar for males and females throughout the monitoring period. Both rates declined in 2021-22 compared to 2020-21, bringing them to their lowest levels since the beginning of the monitoring. The rate stabilised for males in 2022-23 and further decreased for females, from 18 to 17 hospitalisations per 100,000. (Table A9, Appendix)

Age



In 2022-23, intentional drug poisoning was most common among people aged

- 10-19 (29%, 146 hospitalisations per 100,000 people) and
- 20-29 (22%, 104 hospitalisations per 100,000 people),

and least common among people aged

- 60-69 (5.4%, 32 hospitalisations per 100,000 people) and
- 70 and over (4.9%, 25 hospitalisations per 100,000 people).

In contrast, unintentional drug poisoning hospitalisations were more evenly distributed among the age groups, with the highest rate in the 20-29 age group (23 hospitalisations per 100,000 people) followed by the 30-39 age group (22 hospitalisations per 100,000 people).

Trend since 2003-04

Intentional poisoning

- The rate of hospitalisations for the 10-19 age group between 2003-04 and 2021-22 rose from 111 to 178 hospitalisations per 100,000 people, and from 2012-13 surpassed the rate observed among all the other age groups.
- Over the same period, the rates for the 30-39 and 40-49 age groups halved, decreasing from 136 and 112 to 69 hospitalisations per 100,000 people, respectively.
- In 2022-23, rates decreased across all age groups relative to 2021-22 except for 60-69 and 70 and over (Table A10 Appendix).

Unintentional poisoning

- Throughout the monitoring period, the rate of hospitalisations was generally highest among people aged 20-29 and 30-39.
- However, between 2003-04 and 2021-22, rates of hospitalisations due to unintentional poisoning declined in the 10-19, 20-29 and 30-39 age groups, while an overall increase was recorded in older age groups (50-59, 60-69 and 70 and over), peaking around 2016-17 and 2017-18, then declining.
- In 2022-23, rates decreased in the 10-19 and 50-59 age groups relative to 2021-22; rates in all other age groups were stable, except for an increase in the 30-39 age group (Table A10, Appendix).

Remoteness Area

Intentional poisoning

In 2022-23, the rate of hospitalisations due to intentional drug poisoning was highest in outer regional areas (96 hospitalisations per 100,000 people) and lowest in major city areas (60 hospitalisations per 100,000 people, respectively). Compared to 2021-22, declines in hospitalisation rates due to intentional drug poisoning were observed in all remoteness areas in 2022-23 (Table A11, Appendix).

Unintentional poisoning

The rate of hospitalisations due to unintentional drug poisoning was also highest in outer regional areas (23 hospitalisations per 100,000 people) and lowest in inner regional areas (15 hospitalisations per 100,000 people) in 2022-23. No significant change was observed in any of the remoteness areas when compared to 2021-22 (Table A11, Appendix).

Care Type

Admitted patients receive various types of care, which reflect the overall nature of the clinical services provided during their hospital stay. It is important to note that the type of care is distinct from a patient's diagnosis or specific medical condition. A single care type may be used to treat a wide range of health issues. Care types are generally classified into the following categories:

- Acute care,
- Newborn care,
- Subacute and non-acute care, which includes: Rehabilitation care, Palliative care, Geriatric evaluation and management, Maintenance care and Psychogeriatric care, and
- Mental health care.

For detailed definitions of each care type, refer to the 'More information about the data' section on the AIHW website.

Profile in 2022-23

In 2022-23, **61%** of drug-related hospitalisations were classified as episodes of ***acute care,*** while ***mental health care*** accounted for **38%**. The remaining 0.45% of hospitalisations were classified as other types (**Table 4**).

Acute care hospitalisations were more common among females, while *mental health care* hospitalisations were more common among males.

Mental health care hospitalisations had a greater proportion of those aged 20-49 years than *acute care* hospitalisations (81% compared to 61%).

In 2022-23, 67% of *acute care* drug-related hospitalisations had a principal diagnosis related to drug poisoning, while 88% of *mental health care* hospitalisations had a principal diagnosis of mental and behavioural disorder due to substance use.

The following three drug classes were the most common among hospitalisations classified as *acute care*:

- **Antiepileptic, sedative-hypnotic & antiparkinsonism,** 21%
- **Non-opioid analgesics,** 19%
- **Amphetamine-type stimulants,** 16%.

The following drug classes were the most common among hospitalisations classified as *mental health care*:

- **Amphetamine-type stimulants,** 40%
- **Cannabinoids,** 21%
- **Antiepileptic, sedative-hypnotic & antiparkinsonism drugs,** 8.1%.

Table 4. Percentage of drug-related hospitalisations by the care type and by sex, age group, principal diagnosis and drug class, Australia, 2022-23

Care type	Acute care	Mental health care	Subacute, non-acute, other care or unknown
Characteristics	%	%	%
Overall n (%)	31,477 (61)	19,706 (38)	230 (0.45)
Sex			
Male	44	**60**	35
Female	**56**	40	**65**
Age			
10-19	17	7.2	*np
20-29	**24**	30	*np
30-39	21	**31**	*np
40-49	16	20	3.5
50-59	10	8.6	5.2
60-69	5.5	2.2	29
70 and over	5.2	0.66	**60**
Principal diagnosis			
Poisoning	**67**	12	43
Mental and behavioural disorder	33	**88**	**57**
Drug type			
Amphetamine-type stimulants	16	**40**	1.7
Antidepressants	8.7	2.5	
Antiepileptic, sedative-hypnotic & antiparkinsonism drugs	**21**	8.1	**40**
Antipsychotics & neuroleptics	8.6	2.2	3.0
Cannabinoids	6.8	21	2.6
Cocaine	1.2	3.0	*np
Hallucinogens	0.48	0.45	*np
Non-opioid analgesics	19	3.2	6.1
Opioids	12	7.5	39
Volatile solvents	2.1	0.26	*np

Note: *np means data not publishable due to a small number of hospitalisations (n≤5). Bolded values represent the highest percentages within the care type. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

Length of Stay

The length of stay (LOS) refers to the number of days a patient is admitted for an episode of care, calculated as the duration between hospital admission and the end of that care episode. In the NHMD unit record file, LOS is capped at 30 days. For hospitalisations exceeding 30 days, the length of stay is recorded as ">30", which prevents the calculation of an accurate average LOS. Length of stay can provide a rough proxy for the severity or complexity of an episode of care, but it is not a direct or standardised measure of severity. Various factors, like diagnosis, treatment type, comorbidities, hospital protocols, and patient characteristics, can influence LOS. Still, certain guidelines are used in health systems to help interpret LOS in relation to severity (e.g., AR-DRGs, average length of stay). For this report, we use the following grouping:

- **Short Stay: 1 day**. Typically implies a brief admission for acute conditions or procedures with uncomplicated recoveries or for a diagnostic test.
- **Moderate Stay: 2-4 days.** Suggests a more involved admission for conditions requiring more complex management, monitoring, or recovery from significant but not severe illnesses.
- **Long Stay: 5-14 days.** Often associated with major surgeries, severe illnesses, or conditions requiring intensive rehabilitation.
- **Extended Stay: 15 days or more.** Occurs in cases of severe trauma, complex surgeries, chronic illnesses requiring prolonged treatment, or significant complications.

A same-day patient is allocated a length of stay of one patient day. The length of stay of an overnight stay patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting total leave days.

Profile in 2022-23

In 2022-23, **57%** of drug-related hospitalisations were **short** one-day stays (Table 5).

34% of drug-related hospitalisations ended with a discharge on the **same day**.

The proportion of males increased with longer lengths of stay, while the proportion of females decreased.

Regardless of the length of stay, hospitalisations had a greater proportion of those aged 20-39 years. However, as the length of stay increased, there was a higher proportion of individuals aged 70 and over, and a lower proportion of those aged 10-19.

Short and moderate length of stays had a similar proportion of poisoning and mental and behavioural disorder type diagnoses. Drug-related hospitalisations with **long or extended** stay were attributed to mental and behavioural disorder due to substance use.

Amphetamine-type stimulants were the most commonly involved drug class across all length-of-stay categories, with the highest proportion observed in long-stay hospitalisations. Similarly, the proportion of **cannabinoid**-related hospitalisations increased with longer lengths of stay.

Table 5. Percentage of drug-related hospitalisations by the length of stay and by sex, age group, principal diagnosis and drug class, Australia, 2022-23

Length of stay	Short 1 day	Moderate 2-4 days	Long 5-14 days	Extended 15+ days
Characteristics	%	%	%	%
Overall n (%)	29,415 (57)	9,432 (18)	9,142 (18)	3,424 (6.7)
Discharge				
Same day n (%)	17,430 (34)			
Overnight stay n (%)	11,985 (66)			
Sex				
Male	48	48	**55**	**59**
Female	**52**	**51**	45	41
Age				
10-19	16	14	6.5	6.8
20-29	**26**	**24**	25	**28**
30-39	24	**24**	**28**	27
40-49	17	18	20	19
50-59	9.3	9.9	10	9.2
60-69	3.9	5.2	5.0	4.6
70 and over	2.7	5.0	5.6	6.0
Principal diagnosis				
Poisoning	**53**	**52**	26	17
Mental and behavioural disorder	47	47	**74**	**83**
Drug type				
Amphetamine-type stimulants	**21**	**27**	**37**	**32**
Antidepressants	7.4	6.9	3.7	2.0
Antiepileptic, sedative-hypnotic & antiparkinsonism drugs	18	16	12	11
Antipsychotics & neuroleptics	6.6	8.4	3.9	1.8
Cannabinoids	9.9	10	18	24
Cocaine	2.4	0.74	1.2	2.2
Hallucinogens	0.57	0.23	0.30	0.67
Non-opioid analgesics	15	15	6.1	3.7
Opioids	11	9.5	11	10
Volatile solvents	1.9	0.72	0.54	0.76

Note: Bolded values represent the highest percentages within the LOS category. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

Intensive Care Unit Admission

The length of stay in an intensive care unit (LOS in ICU) is the total number of hours an admitted patient has spent in ICU. The total number of hours is reported by public hospitals with approved level 3 adult intensive care unit or an approved paediatric intensive care unit.

Where an episode of admitted patient care involves more than one period spent in an intensive care unit, the total number of hours is to be reported for all periods during the episode of care. The time spent in an operating theatre or in a coronary care unit is not counted. The total duration of hours reported is rounded to the nearest hour. In the NHMD unit record file, LOS in ICU is capped at 300 hours. While there are not strict hourly guidelines, a longer LOS in ICU generally correlates with a more severe episode of care.

Profile in 2022-23

In 2022-23, **6%** of drug-related hospitalisations involved **admission to the ICU** of which the majority were short and moderate length of stay (no more than 72 hours) (Table 6).

Both males and females were equally represented in the ICU admission.

Patients admitted to ICU were on average older than those not admitted, and age increased with the LOS in ICU increasing.

The majority (**94%**) of the drug-related hospitalisations that involved admission to the ICU were related to **drug poisoning**.

The drug types most commonly involved in the hospitalisations with **ICU admission** included:

- **antiepileptic, sedative-hypnotic & antiparkinsonism drugs**,
- **opioids**,
- **antipsychotics & neuroleptic**, and
- **antidepressants**.

Table 6. Percentage of hospitalisations involving admission to the intensive care unit (ICU), by length of stay in ICU, sex, age group, diagnosis and drug class, Australia, 2022-23

Characteristics	No ICU Stay %	With ICU Stay %
Overall n (%)	48,223 (94)	6,190 (6.2)
Length of Stay in ICU		
Short, <24 hours		32
Moderate, 24-72 hours		**46**
Long, 3-7 days		16
Extended, >7 days		6.0
Sex		
Male	**50**	**50**
Female	**50**	**50**
Age		
10-19	14	7.1
20-29	**26**	23
30-39	25	**25**
40-49	17	18
50-59	9.3	13
60-69	4.2	7.1
70 and over	3.6	5.3
Principal diagnosis		
Poisoning	43	**94**
Mental and behavioural disorder	**57**	6.0
Drug type		
Amphetamine-type stimulants	**27**	7.7
Antidepressants	6.0	10
Antiepileptic, sedative-hypnotic & antiparkinsonism drugs	15	**39**
Antipsychotics & neuroleptics	5.5	16
Cannabinoids	13	1.2
Cocaine	1.9	1.1

Hallucinogens	0.48	0.25
Non-opioid analgesics	13	8.0
Opioids	10	15
Volatile solvents	1.4	1.2

Note: Bolded values represent the highest percentages within the LOS category. Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

4

Drug-Related Hospitalisations by Drug Type

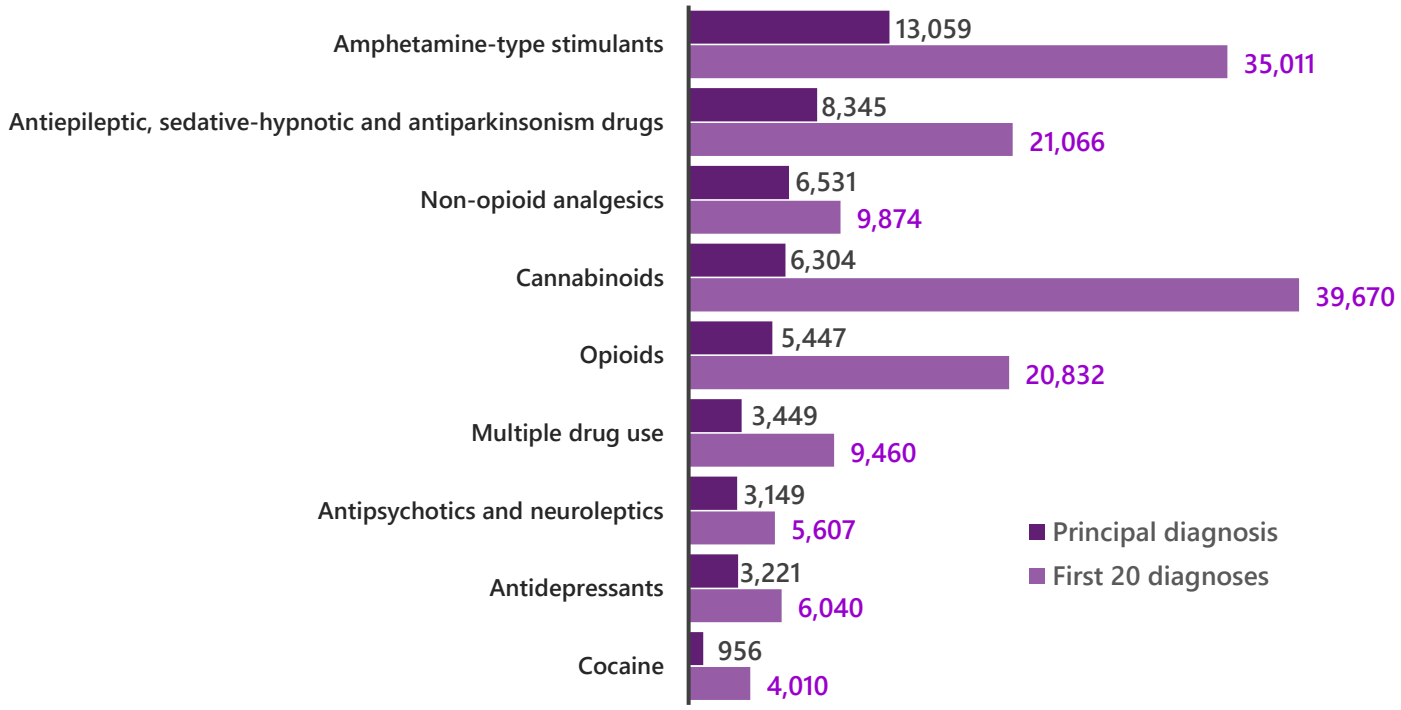
In 2022-23, the largest number of drug-related hospitalisations identified by principal diagnosis among the Australian population were attributable to amphetamine-type stimulants (mainly methamphetamine), followed by antiepileptic, sedative-hypnotic and antiparkinsonism drugs (e.g., benzodiazepines; GHB), non-opioid analgesics, cannabinoids and opioids (**Table 7**). Notably, considering the first 20 diagnoses among all hospitalisations (i.e., regardless of whether a drug is coded as the principal diagnosis) cannabinoids emerged as the most commonly identified drug (**Figure 7**).

Table 7. Percentage and number of hospitalisations by drug type, Australia, 2022-23

Drug type	Percentage	Number	Rate per 100,000	Significant Change From 2021-22
Amphetamine-type stimulants	25%	13,059	52	▲8.5%
Methamphetamine	21%	10,590	42	▲9.8%
MDMA/Ecstasy	0.59%	305	1.2	
Antiepileptic, sedative-hypnotic and antiparkinsonism drugs	16%	8,345	32	
Benzodiazepines	6.2%	3,196	12	▼17%
GHB	4.1%	2,119	8.3	▲77%
Non-opioid analgesics	14%	6,531	26	▼12%
4-Aminophenol derivatives (e.g., paracetamol)*	13%	5,512	22	▼12%
Cannabinoids	12%	6,304	25	▼8.8%
Opioids	11%	5,447	20	▼7.4%
Natural and semi-synthetic opioids*	2.7%	1,364	4.8	
Heroin*	1.0%	494	1.9	▼26%
Synthetic opioids*	0.66%	340	1.2	▼17%
Methadone*	0.32%	164	0.61	
Other and unspecified opioids*	0.24%	121	0.45	
Multiple drug use	6.7%	3,449	13	▼11%
Antipsychotics and neuroleptics	6.1%	3,149	12	▼16%
Antidepressants	6.3%	3,221	13	▼14%
Cocaine	1.9%	956	3.8	▼24%
Volatile solvents	1.4%	711	2.7	
Hallucinogens	0.47%	241	0.96	▼24%

Note: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. For 2021-22 rates and percent change not statistically significant see Table A12 in the Appendix. *Indicates diagnosis related to poisoning by the specified drug type identified by specific T-codes. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

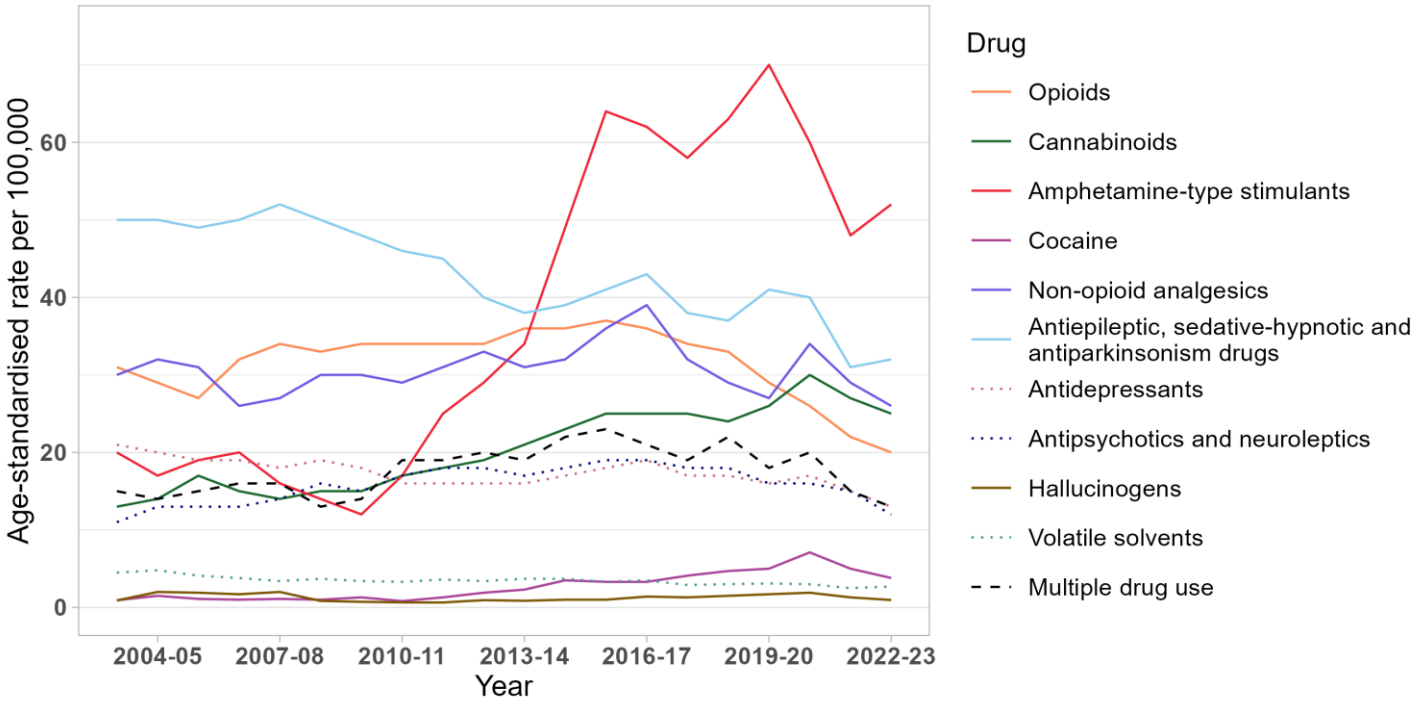
Figure 7. Number of selected hospitalisations in Australia identified in the principal diagnosis and in the first 20 diagnosis fields, 2022-23.



Trend since 2003-04

- From 2003-04 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 (**Figure 8**).
- 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 at 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 2021-22, decreasing to 48 hospitalisations per 100,000 people, followed by a recent increase.
- Over the past 7 years, the rate of opioid-related hospitalisations has steadily declined.
- Compared with the decrease of 5.1% in the overall rate of drug-related hospitalisations, more substantial **decreases** between 2021-22 and 2022-23 were observed for cocaine (24%), hallucinogens (24%), antipsychotics and neuroleptics (16%), antidepressants (14%), non-opioid analgesics (12%), cannabinoids (8.8%), and opioids (7.4%).
- While the overall rate of drug-related hospitalisations decreased in 2022-23 compared to the previous year, the rates for GHB and amphetamine-type stimulants **increased** by 77% and 8.5% respectively.
- Detailed description of trends over the course of monitoring for opioid-, amphetamine-type stimulant-, cannabinoid-, cocaine- and other drug-related hospitalisations are included in the subsequent chapters.

Figure 8. Age-standardised rate per 100,000 people of drug-related hospitalisations among the Australian population, by drug identified in the principal diagnosis, 2003-04 to 2022-23.



Note: Please also refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

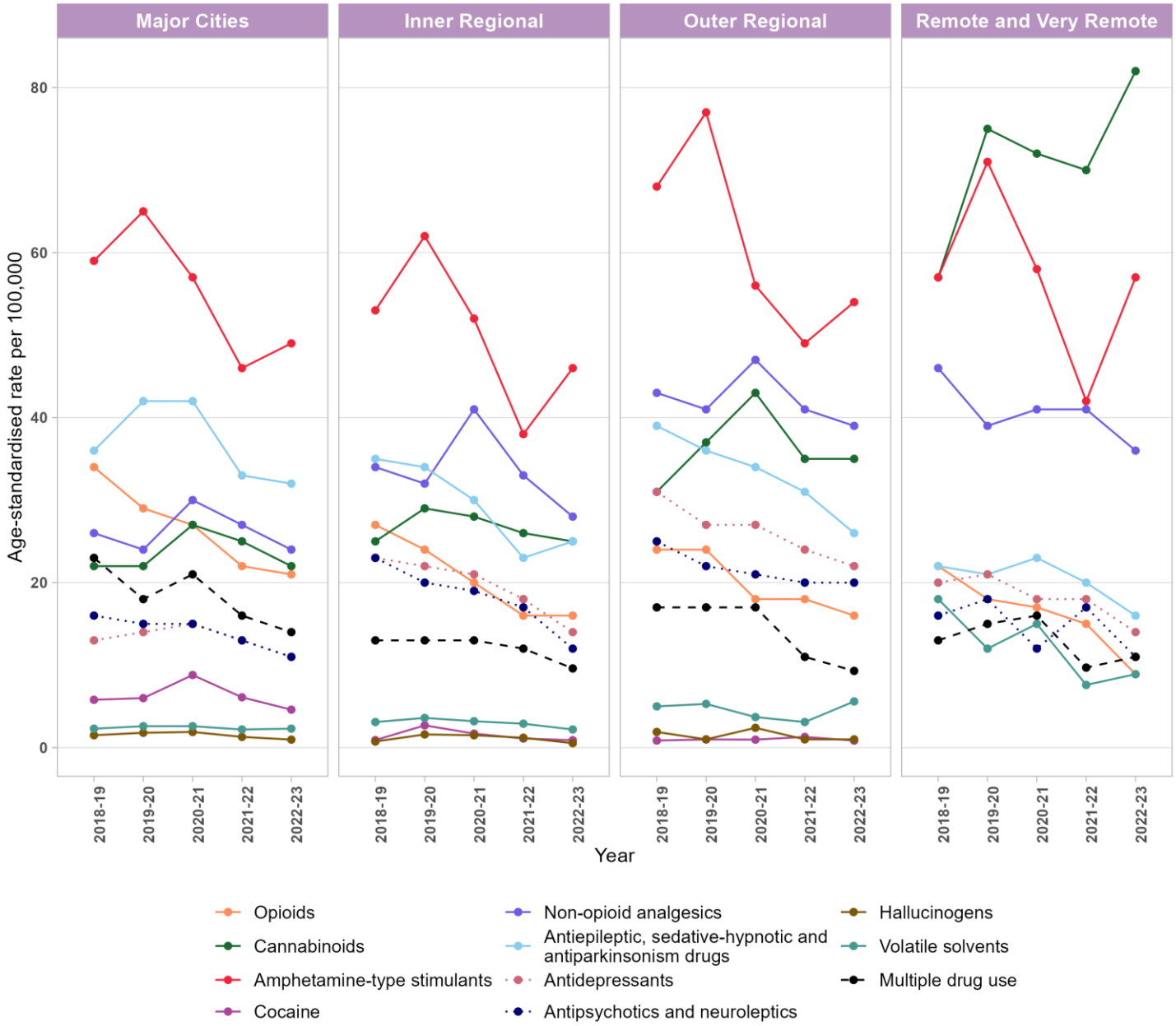
Drug Type and Remoteness Area of Usual Residence

Amphetamine-type stimulants was the most common drug class identified as the principal diagnosis for drug-related hospitalisations in all areas across the years from 2018-19, except for remote and very remote areas where cannabinoid-related hospitalisations were generally the most common (**Figure 9**). Compared with other remoteness areas across the years, the rates of drug-related hospitalisations were:

- highest for opioids and cocaine in major cities,
- lowest for non-opioid analgesics in major cities,
- highest for antidepressants, and antipsychotics and neuroleptics in outer regional areas,
- highest for volatile solvents in remote and very remote areas, and
- lowest for opioids, antiepileptic, sedative-hypnotic and antiparkinsonism drugs in remote and very remote areas.

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

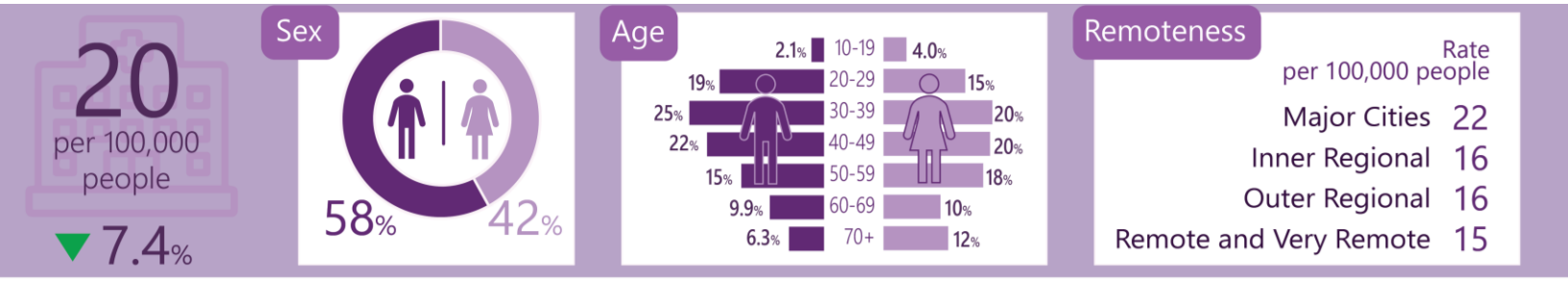
Figure 9. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug type identified in the principal diagnosis and remoteness area, among the Australian population, 2018-19 to 2022-23.



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), as well as opioids typically used for the treatment of pain (e.g., oxycodone) or for the treatment of opioid dependence (e.g., methadone).

In 2022-23, there were 20,832 hospitalisations where opioids were recorded as a principal or other diagnosis, among which 5,447 hospitalisations specifically identified opioids as a principal diagnosis. The latter estimate translates to a population rate of 20 hospitalisations per 100,000 people.

Trend since 2003-04

- The rate of opioid-related hospitalisations has steadily declined since peaking at 37 per 100,000 people in 2015-16, including a 7.4% drop from 2021–22 to 2022–23, reaching its lowest level in two decades (**Figure 10**) (Table A12, Appendix).

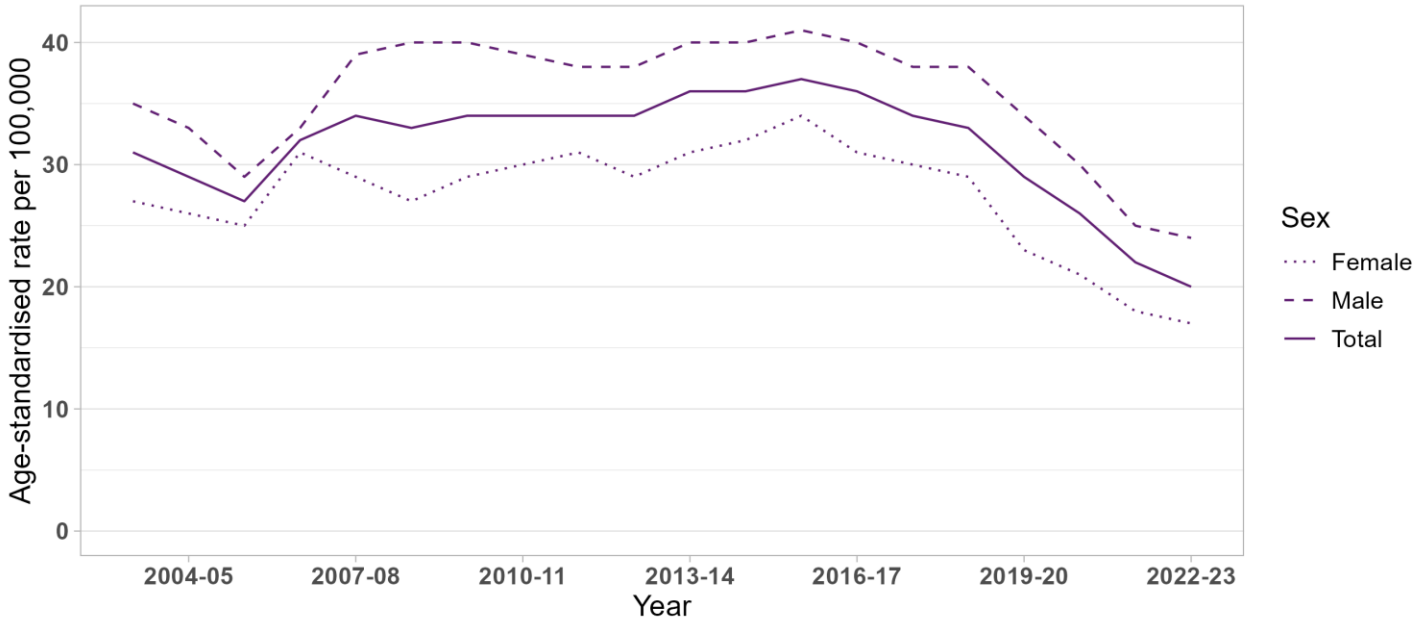
Sex

In 2022-23, opioid-related hospitalisations were more common among males (58%) than females (42%), with a rate of 24 hospitalisations per 100,000 males compared to 17 for females.

Trend since 2003-04

- The pattern of males having higher rates of opioid-related hospitalisations than females has been consistent over time.
- A steady decrease in the rates of opioid-related hospitalisations has been observed in both males and females since 2015-16 (**Figure 10**).
- A further decline has been observed from 2021-22 to 2022-23 in the rates for both males and females (by 6.1% and 9.5%, respectively), placing the rates at their lowest in the past two decades (Table A1, Appendix).

Figure 10. Age-standardised rate per 100,000 people of opioid-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



Age

In 2022-23, opioid-related hospitalisations were most common among the 30-39 age group, comprising 23% (1,248 hospitalisations) of all opioid-related hospitalisations while the rate continued to be the highest in the 40-49 age groups (33 hospitalisations per 100,000 people, Table 8).

Table 8. Percentage, number and age-standardised rate of optioid-related hospitalisations by age, Australia, 2022-23.

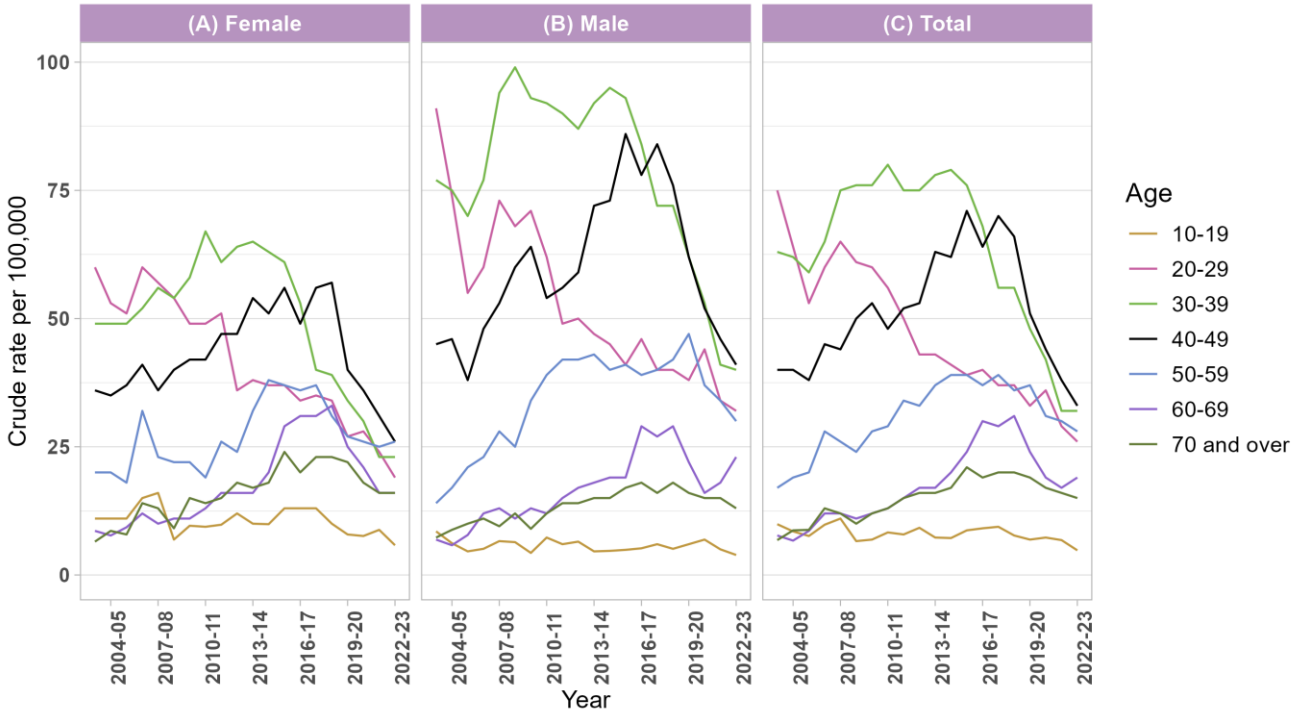
Age group	Percentage	Number	Rate per 100,000	Significant Change from 2021-22
10-19	2.9%	158	4.8	▼29%
20-29	17%	953	26	▼11%
30-39	23%	**1,248**	32	
40-49	21%	1,132	**33**	▼13%
50-59	17%	901	28	
60-69	10%	550	19	▲14%
70 and over	8.6%	470	15	

Note: The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Bolded values represent the highest percentages and rates. The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. For 2021-22 rates and non-significant changes see Table A2, Appendix. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

Trend since 2003-04

- Opioid-related hospitalisation rates were initially highest among people aged 20–39, but rates in these groups declined significantly over time. By 2017-18, older age groups, particularly those aged 40-49, had the highest rates, reflecting a gradual shift due to rising opioid use in these age bracket (**Figure 11**).
- Compared to 2021-22, opioid-related hospitalisation rates in the 10-19, 20-29, and 40-49 age groups declined further in 2022-23, reaching record lows. However, the 60-69 age group saw an increase in rate (Table A2, Appendix).

Figure 11. Crude rate per 100,000 people of opioid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 2003-04 to 2022-23.



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 11**).

Remoteness Area

In 2022-23, the rate of opioid-related hospitalisations was highest in major city areas (21 hospitalisations per 100,000 people; 4,115 hospitalisations), followed by outer regional (16 per 100,000 people; 345 hospitalisations), inner regional (16 per 100,000 people; 740 hospitalisations), and remote and very remote areas (8.9 per 100,000 people; 45 hospitalisations) (**Figure 9**).

Compared to 2021-22, the rate of opioid-related hospitalisations in 2022-23 decreased by 7.0% in major city areas and by 40% in the remote and very remote areas (Table A13, Appendix).

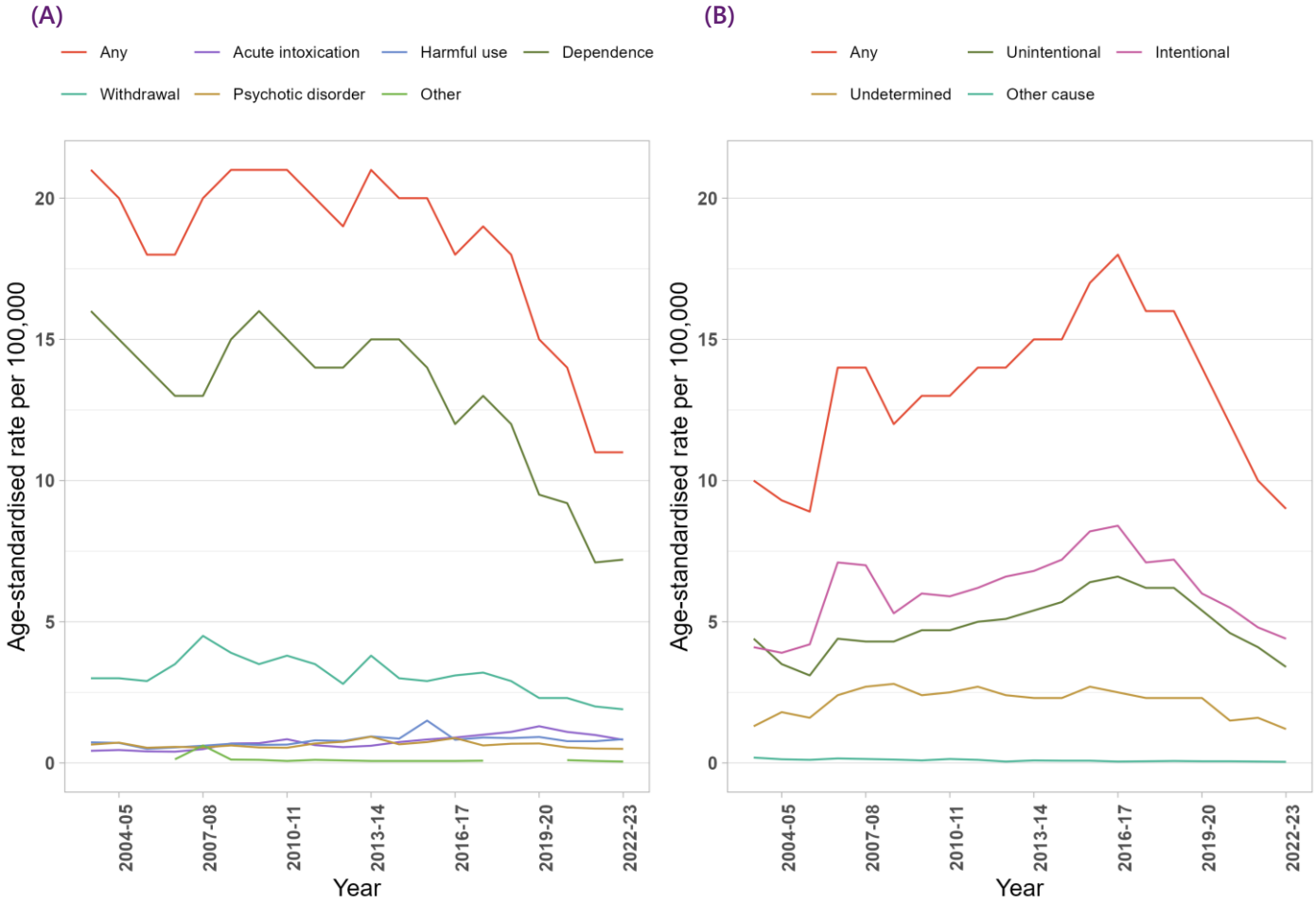
Principal Diagnosis

In 2022-23, mental and behavioural disorder due to use of opioids accounted for about half of all opioid-related hospitalisations (54%), with dependence syndrome the most commonly identified principal diagnosis among these hospitalisations (64%; 1,891 hospitalisations; 7.2 per 100,000 people) (**Figure 12**) (Table A14, Appendix).

The other half (46%) of opioid-related hospitalisations were due to opioid poisoning (2,484 hospitalisations; 9.0 per 100,000 people), with more of these poisonings determined to be intentional (48%; 1,193 hospitalisations; 4.4 per 100,000 people) than unintentional (39%; 961 hospitalisations; 3.4 per 100,000 people) (Table A15, Appendix).

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 12. 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), 2003-04 to 2022-23.



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

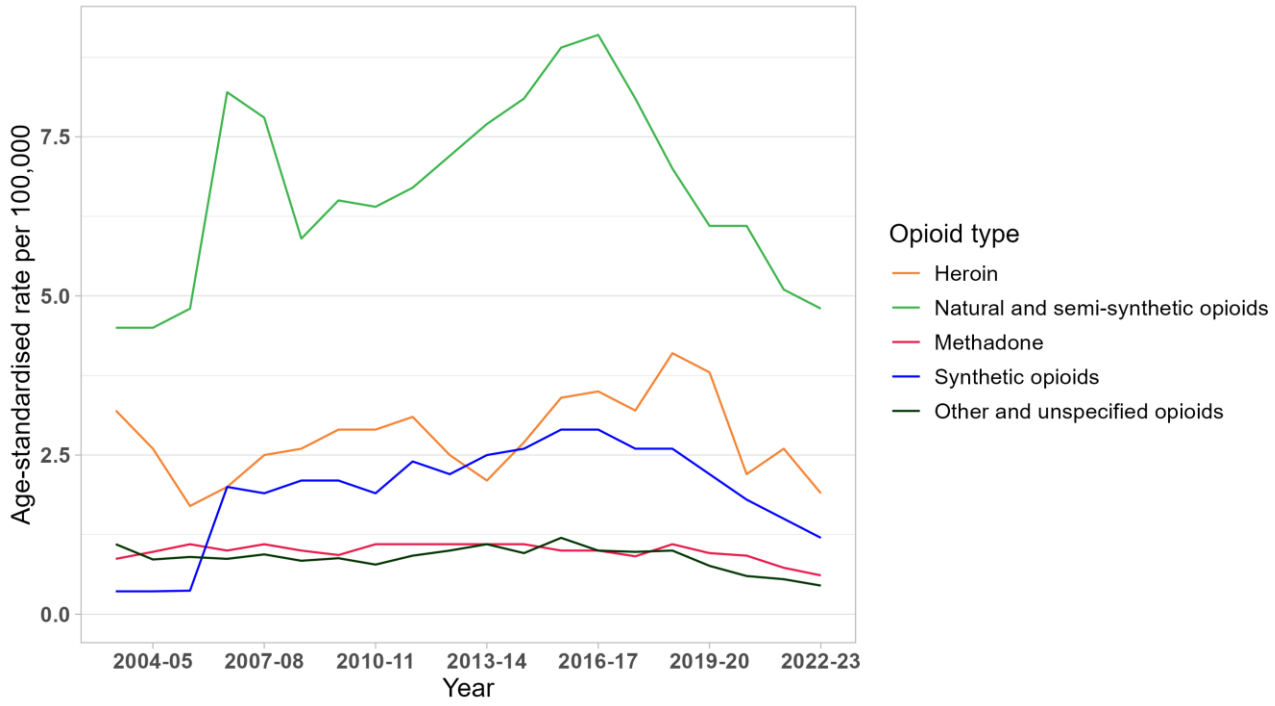
Opioid Type

46% Poisoning **2022-23**

- **55%** Natural and semi-synthetic opioids
- **20%** Heroin
- **14%** Synthetic opioids (e.g., fentanyl, tramadol)
- **6.6%** Methadone
- **4.9%** Other and unspecified opioids

The ICD-10-AM coding system means that the type of opioid involved in hospitalisations is only identified where the diagnosis relates to opioid poisoning. Hospitalisations coded to mental and behavioural disorder due to opioid use (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. This comprised 46% of all opioid-related hospitalisations in 2022-23; see section on Opioid-related hospitalisations by diagnosis).

Figure 13. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by opioid type, 2003-04 to 2022-23.



Natural and semi-synthetic opioids

- Natural and semi-synthetic opioids (e.g., oxycodone, morphine) were responsible for over half (55%, 1,364 hospitalisations) of all hospitalisations due to opioid poisoning in 2022-23. It has consistently been the most common opioid type identified over the years of monitoring.
- The hospitalisation rate for natural and semi-synthetic opioid poisoning increased from 2003-04, peaking in 2016-17 at 9.1 hospitalisations per 100,000 people, before subsequently declining to 4.8 hospitalisations per 100,000 people in 2022-23. (**Figure 13**).

Heroin

- In 2022-23, heroin was the second most common opioid linked to hospitalisations due to opioid poisoning. With 494 hospitalisations, heroin poisoning accounted for 20% of all opioid poisoning-related hospitalisations.
- Hospitalisation rates for heroin poisoning fluctuated over time. The highest rate (4.1 per 100,000 people) was recorded in 2018–19 before declining to 2.2 per 100,000 in 2020-21.
- In 2022–23, the rate dropped further by 26% compared to 2021-22, decreasing from 2.6 to 1.9 per 100,000 people (Table A16, Appendix).

Synthetic opioids

- The third most common opioid type, responsible for 14% of hospitalisations due to opioid poisoning in 2022-23, was synthetic opioids (e.g., fentanyl, tramadol).
- Hospitalisation rates for synthetic opioid poisoning rose from 0.36 to 2.9 per 100,000 people between 2003-04 and 2016-17, before gradually declining.
- In 2022–23, the rate dropped by a further 17% compared to 2021-22, to 1.2 per 100,000 people (**Figure 13**).

Methadone, and other and unspecified opioids

- 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) (Table A16, Appendix).

Opioid Type and Remoteness Area of Usual Residence

Natural and semi-synthetic opioids

- In 2022-23, 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 areas (7.2 hospitalisations per 100,000 people), followed by inner regional areas (5.2 hospitalisations per 100,000 people), major city areas (4.4 hospitalisations per 100,000 people) and remote and very remote areas (3.4 hospitalisations per 100,000 people) (**Figure 14**).

Heroin

- The rate of heroin poisoning hospitalisations was highest in major city areas in 2022-23 (2.0 hospitalisations per 100,000 people). This was followed by inner regional areas (1.1 hospitalisations per 100,000 people) and outer regional areas (0.66 hospitalisations per 100,000 people).
- The age-standardised rate was not computed for heroin poisoning hospitalisations in remote and very remote Australia because the total number of hospitalisations was too small (n≤10).

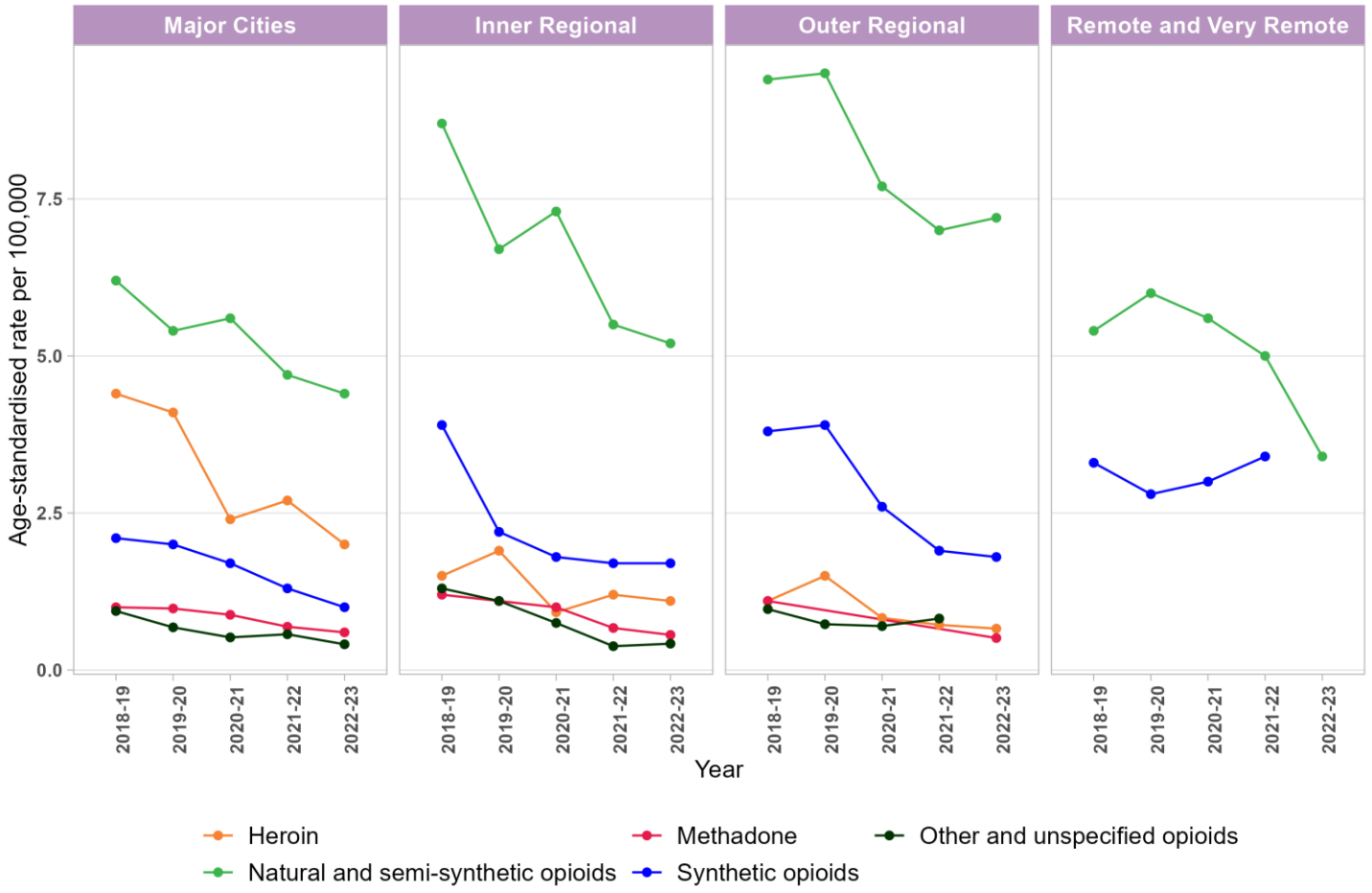
Synthetic opioids

- In 2022-23, the rate of synthetic opioid poisoning-related hospitalisations was highest in outer regional (1.8 hospitalisations per 100,000 people) and inner regional areas (1.7 hospitalisations per 100,000 people), followed by major city areas (1.0 hospitalisations per 100,000 people).
- The age-standardised rate was not computed for remote and very remote areas because the total number of hospitalisations was too small (n≤10).

Other opioids

- In 2022-23, the numbers of hospitalisations due to poisoning by methadone and 'other and unspecified opioids' were low in all remoteness areas, with the rates below 1.0 hospitalisations per 100,000 people. Estimates were even smaller in the outer regional and remote and very remote areas with most annual counts less than or equal to 10.

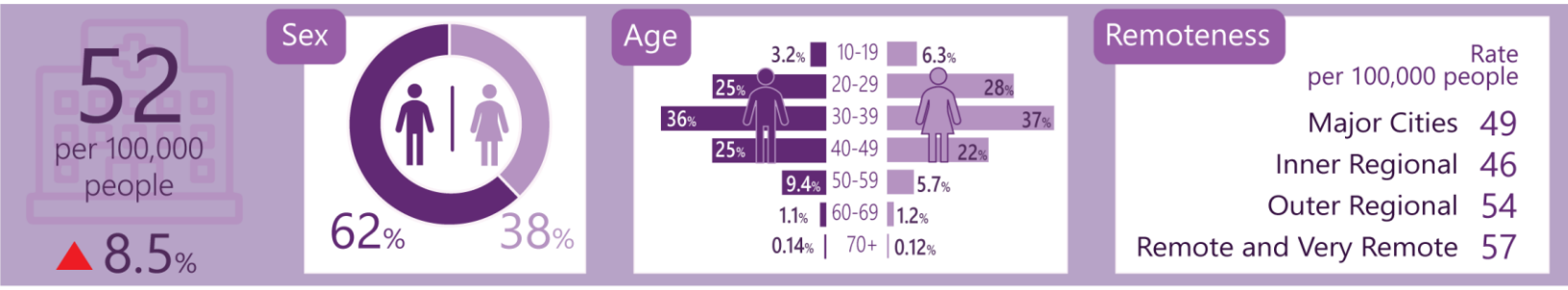
Figure 14. Age-standardised rate per 100,000 people of opioid poisoning-related hospitalisations among the Australian population, by remoteness and opioid type, 2018-19 to 2022-23.



Note: Age-standardised rates were not shown for outer regional and 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 hospitalisations with the principal diagnosis identified as amphetamine-type stimulant. This includes methamphetamines, 3,4-methylenedioxymethamphetamine (MDMA, 'ecstasy'), pharmaceutical stimulants (e.g., dexamphetamine), and other stimulants (e.g., caffeine).

In 2022-23, there were 35,011 hospitalisations where amphetamine-type stimulants were recorded as a principal or other diagnosis, among which 13,059 hospitalisations specifically identified amphetamine-type stimulants as a principal diagnosis. The latter figure translates to a population rate of 52 hospitalisations per 100,000 people.

Trend since 2003-04

- Following an initial decline from 2003-04 to 2009-10, hospitalisation rates for amphetamine-type stimulants rose from 12 per 100,000 people in 2009-10 to a peak of 70 per 100,000 in 2019-20. The rate then declined to 48 per 100,000 in 2021-22 (**Figure 15**).
- Despite the overall decline in drug-related hospitalisations in 2022-23, the hospitalisation rate for amphetamine-type stimulants increased by 8.5% (Table A1, Appendix).

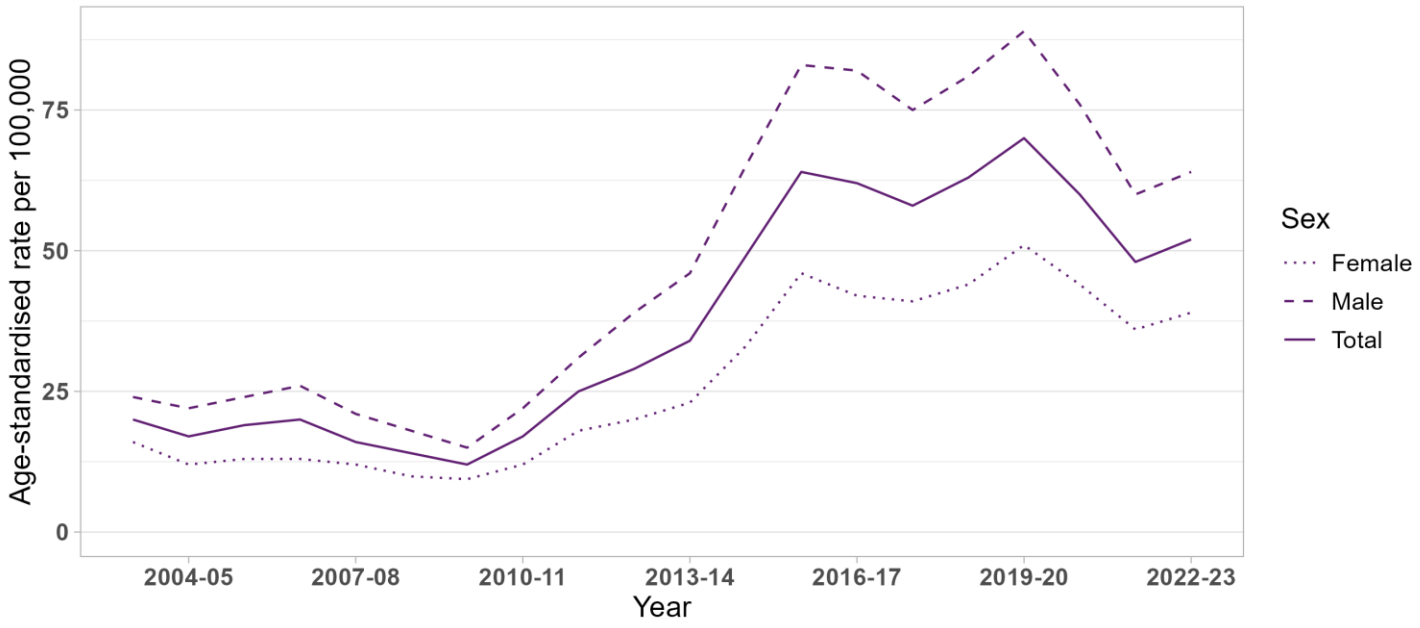
Sex

In 2022-23, hospitalisations related to amphetamine-type stimulants were about 1.5 times as common in males as in females, constituting 62% of all amphetamine-type stimulant-related hospitalisations, with a rate of 64 hospitalisations per 100,000 males compared to 39 hospitalisations per 100,000 females (**Figure 15**).

Trend since 2003-04

- Since 2003–04, hospitalisation rates for amphetamine-type stimulants have consistently been higher in males than in females.
- The 2022-23 rates significantly increased for both males and females compared to 2021-22, by 7.1% and 11%, respectively (Table A1, Appendix).

Figure 15. Age-standardised rate per 100,000 people of amphetamine-type stimulant-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



Age

In 2022–23, the highest rate of hospitalisations related to amphetamine-type stimulants was observed in the 30–39 age group, accounting for 36% of cases (4,733 hospitalisations) at a rate of 121 per 100,000 people (**Figure 16, Table 9**).

Table 9. Percentage, number and age-standardised rate of amphetamine-type stimulants-related hospitalisations by age, Australia, 2022-23.

Age group	Percentage	Number	Rate per 100,000	Significant Change from 2021-22
10-19	4.4%	574	18	▼13%
20-29	29%	3,377	92	▼4.9%
30-39	36%	**4,733**	**121**	▲4.7%
40-49	24%	3,106	91	▲26%
50-59	8.0%	1,042	32	▲53%
60-69	1.1%	149	5.2	▲63%
70 and over	0.13%	17	0.53	

Note: The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Bolded values represent the highest percentages and rates. The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. For 2021-22 rates and non-significant changes see Table A2, Appendix. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

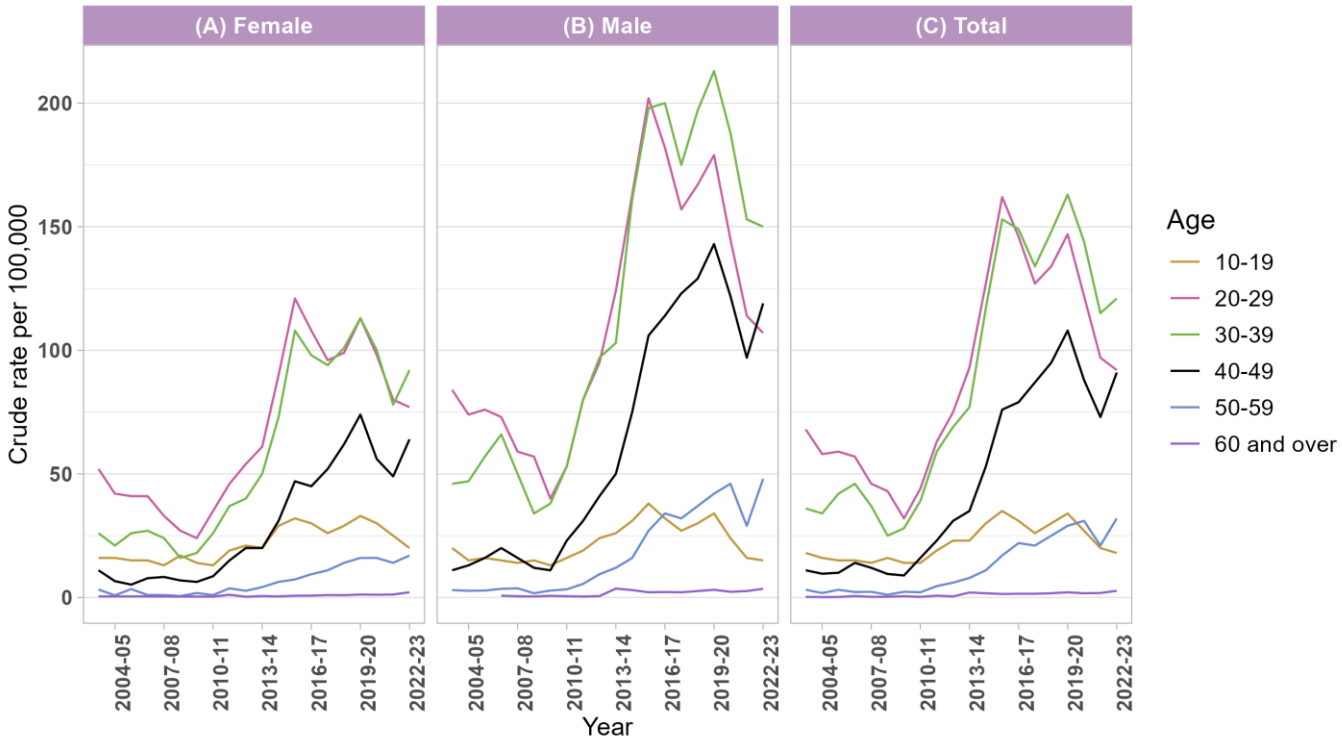
Trend since 2003-04

- Since 2003-04, there have been shifts in the age groups experiencing the highest rates of amphetamine-type stimulant-related hospitalisations. Notably, the 20-29 age group had the highest rate of hospitalisations until 2016-17, thereafter surpassed by the 30-39 age group. A substantial increase was also observed in the 40-49 age group, from 11 in 2003-04 to a peak of 108 hospitalisations per 100,000 people in 2019-20 (**Figure 16**).
- The overall increase in amphetamine-type stimulant-related hospitalisation rates from 2021-22 to 2022-23 was driven by increased rates in the 30-39, 40-49, 50-59, and 60-69 age groups, with the 50-59 and 60-69 groups reaching their highest levels (Table A2, Appendix). At the same time, the 10-19 and 20-29 age groups declined (Table A2, Appendix).

Sex and Age

Trends in amphetamine-type related hospitalisations for males and females by age group follow a similar pattern as described above (**Figure 16**).

Figure 16. 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, 2003-04 to 2022-23.



Note: Given the small numbers, the age groups 60-69 years and 70 years and over are combined into the 60 and over age group. The rates for the 0-9 years age group are not presented due to the sensitivity of the data.

Remoteness Area

The highest rate of amphetamine-type stimulant-related hospitalisations in 2022-23 was observed in remote and very remote areas (57 hospitalisations per 100,000 people), followed by outer regional areas (54 hospitalisations per 100,000 people) and major cities (49 hospitalisations per 100,000 people). The lowest rate was in inner regional Australia (46 hospitalisations per 100,000 people) (**Figure 9**).

The rate of amphetamine-type stimulant-related hospitalisations increased significantly in all remoteness areas compared to 2021-22, with the increase being most prominent in remote and very remote and inner regional areas, by 34% and 20%, respectively (Table A13, Appendix).

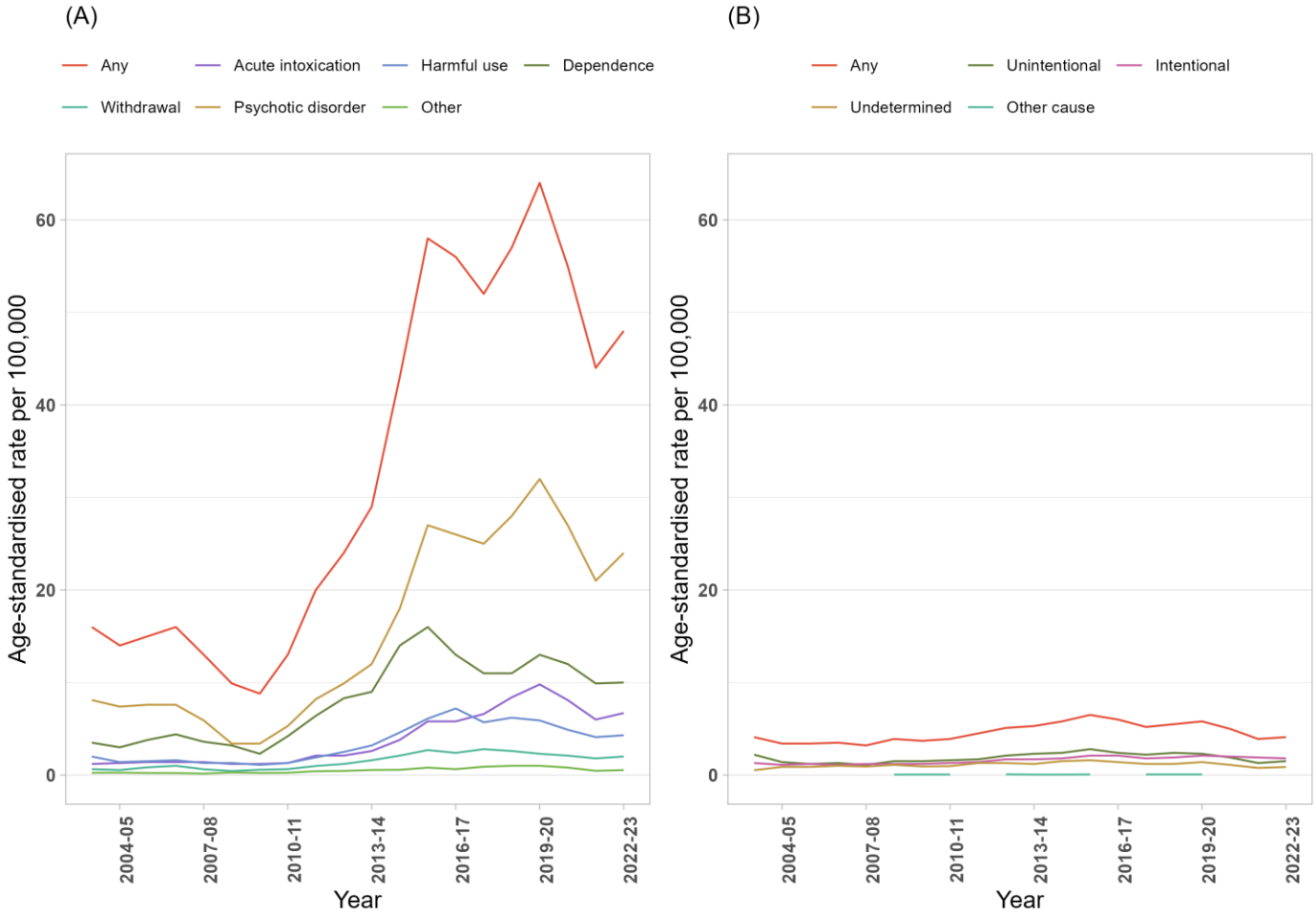
Principal Diagnosis

Over the 20-year monitoring period, amphetamine-type stimulant-related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder due to substance use (92% in 2022-23). Among those who received a principal diagnosis of mental and behavioural disorder due to use of amphetamine-type stimulants in 2022-23 (12,034 hospitalisations; 48 per 100,000 people), **drug-induced psychotic disorder** was the most common reason for

hospitalisation (51%; 6,111 hospitalisations; 24 per 100,000 people), followed by **dependence** (21%; 2,523 hospitalisations; 10 per 100,000 people) and **acute intoxication** (14%; 1,684 hospitalisations; 6.7 per 100,000 people), with psychotic disorder and acute intoxication increasing in 2022-23 compared to 2021-22 (**Figure 17**) (Table A14, Appendix).

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 17. 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), 2003-04 to 2022-23.



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.

Methamphetamine

Since 2008-09, specific ICD-10-AM codes tailored to methamphetamine were implemented (refer to the methods document for details on the incorporated ICD-10-AM codes), enabling the distinct classification of this substance from other amphetamine-type stimulants. Since 2008-09 methamphetamine-related hospitalisations followed a similar pattern as described above for amphetamine-type stimulants.

Profile in 2022-23

- Methamphetamine-related hospitalisations comprised **81%** of all hospitalisations related to amphetamine-type stimulants. With 10,590 hospitalisations and a rate of 42 hospitalisations per 100,000 people, it emerged as the most common drug type, showing a 9.8% increase in rate compared to 2021-22 (Table A12, Appendix).
- Among methamphetamine-related hospitalisations, males represented 63% (6,671 hospitalisations), equating to a rate of 53 hospitalisations per 100,000 people, whereas the female rate was 31 hospitalisations per 100,000 people (**Figure 18**).
- The age distribution in methamphetamine-related hospitalisations was similar to that observed for amphetamine-type stimulants (**Table 10**).

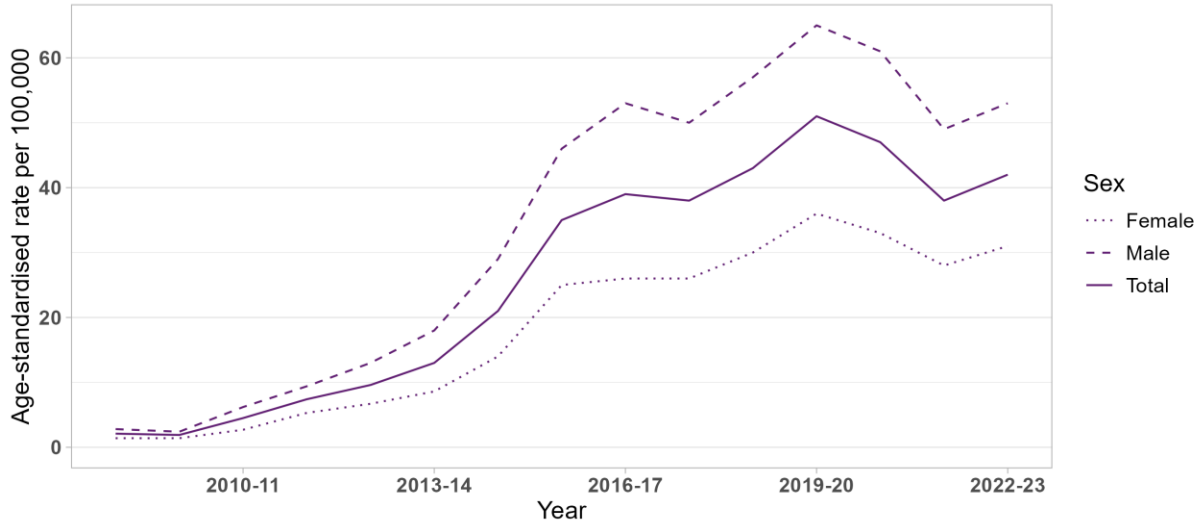
Table 10. Percentage, number and age-standardised rate of methaphetamine-related hospitalisations by age, Australia, 2022-23.

Age group	Percentage	Number	Rate per 100,000
10-19	2.3%	248	7.6
20-29	26%	2,701	74
30-39	38%	**4,030**	**103**
40-49	25%	2,616	77
50-59	8.1%	861	27
60 and over	1.2%	127	4.3

Note: The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Bolded values represent the highest percentages and rates. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

- The highest rate of methamphetamine-related hospitalisations in 2022-23 was observed in remote and very remote areas (45 hospitalisations per 100,000 people), followed by outer regional areas (43 hospitalisations per 100,000 people) and major city areas (39 hospitalisations per 100,000 people). The lowest rate was in inner regional Australia (37 hospitalisations per 100,000 people).

Figure 18. Age-standardised rate per 100,000 people of methamphetamine-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



MDMA/ecstasy

Since 2010–11, specific ICD-10-AM codes have been introduced to separately identify methylenedioxymethamphetamine (MDMA), commonly known as ecstasy, distinguishing it from other amphetamine-type stimulants (see the methods document for details on the coding). Following this introduction, MDMA/ecstasy-related hospitalisations rose significantly, increasing fourfold from 0.97 per 100,000 people in 2010-11 to a peak of 3.4 per 100,000 in both 2018-19 and 2019-20. By 2021-22, the rate had declined to 1.0 per 100,000, similar to the level observed at the start of the monitoring period.

Profile in 2022-23

- MDMA/ecstasy-related hospitalisations comprised **2.3%** of amphetamine-type stimulant-related hospitalisations, with 305 hospitalisations and a rate of 1.2 hospitalisations per 100,000 people (Table A12, Appendix).
- Among MDMA/ecstasy-related hospitalisations, males represented 63% (193 hospitalisations), equating to a rate of 1.6 hospitalisations per 100,000 people, whereas the female rate was 0.91 hospitalisations per 100,000 people (**Figure 19**).
- MDMA/ecstasy-related hospitalisations involved a younger demographic than that observed for methamphetamine (**Table 11, Table 10**Table 11. Percentage, number and age-standardised rate of MDMA/ecstasy-related hospitalisations by age, Australia, 2022-23.).

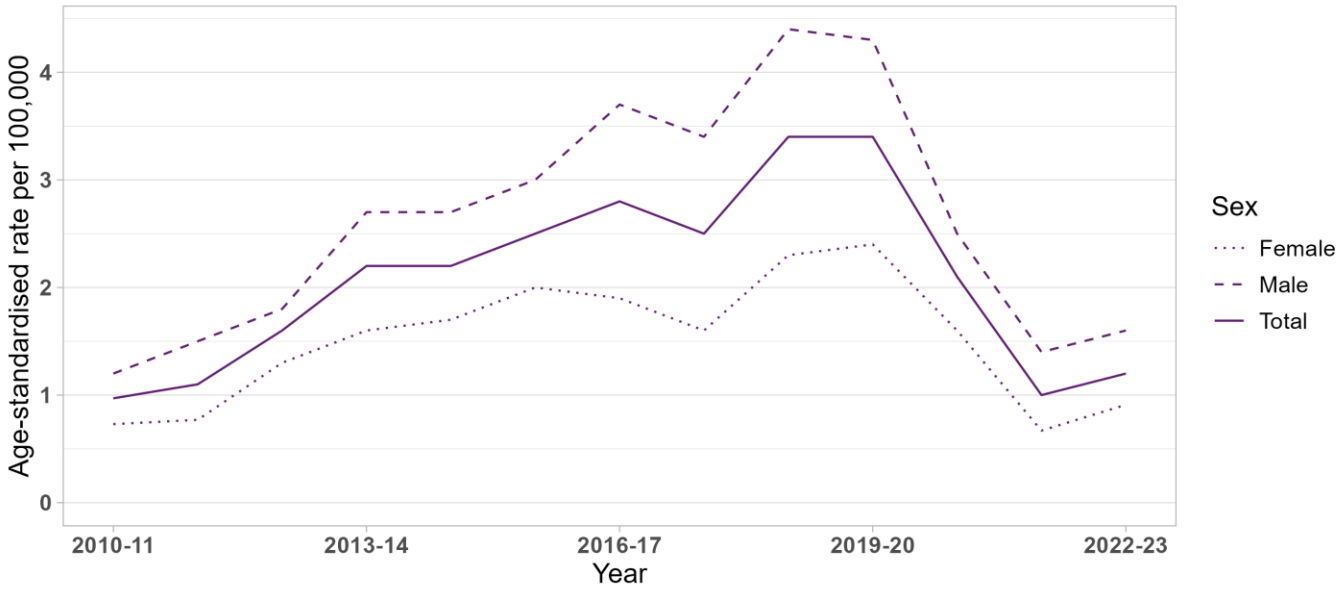
Table 11. Percentage, number and age-standardised rate of MDMA/ecstasy-related hospitalisations by age, Australia, 2022-23.

Age group	Percentage	Number	Rate per 100,000
10-19	17%	51	1.6
20-29	38%	**114**	**3.1**
30-39	15%	47	1.2
40-49	28%	84	2.5
50 and over	2.6%	8	0.13

Note: The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Bolded values represent the highest percentages and rates. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

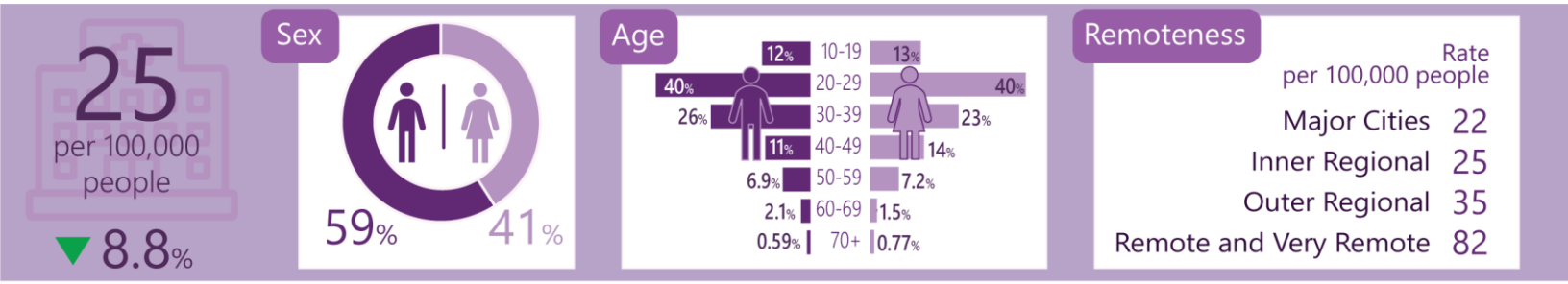
- The rate of MDMA/ecstasy-related hospitalisations in 2022-23 was as high in the major city areas as it was in the outer regional areas (1.3 hospitalisations per 100,000 people, respectively), followed by the inner regional areas (0.66 hospitalisations per 100,000 people).

Figure 19. Age-standardised rate per 100,000 people of MDMA/ecstasy-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



7

Cannabinoid-Related Hospitalisations



In 2022-23, there were 39,670 hospitalisations with a cannabinoid-related diagnosis (including cannabis and synthetic cannabinoids) recorded in the first 20 diagnosis fields. Among them, 6,304 hospitalisations specifically identified cannabinoids as a principal diagnosis. The latter figure equates to an age-standardised rate of 25 hospitalisations per 100,000 people.

Cannabinoid-related hospitalisations increased from 13 to 30 per 100,000 people between 2003-04 and 2020-21 before declining. In 2022-23, the rate was 8.8% lower than in 2021-22 (**Figure 20**) (Table A1, Appendix). However, it remained nearly double the rate recorded in 2003–04.

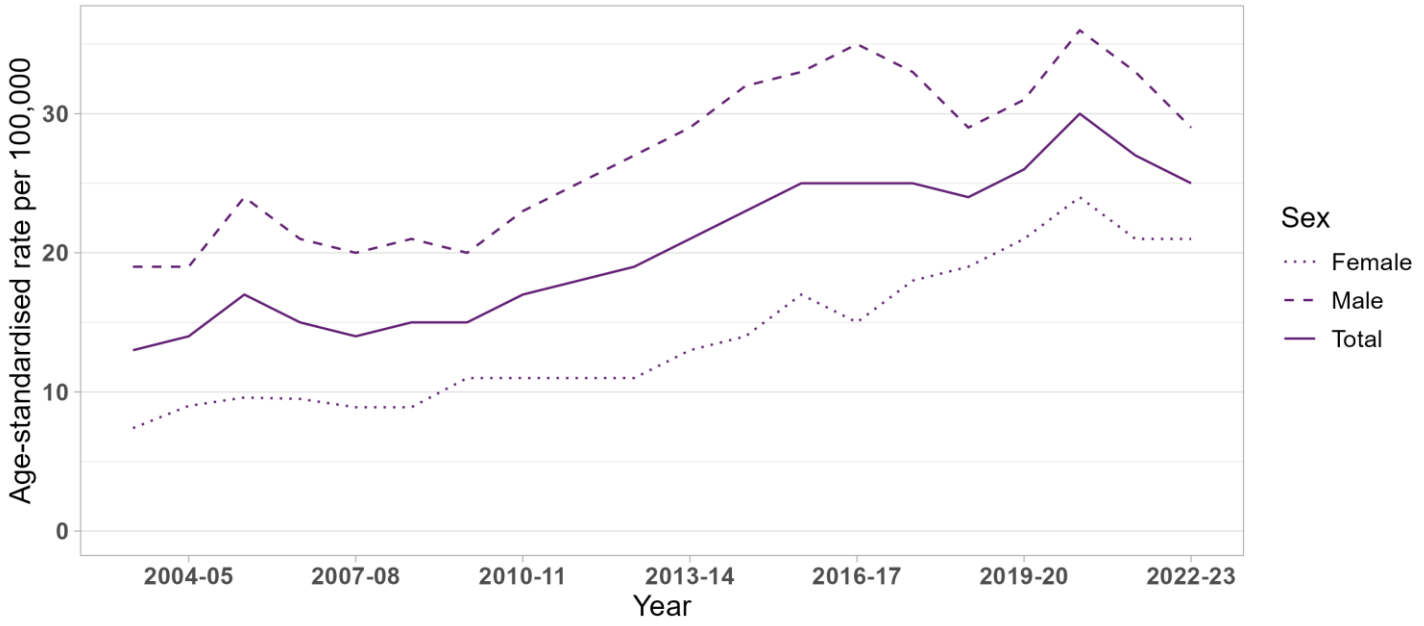
Sex

In 2022-23, males presented to hospitals with a cannabinoid-related principal diagnosis more often than females, accounting for 59% of hospitalisations (3,700 versus 2,599 hospitalisations, respectively). This is equivalent to a rate of 29 and 21 hospitalisations per 100,000 males and females, respectively.

Trend since 2003-04

- The rate of cannabinoid-related hospitalisations has been consistently higher among males than females throughout monitoring.
- Between 2003-04 and 2020-21, both male and female rates followed an overall upward trend. However, during the period from 2016-17 to 2018-19, the male rate recorded a decline, while the female rate continued to rise. Since 2018-19, both rates have followed a similar upward trend until 2020-21, after which they declined (**Figure 20**).
- The 2022-23 rate for males was 13% lower compared to 2021-22 (Table A1, Appendix), while for females, it remained relatively stable.

Figure 20. Age-standardised rate per 100,000 people of cannabinoid-related hospitalisations among the total Australian population and for males and females, 2003-04 to 2022-23.



Age

In 2022–23, hospitalisations related to cannabinoids remained most common among the 20-29 age group, constituting 40% (2,540 hospitalisations) of all related hospitalisations (**Figure 21, Table 12**).

Table 12. Percentage, number and age-standardised rate of cannabinoid-related hospitalisations by age, Australia, 2022-23.

Age group	Percentage	Number	Rate per 100,000	Significant Change from 2021-22
10-19	13%	796	24	▼13%
20-29	40%	**2,540**	**69**	▼11%
30-39	25%	1,550	39	
40-49	12%	784	23	
50-59	7.0%	444	14	▼14%
60-69	1.9%	118	4.1	▼24%
70 and over	0.67%	42	1.3	

Note: The estimates for the 0-9 years age group are not presented due to the sensitivity of the data. Bolded values represent the highest percentages and rates. The ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. For 2021-22 rates and non-significant changes see Table A2, Appendix. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

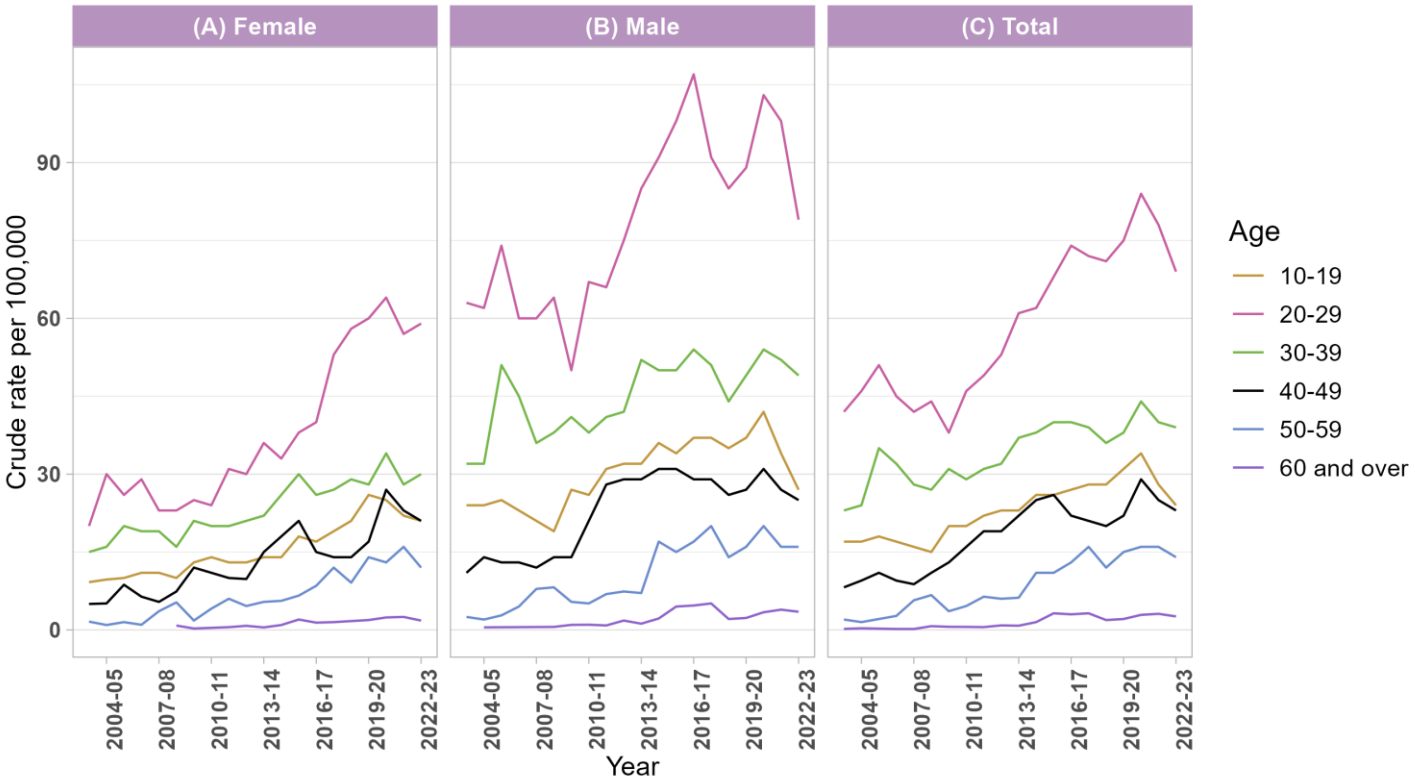
Trend since 2003-04

- All age groups recorded an increase in cannabinoid-related hospitalisations from 2003-04, peaking usually in 2020-21.
- In 2022-23, the rates decreased compared to 2021-22 across the 10-19, 20-29, 50-59 and 60-69 age groups, with the 60-69 age group recording the largest decline (24%) (Table A2, Appendix).

Sex and Age

In the last seven years, we have observed an 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 and stabilised (**Figure 21**).

Figure 21. Crude rate per 100,000 people of cannabinoid-related hospitalisations among the female (A), male (B) and total (C) Australian population, by age group, 2003-04 to 2022-23.



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. Please refer to our methods document on 'Scope of the data' and 'Coding of hospitalisations' for specifications of data selected and all exclusions.

Remoteness Area

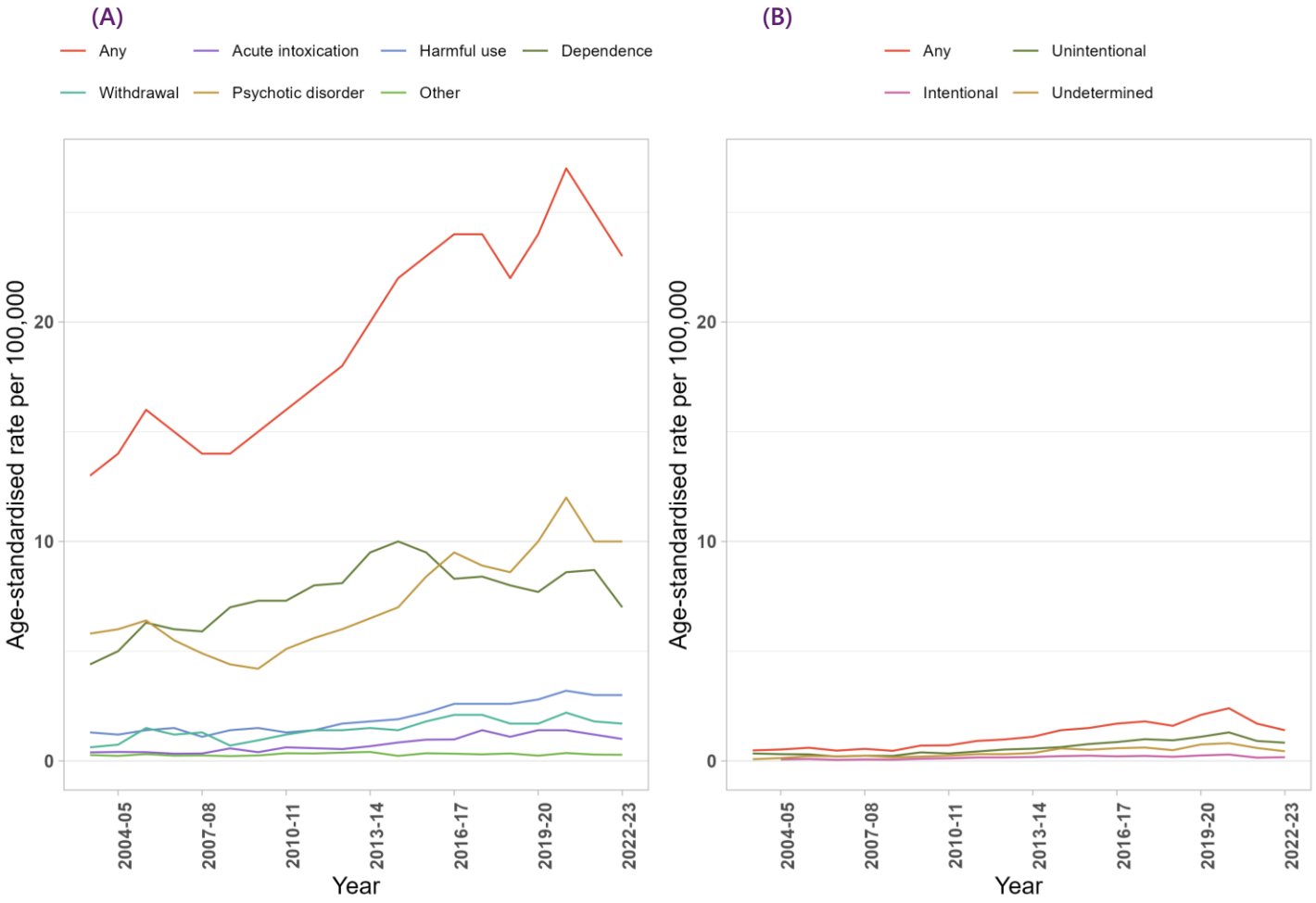
- In 2022–23, the highest rate of cannabinoid-related hospitalisations was recorded in remote and very remote areas, at 82 hospitalisations per 100,000 people.
- This rate was more than twice as high as in outer regional areas (35 hospitalisations per 100,000 people), and more than three times than in inner regional and major city areas (25 and 22 hospitalisations per 100,000 people, respectively) (**Figure 9**).
- Between 2021–22 and 2022–23, hospitalisation rates declined by 13% in major city areas, while remote and very remote areas saw a 17% increase (Table A13, Appendix).

Principal Diagnosis

Over the period of monitoring, cannabinoid-related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder (94% in 2022-23). Among those who received a principal diagnosis of mental and behavioural disorder due to use of cannabinoids in 2022-23 (5,928 hospitalisations; 23 per 100,000 people), drug-induced psychotic disorder was the main reason for hospitalisation (44%; 2,598 hospitalisations; 10 per 100,000 people), followed by dependence (31%; 1,806 hospitalisations; 7.0 per 100,000 people) (**Figure 22**) (Table A14, Appendix).

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.

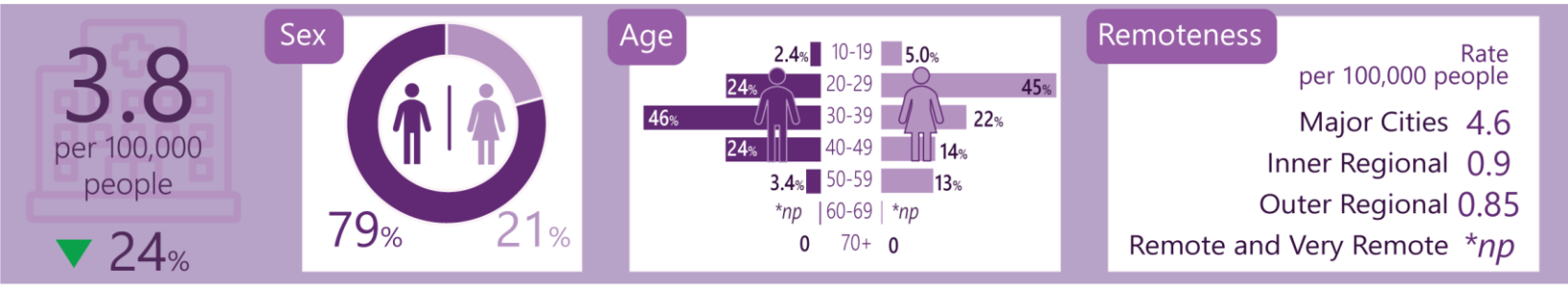
Figure 22. Age-standardised rate per 100,000 people of cannabinoid-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 2003-04 to 2022-23.



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 (≤10) to present.

In 2022-23, there were 4,010 hospitalisations with a cocaine-related diagnosis recorded in the first 20 diagnosis fields. Of these, 956 hospitalisations specifically identified cocaine as a principal diagnosis, corresponding to an age-standardised rate of 3.8 hospitalisations per 100,000 people. This figure represents another significant 24% decrease compared to 2021-22 (Table A1, Appendix) after a prolonged upward trend observed from approximately 2010-11 to 2020-21.

Sex

- In 2022–23, the rate of cocaine-related hospitalisations was 6.0 per 100,000 males and 1.6 per 100,000 females, with a total of 758 hospitalisations among males and 198 among females (79% male).
- Between 2021–22 and 2022–23, there was a significant decrease in the rate of cocaine-related hospitalisations among both sexes, with a 15% decline for males and a 47% decline for females (Table A1, Appendix).

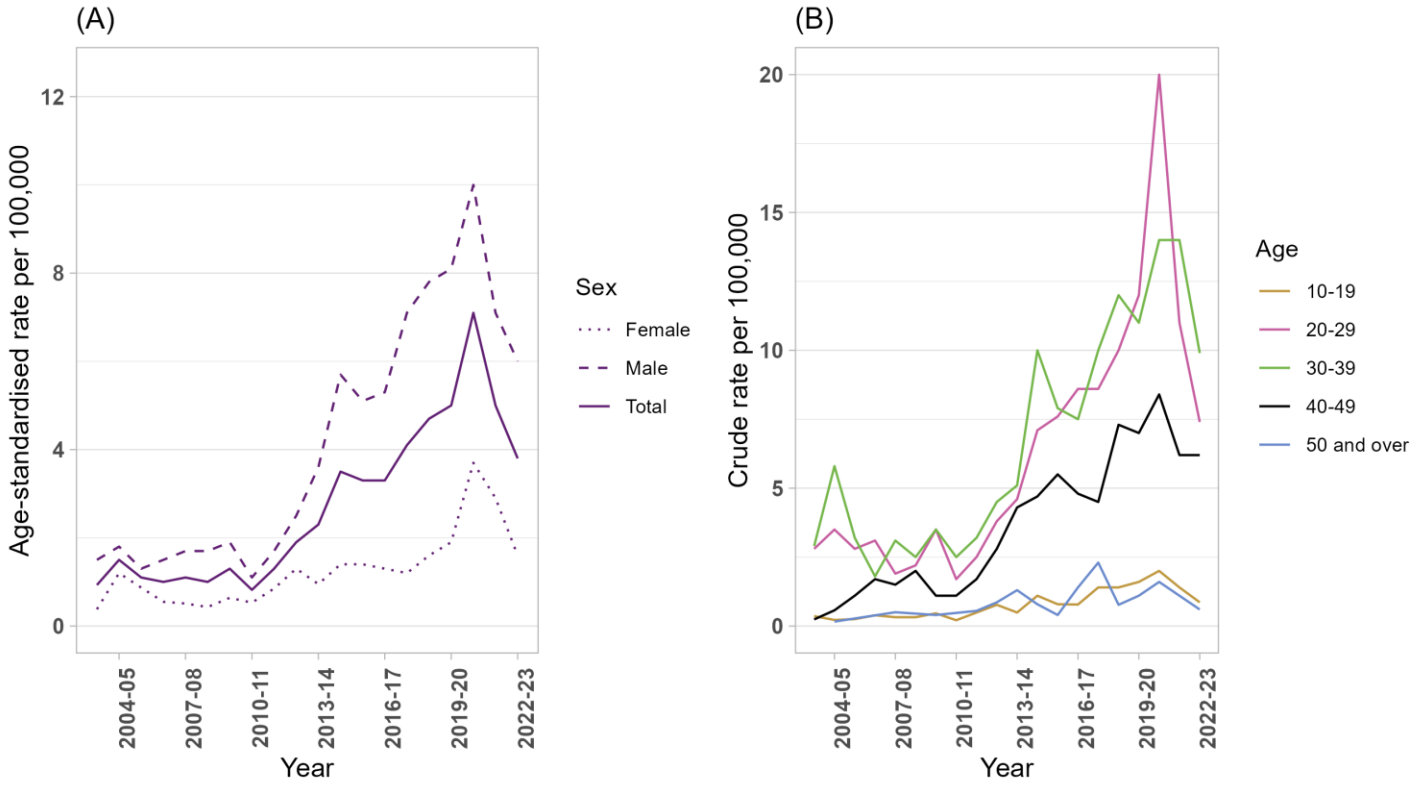
Age

- In 2022-23, three in four cocaine-related hospitalisations occurred among individuals aged 30-39 (41%) and 20-29 (28%), with rates of 9.9 and 7.4 hospitalisations per 100,000 people, respectively.
- Both the 20-29 and 30-39 age groups experienced an increase in rates from 2003-04, reaching a peak in 2020-21 with 20 and 14 hospitalisations per 100,000 people, respectively.
- Between 2021–22 and 2022–23, the hospitalisation rate among the 20–29 age group declined significantly by 34%.
- A decline was also observed among the 30–39 age group (27%) and the 10–19 age group (41%), although the hospitalisation rate in the latter group remained low.

Sex and Age

- The small number of hospitalisations precludes reporting of estimated trend disaggregated by both age and sex. However, the large majority of cocaine-related hospitalisations for males were among 30-39 age group and for females among 20-29 age groups in 2022-23.

Figure 23. 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), 2003-04 to 2022-23.



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

Remoteness Area

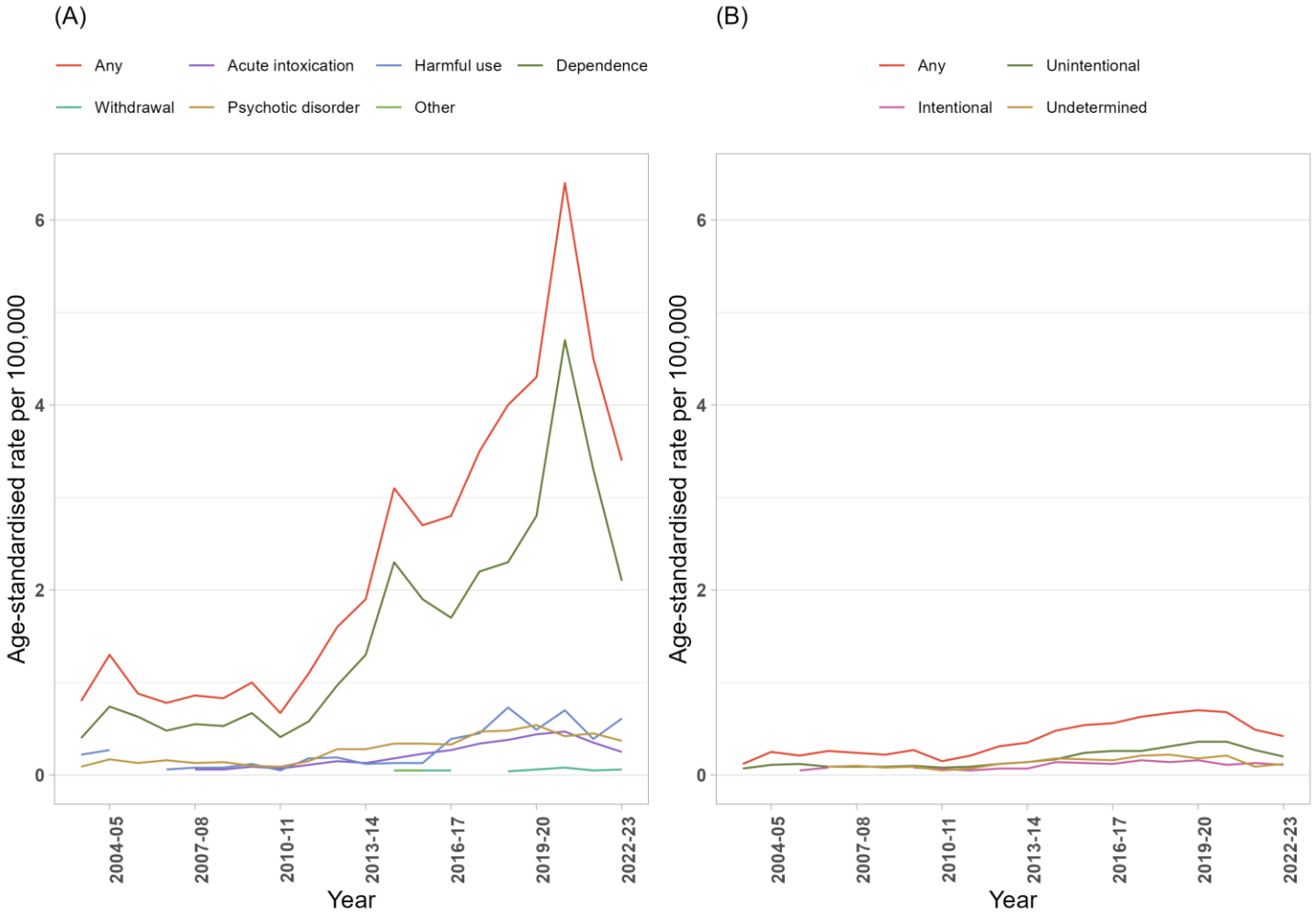
- In 2022-23, the rate of cocaine-related hospitalisations was highest in major city areas (4.6 hospitalisations per 100,000 people). This rate was five times higher that for inner or outer regional areas (0.90 and 0.85 hospitalisations per 100,000 people, respectively) (**Figure 9**). Numbers were too small (≤10) to present for remote and very remote areas.
- In 2022-23, a significant decrease in the rate of cocaine-related hospitalisations was recorded in major city areas compared to 2021-22 (Table A13, Appendix).

Principal Diagnosis

- Over the course of monitoring, cocaine-related hospitalisations mostly comprised a principal diagnosis of mental and behavioural disorder (89% in 2022-23). Among those who received a principal diagnosis of mental and behavioural disorder due to use of cocaine in 2022-23 (848 hospitalisations; 3.4 per 100,000 people), dependence syndrome was the main reason for hospitalisation (61%; 516 hospitalisations; 2.1 per 100,000 people) (**Figure 24**) (Table A13, Appendix).

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.

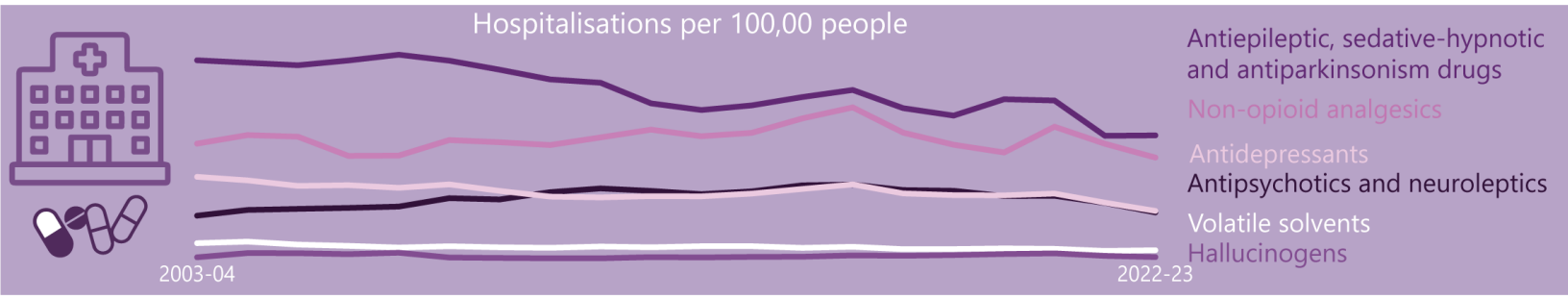
Figure 24. Age-standardised rate per 100,000 people of cocaine-related hospitalisations among the Australian population, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), 2003-04 to 2022-23.



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.

10

Hospitalisations Related to Other Drugs



The rate of hospitalisations with a principal diagnosis related to **antiepileptic, sedative-hypnotic, and antiparkinsonism drugs** has declined over time, decreasing from 50 hospitalisations per 100,000 people in 2003–04 to 32 hospitalisations per 100,000 people in 2022–23 (**Figure 8**). In 2022–23, 38% of these hospitalisations were associated with benzodiazepines, accounting for 3,196 hospitalisations at a rate of 12 hospitalisations per 100,000 people. While the overall 2022–23 hospitalisation rate for antiepileptic, sedative-hypnotic, and antiparkinsonism drugs remained comparable to 2021–22, hospitalisations specifically related to benzodiazepines declined further by 17% (Table 12, Appendix).

The rate of **non-opioid analgesic**-related hospitalisations fluctuated between 2003-04 and 2022-23, peaking at 39 hospitalisations per 100,000 people in 2016-17. The rate recently declined from 29 in 2021-22 to 26 hospitalisations per 100,000 people in 2022-23 (**Figure 8**). In 2022-23, 84% of hospitalisations related to non-opioid analgesics involved 4-aminophenol derivatives such as paracetamol (5,512 hospitalisations, 22 hospitalisations per 100,000 people).

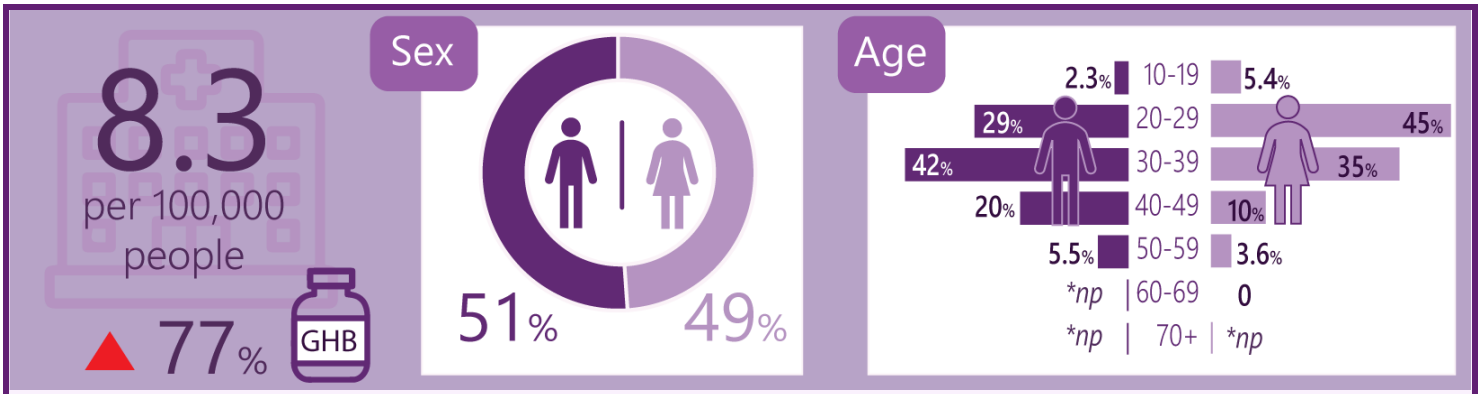
The rate of **antidepressant**-related hospitalisations declined from 21 per 100,000 people in 2003-04 to 13 per 100,000 people in 2022–23. In the same period, **antipsychotic and neuroleptic**-related hospitalisations increased from 11 per 100,000 people in 2003–04, peaking at 19 per 100,000 people in 2016–17, before declining to 12 per 100,000 people in 2022–23 (**Figure 8**).

Throughout the monitoring period, the rate of hospitalisations related to **volatile solvents** has been low, changing from 4.5 in 2003-04 to 2.7 hospitalisations per 100,000 people in 2022-23 (**Figure 8**).

The rate of **hallucinogen**-related hospitalisations has consistently remained low over the years, never exceeding 2.0 hospitalisations per 100,000 people (**Figure 8**).

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

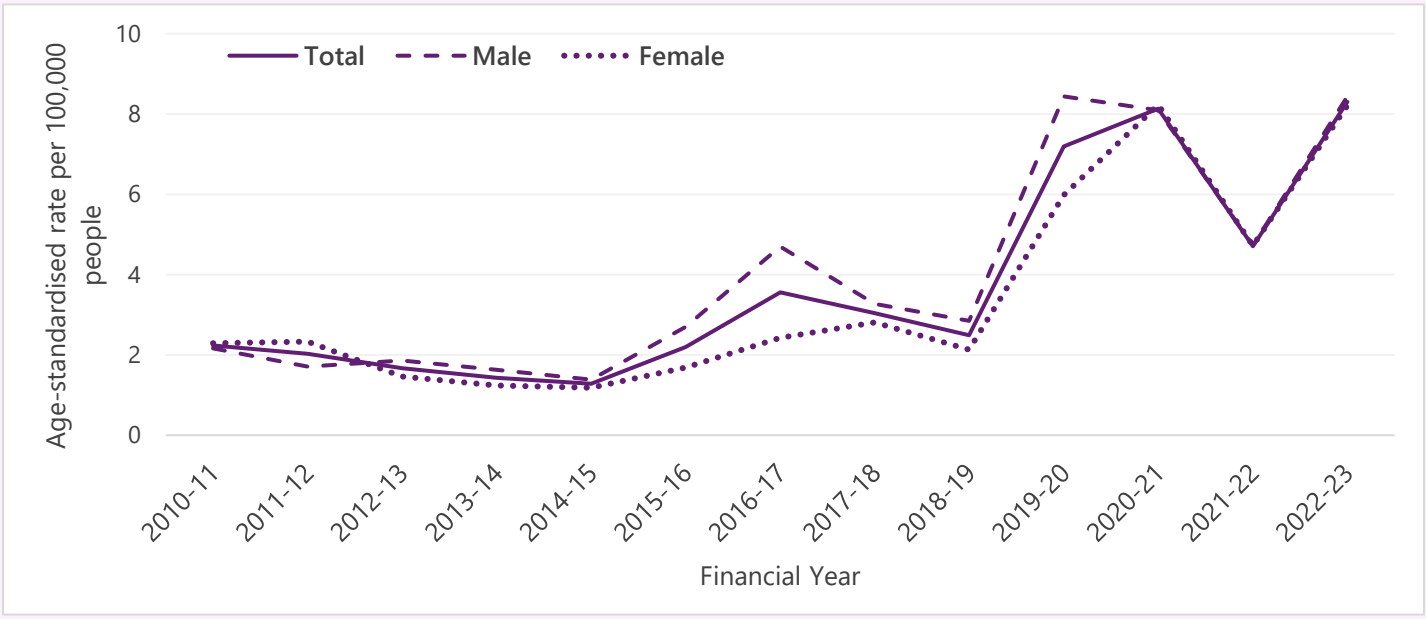
Panel D. GHB-Related Hospitalisations



Note: *np means data not publishable due to number being too small to present (n≤5).

The use of **gamma-hydroxybutyrate (GHB)** is less common in the general population compared to the use of other drugs like cocaine and MDMA (NDSHS 2022–2023). Despite its low overall prevalence, GHB's increasing recognition in emergency toxicology presentations has raised significant concerns. Ambulance attendances and emergency department visits related to GHB have been rising, with marked increases in presentations noted in recent years (Berling et al., 2024; Stockham et al., 2023; Ogeil et al., 2023). Since 2010-11, specific ICD-10-AM codes tailored to GHB were implemented (refer to the methods document for details on the incorporated ICD-10-AM codes), enabling the distinct classification of this substance from other antiepileptic, sedative-hypnotic and antiparkinsonism drugs in hospital data.

Figure 25. Age-standardised rate per 100,000 people GHB-related hospitalisations among the total Australian population by selected drug type, 2003-04 to 2022-23.



Profile in 2022-23

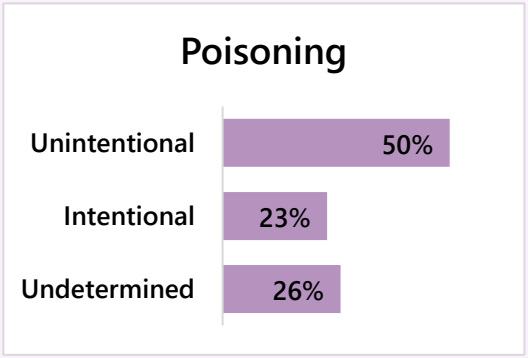
GHB-related hospitalisations were equally common among males and females in 2022-23, with 1,073 hospitalisations among males and 1,042 hospitalisations among females, equating to a rate of 8.4 and 8.2 hospitalisations per 100,000 males and females, respectively (Figure 25).

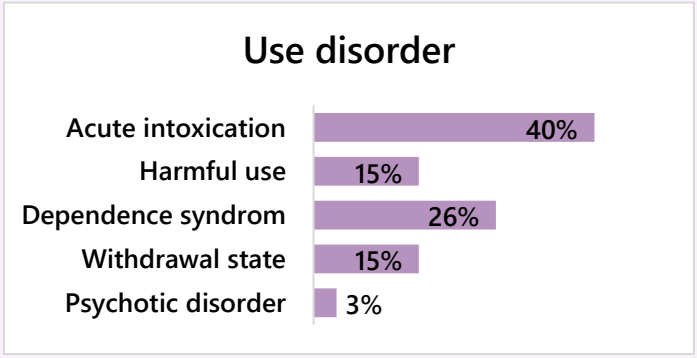
The largest proportion (**76%**) of GHB-related hospitalisations occurred among individuals aged 20-39:

- **10- 19 age group** 3.8% 81 hospitalisation 2.5 hospitalisations per 100,000 people
- **20-29 age group** 37% 784 hospitalisation 21 hospitalisations per 100,000 people
- **30-39 age group** 39% 820 hospitalisation 21 hospitalisations per 100,000 people
- **40-49 age group** 15% 322 hospitalisation 9.5 hospitalisations per 100,000 people
- **50-59 age group** 4.5% 96 hospitalisation 3.0 hospitalisations per 100,000 people

The majority (**81%**) of GHB-related hospitalisations in 2022-23 was observed in major city areas (1,708 hospitalisations, 8.7 per 100,000 people), followed by inner regional areas (8%, 161 hospitalisations, 4.3 per 100,000 people).

GHB-related mental and behavioural use disorder was nearly as commonly diagnosed as GHB poisoning among these hospitalisations, accounting for 47% and 53% of cases, respectively. Half of all hospitalisations related to GHB poisoning were unintentional (26% undetermined intent) and 40% of mental and behaviour use disorder diagnoses were related to acute intoxication by GHB.





Trend since 2010-11

Since 2010-11, the rate of GHB-related hospitalisations increased from 2.2 to 8.1 hospitalisations per 100,000 people in 2020-21. Following this peak, the rate declined to 4.7 hospitalisations per 100,000 people in 2021-22.

In 2022-23, the rate surged again by 77%, reaching a peak of 8.3 hospitalisations per 100,000 people (Table A1, Appendix).

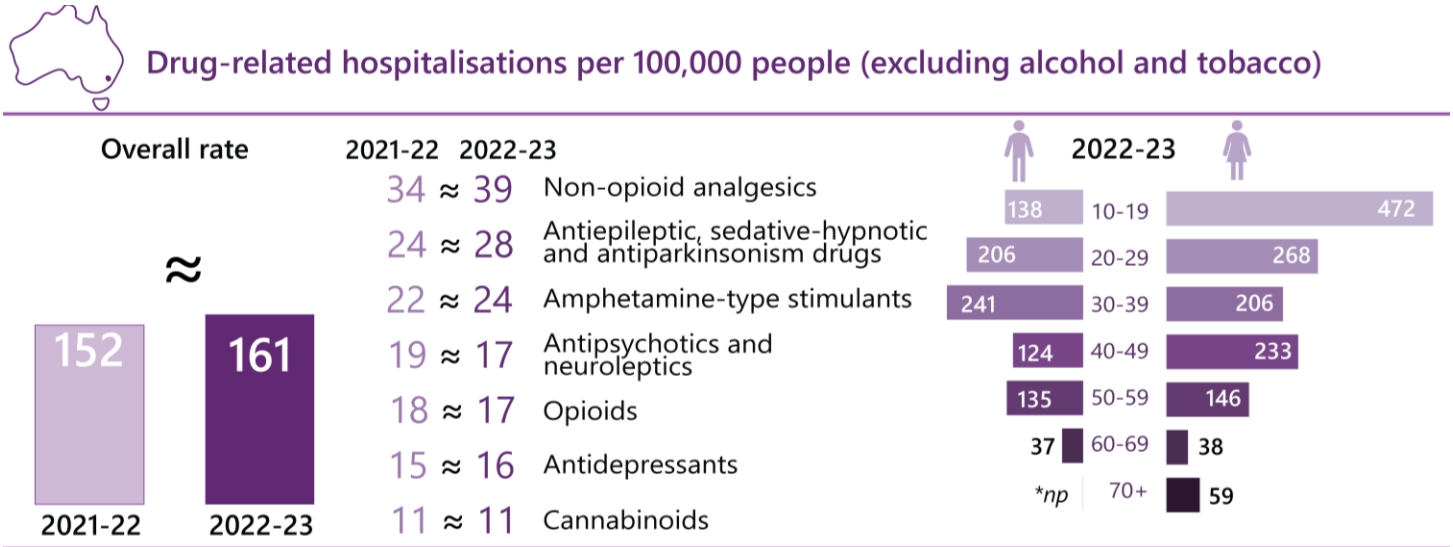
11

Drug-Related Hospitalisations by Jurisdiction

The below sections describe trends in drug-related hospitalisations for each jurisdiction from 2003-04 to 2022-23. 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 to 2022-23. Data by remoteness area are available for all other jurisdictions from 2012-13 to 2022-23.

An additional consideration is that hospitalisations between March 2020 and June 2023 occurred during the COVID-19 pandemic. Each state and territory had a different experience of the pandemic including different levels of COVID-19 infections and hospitalisations, as well as some jurisdiction-specific public health measures, which may have influenced hospitalisation trends. Further, varying levels of COVID-19 restrictions, access to healthcare services, socioeconomic conditions, and community support systems may have shaped drug use patterns and contributed to differing trends in drug-related hospitalisations across jurisdictions between 2020 and 2023.

Australian Capital Territory



Note: Sign '≈' indicates no significant change between 2021-22 and 2022-23. **np* means data not publishable due to a number of hospitalisations ≤10.

There were 756 hospitalisations with a drug-related principal diagnosis in the Australian Capital Territory in 2022-23.

This is equivalent to 161 hospitalisations per 100,000 people, which was similar to the rate in 2021-22 (152 hospitalisations per 100,000 people) (Table A17, Appendix) but higher than the rate observed from 2003-04 to 2013-14 (**Figure 26**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (196 versus 126 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 10-19 age group, followed by the 20-29 and 30-39 age groups (304, 239 and 223 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 30-39 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

In 2022-23, 70% of drug-related hospitalisations in the Australian Capital Territory were due to drug poisoning. Furthermore, 77% of drug poisoning-related hospitalisations were intentional (90 hospitalisations per 100,000 people) and 17% were unintentional (19 hospitalisations per 100,000 people) (**Figure 27**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating non-opioid analgesics (39 hospitalisations per 100,000 people (**Figure 28**).

Compared to 2021-22, the hospitalisation rates for all drug groups remained relatively stable, with no significant changes observed (Table A17, Appendix).

Figure 26. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Australian Capital Territory, 2003-04 to 2022-23.

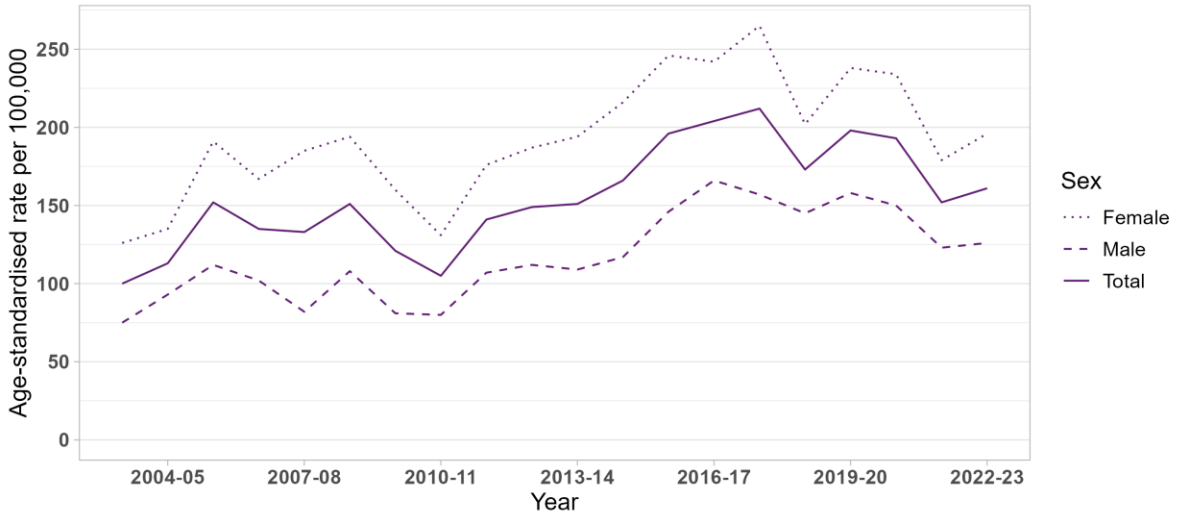
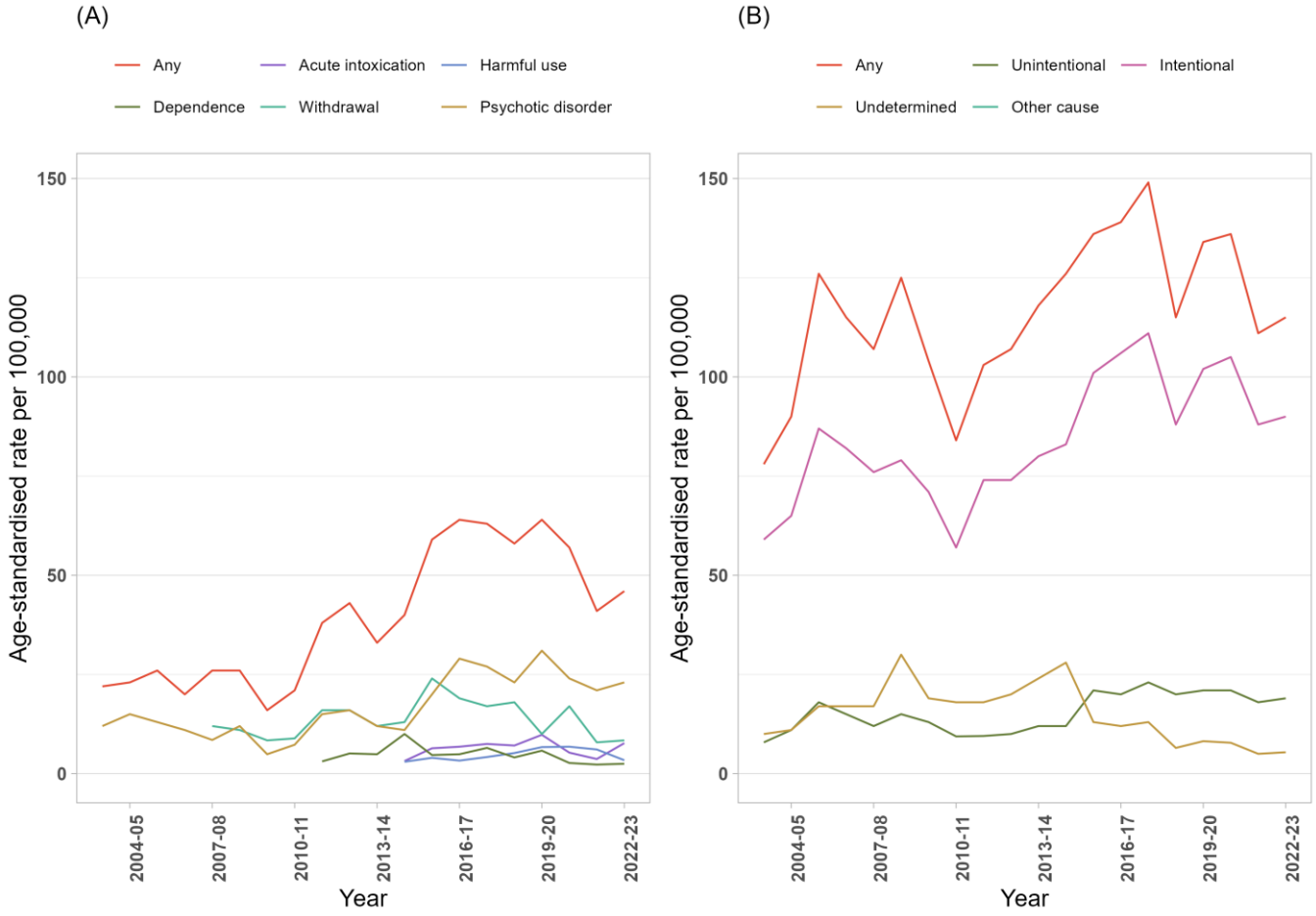
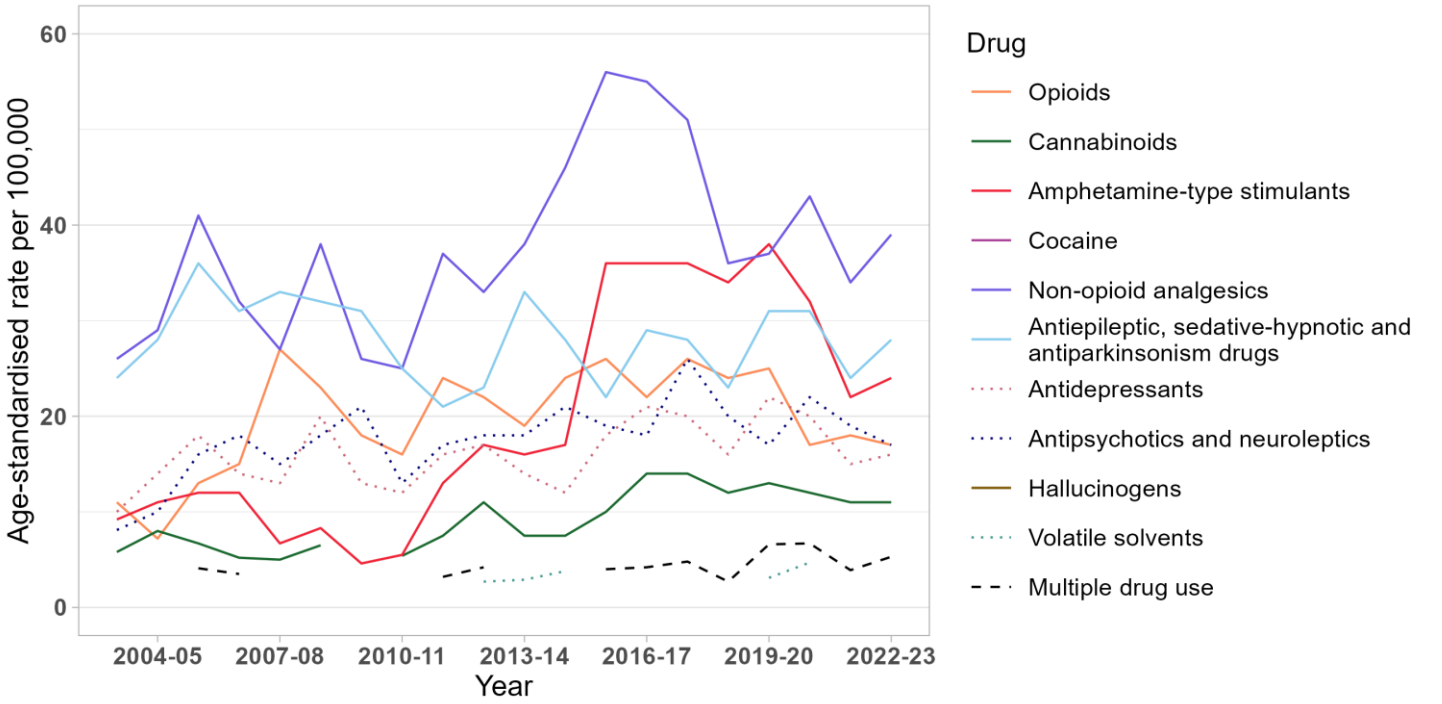


Figure 27. Age-standardised rate per 100,000 people of drug-related hospitalisations, by principal diagnosis of mental and behavioural disorder due to substance use (A) and external cause of poisoning (B), Australian Capital Territory, 2003-04 to 2022-23.



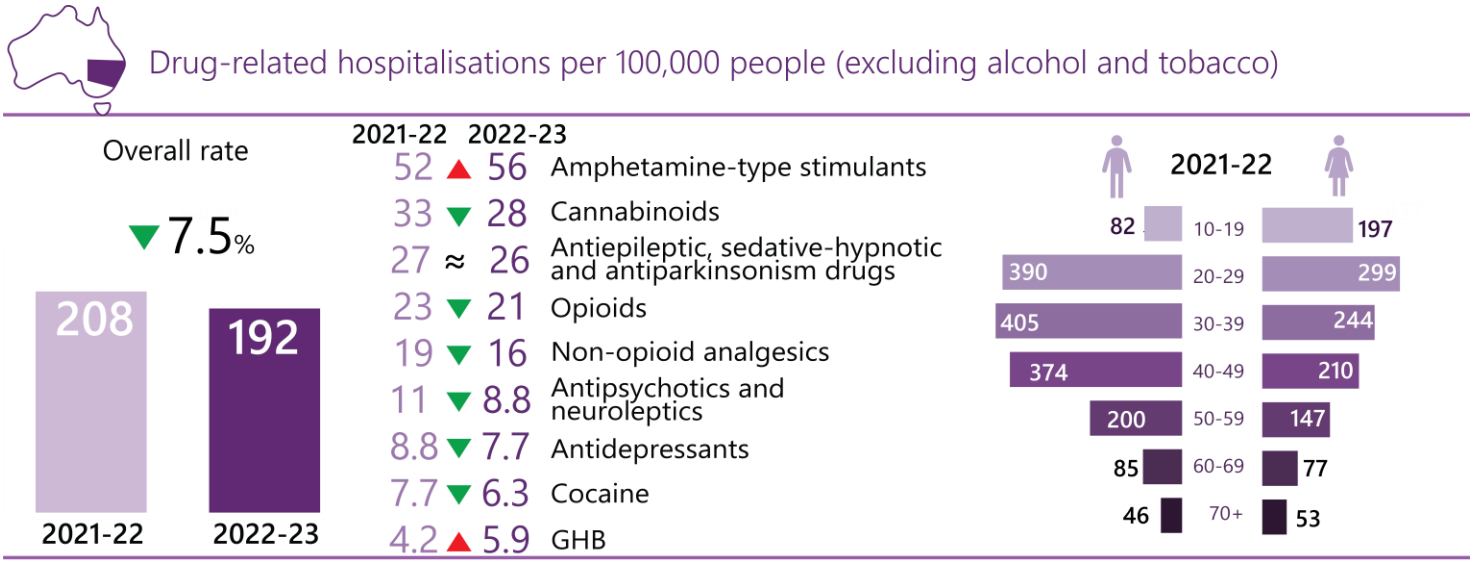
Note: Age-standardised rates were not calculated if the number of hospitalisations was less than or equal to 10 (please refer to our methods document for details). Suppressed data are visible as gaps in the data series.

Figure 28. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Australian Capital Territory, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. Sign '≈' indicates non-significant change.

There were 15,433 hospitalisations with a drug-related principal diagnosis in New South Wales in 2022-23, equivalent to 0.46% of all hospitalisations in New South Wales.

This is equivalent to 192 hospitalisations per 100,000 people, which was 7.5% lower than the rate in 2021-22 (208 hospitalisations per 100,000 people) (Table A18, Appendix), and a record low for the past two decades (**Figure 29**).

Sex

In 2022-23, the rate of hospitalisations was higher among males than females (218 versus 166 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 40-49 age groups (346, 324, and 291 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 30-39 age groups, and among females in the 20-29 age group.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2022-23 was observed in remote and very remote New South Wales (211 hospitalisations per 100,000 people), while the number of hospitalisations was highest in major city areas (12,138 hospitalisations) (**Figure 30**).

External Cause of Drug Poisoning

In 2022-23, 33% of drug-related hospitalisations in New South Wales were due to drug poisoning. Furthermore, 68% of drug poisoning-related hospitalisations were intentional (43 hospitalisations per 100,000 people) and 23% were unintentional (14 hospitalisations per 100,000 people) (**Figure 31**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (56 hospitalisations per 100,000 people) (**Figure 32**).

Compared to 2021-22, there were significant decreases in the 2022-23 rates of hospitalisations related to:

- cannabinoids (▼15%),
- opioids (▼8.5%),
- non-opioid analgesics (▼15%),
- antipsychotics and neuroleptics (▼16%),
- antidepressants (▼12%), and
- cocaine (▼18%) (Table A18, Appendix).

In contrast, there were significant increases in the rates of hospitalisations related to:

- GHB (▲39%),
- amphetamine-type stimulants (▲8.2%),
- methamphetamine (▲9.6%), and
- MDMA/ecstasy (▲33%).

Figure 29. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, New South Wales, 2003-04 to 2022-23.

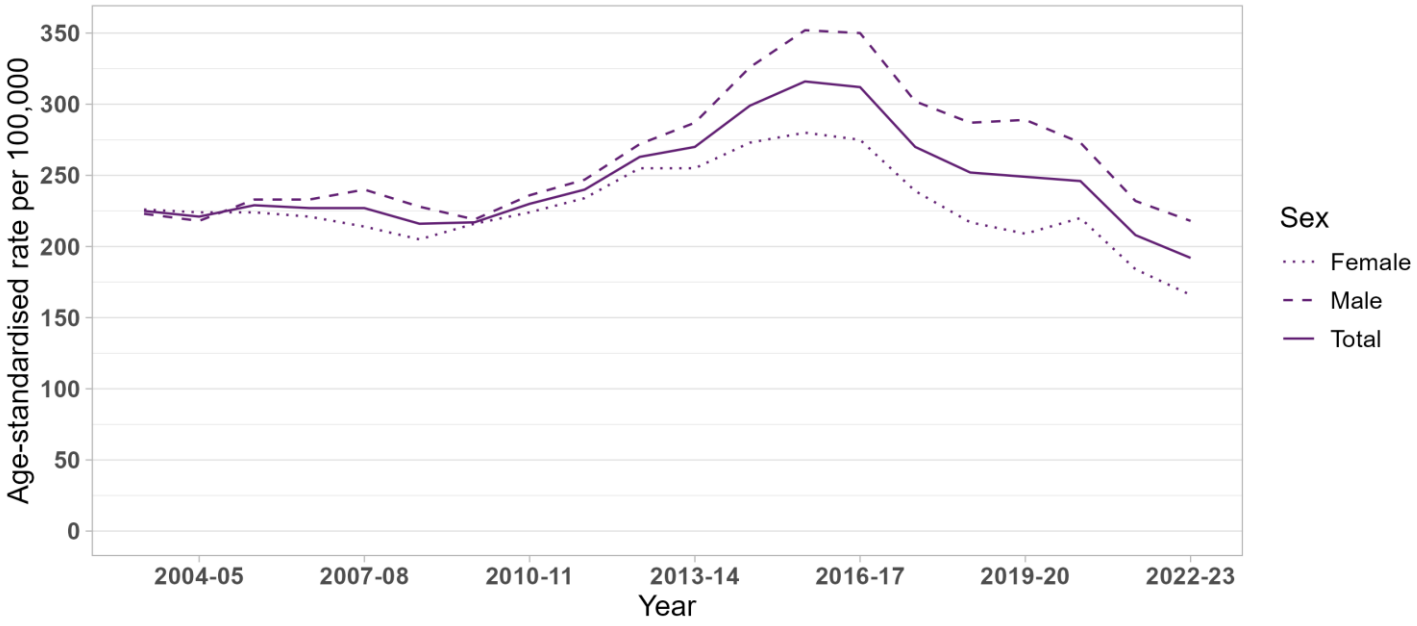
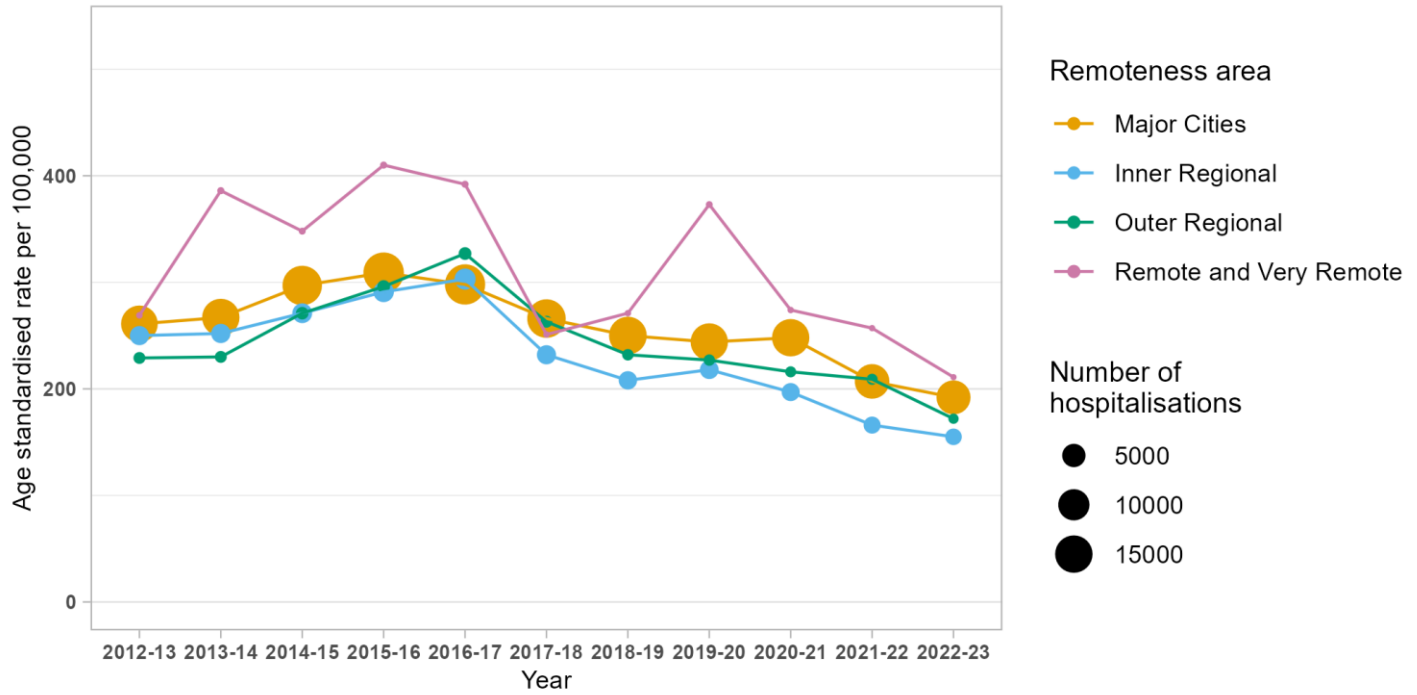


Figure 30. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, New South Wales, 2012-13 to 2022-23.



Note: The size (area) of the bubble is proportional to the number of hospitalisations. 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), New South Wales, 2003-04 to 2022-23.

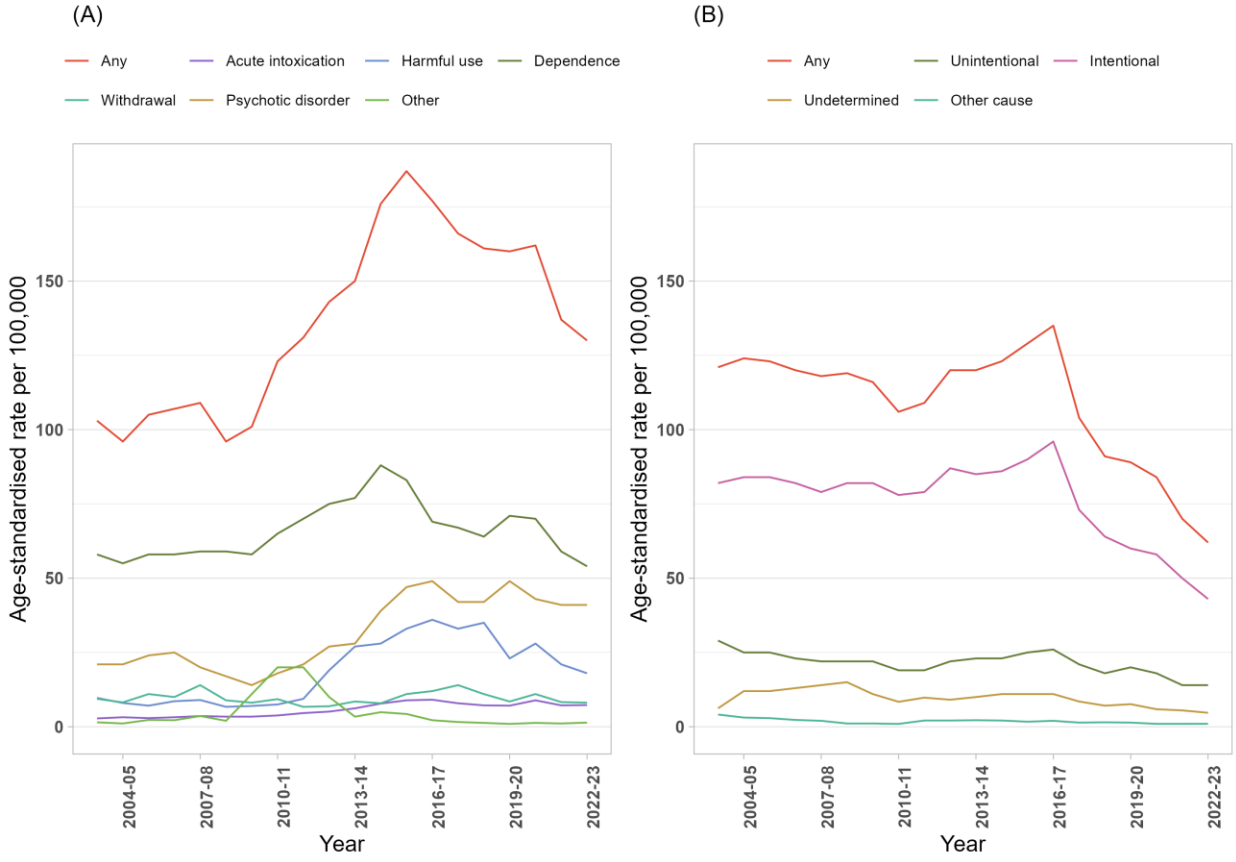
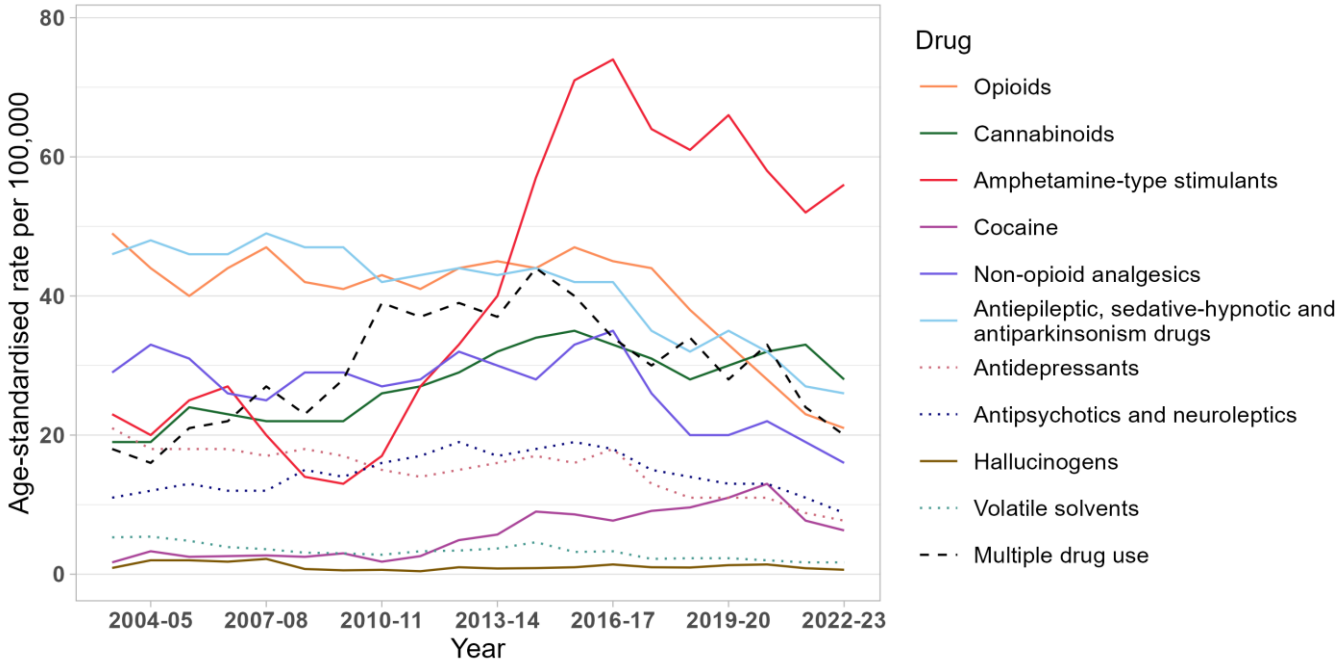
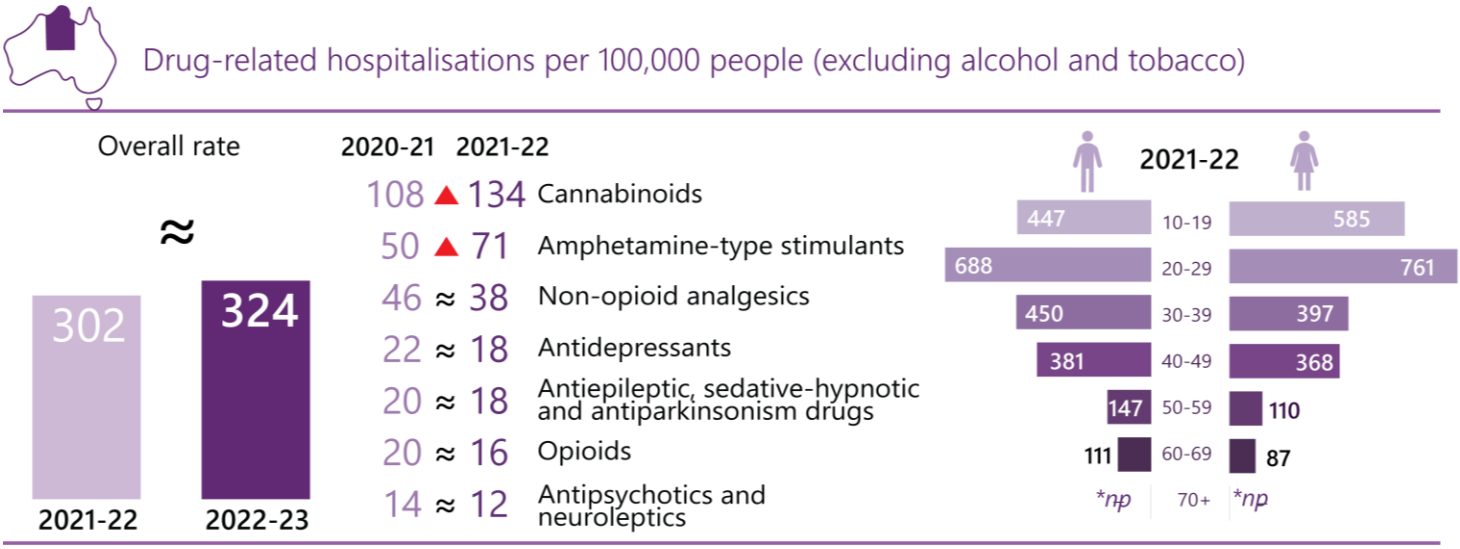


Figure 32. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, New South Wales, 2003-04 to 2022-23.



Northern Territory



Note: The ▲ up arrow indicates a statistically significant increase in population rates from 2021-22 to 2022-23. Sign '≈' indicates non-significant change. **np* means data not publishable due to a small number of hospitalisations (≤10).

There were 864 hospitalisations with a drug-related principal diagnosis in the Northern Territory in 2022-23.

This is equivalent to 324 hospitalisations per 100,000 people, a rate similar to 2021-22 rate (302 hospitalisations per 100,000 people) (Table A19, Appendix. However, this rate remains the second-highest recorded, following the peak of 355 hospitalisations per 100,000 people in 2019–20 (**Figure 33**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (329 versus 319 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19, 30-39 and 40-49 age groups (724, 514, 427 and 378 hospitalisations per 100,000 people, respectively). For both males and females, the 20-29 age group had the highest rate of drug-related hospitalisations. However, among females, hospitalisation rates were notably higher in the 10–19 age group compared to males.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2022-23 was observed in the remote and very remote Northern Territory (384 hospitalisations, 349 per 100,000 people), followed by the outer regional Northern Territory (480 hospitalisations, 308 per 100,000 people), noting there are no major city areas or inner regional areas in the Northern Territory (**Figure 34**).

External Cause of Drug Poisoning

In 2022-23, 31% of drug-related hospitalisations in the Northern Territory were due to drug poisoning. Furthermore, 75% of drug poisoning-related hospitalisations were intentional (76 hospitalisations per 100,000 people) and 19% were unintentional (20 hospitalisations per 100,000 people) (**Figure 35**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating cannabinoids (134 hospitalisations per 100,000 people) (**Figure 36**).

Compared to 2021-22, there were statistically significant increases in rates of hospitalisations with principal diagnosis related to

- cannabinoids (▲24%),
- amphetamine-type stimulants (▲42%), and
- methamphetamine (▲40%)

(Table A19, Appendix).

Figure 33. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Northern Territory, 2003-04 to 2022-23.

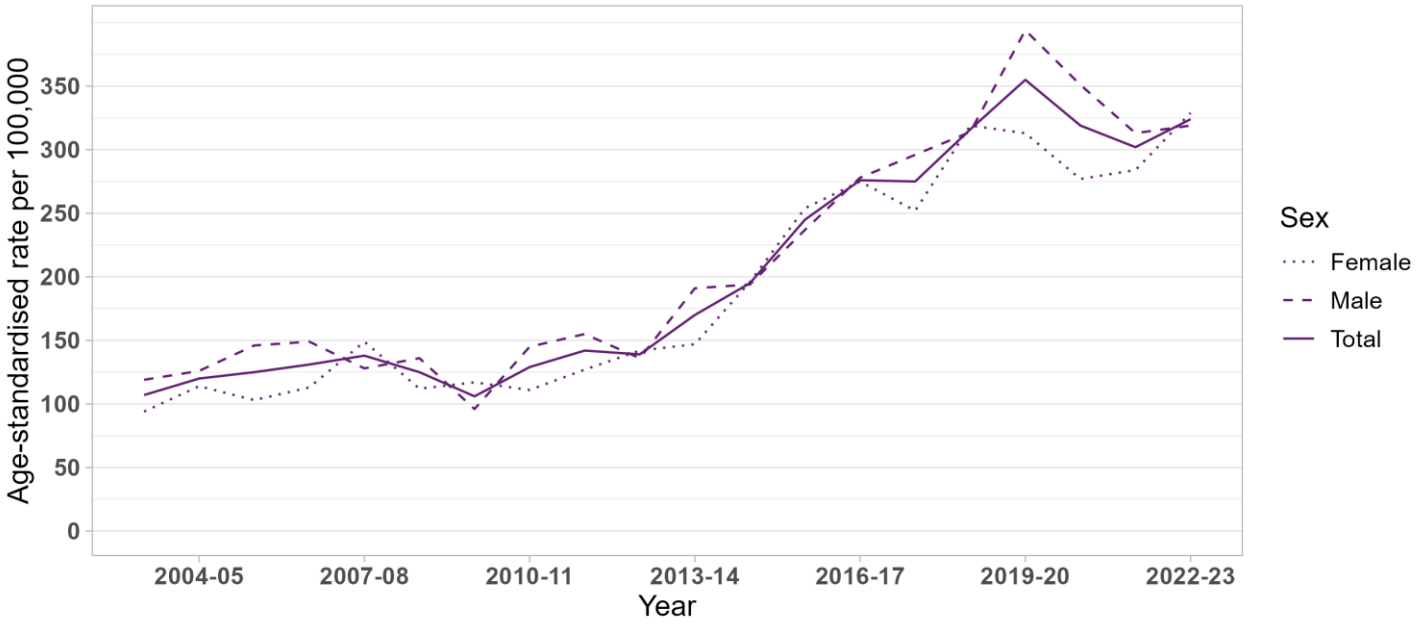
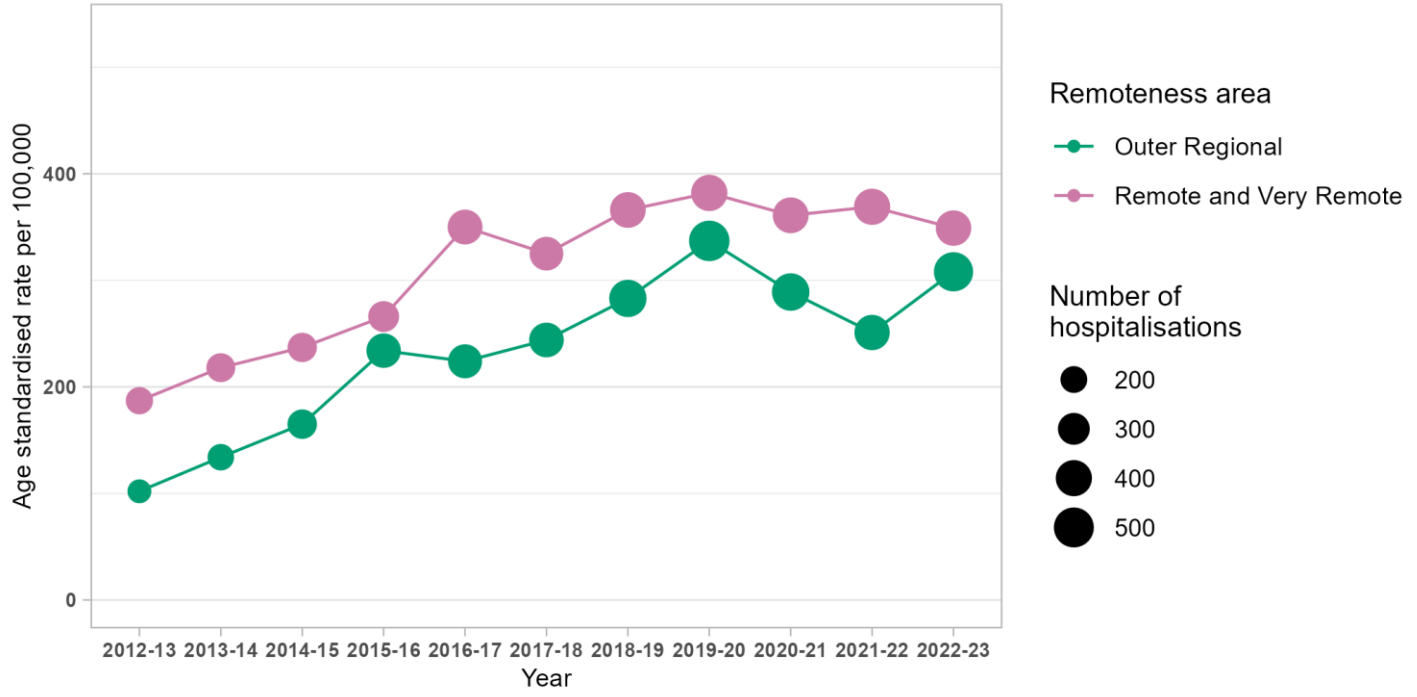


Figure 34. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Northern Territory, 2012-13 to 2022-23.



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 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), Northern Territory, 2003-04 to 2022-23.

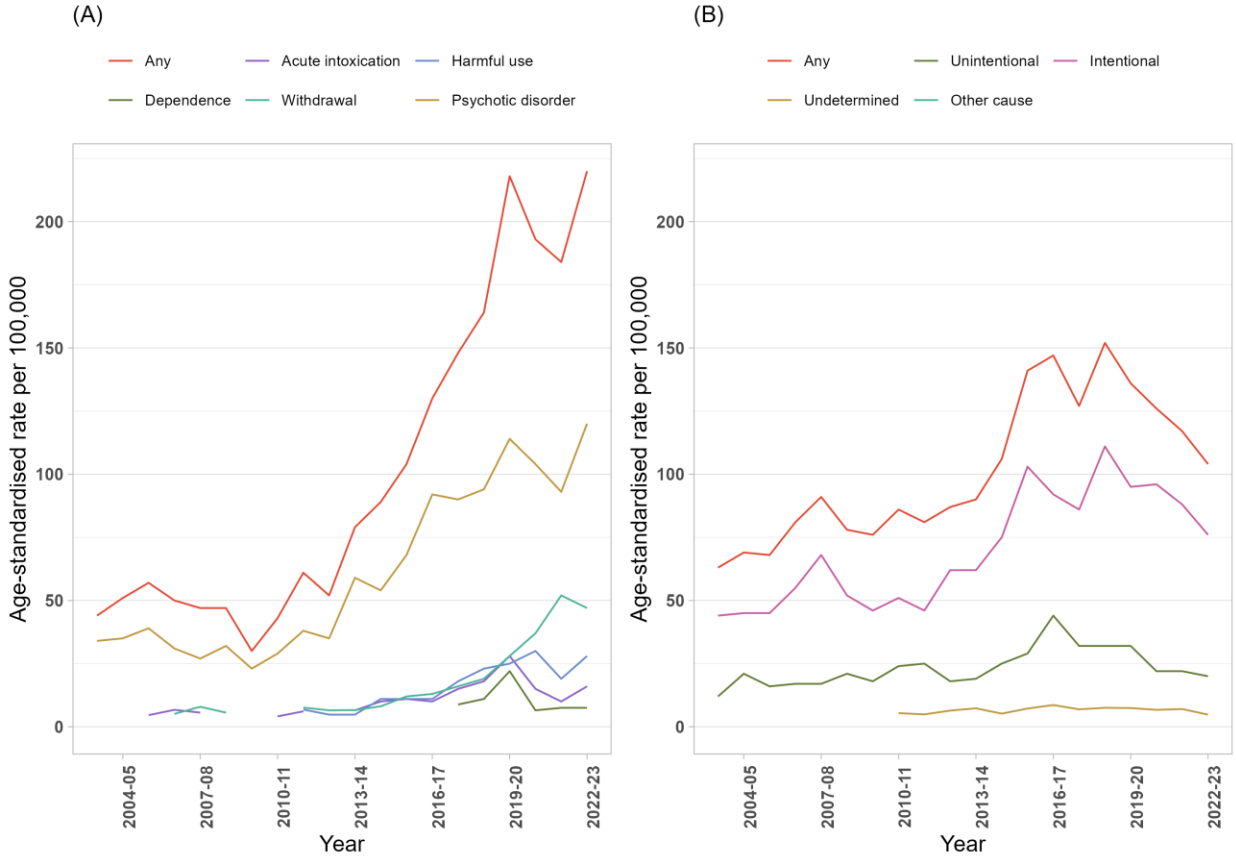
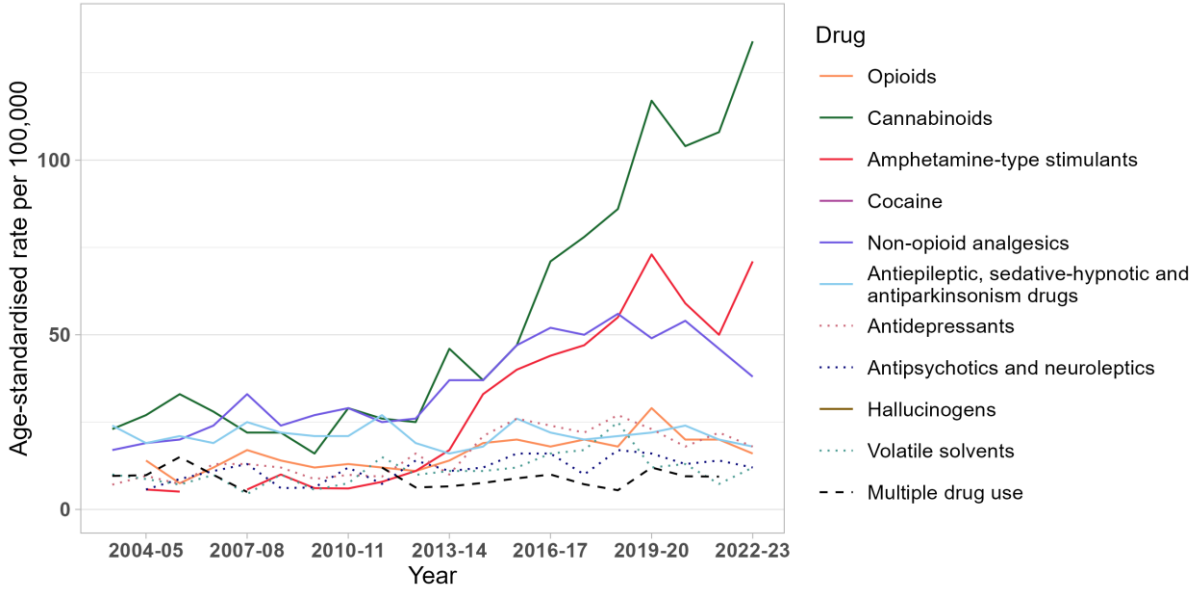


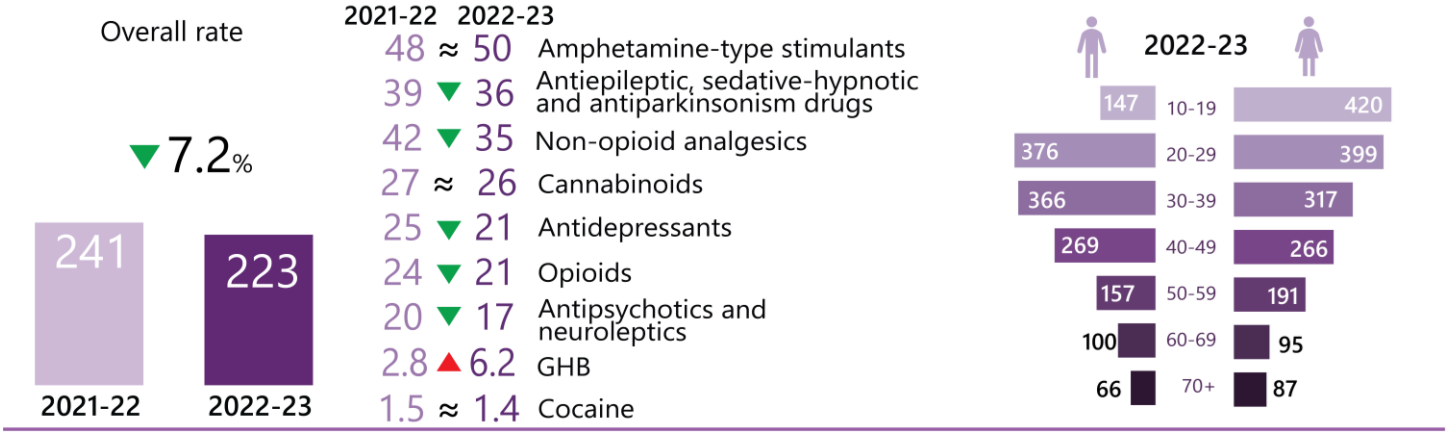
Figure 36. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Northern Territory, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. Sign '≈' indicates no significant change. **np* means data not publishable due to a small number of hospitalisations (≤10).

There were 11,723 hospitalisations with a drug-related principal diagnosis in Queensland in 2022-23, equivalent to 0.39% of all hospitalisations in Queensland.

This is equivalent to 223 hospitalisations per 100,000 people, which was 7.2% lower than the 2021-22 rate (241 Figure 37).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (243 versus 205 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39, 10-19 and 40-49 age groups (387, 341, 279 and 267 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 20-29 and 30-39 age groups, and among females in the 10-19 and 20-29 age groups.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2022-23 was observed in outer regional Queensland (256 hospitalisations per 100,000 people), while the number of hospitalisations was highest in major city areas (7,802 hospitalisations) (**Figure 38**).

hospitalisations per 100,000 people) (Table A20, Appendix). In contrast, there were significant increases in the rates of hospitalisations related to:

- GHB (▲125%), and
- methamphetamine (▲7.7%).

External Cause of Drug Poisoning

In 2022-23, 57% of drug-related hospitalisations in Queensland were due to drug poisoning. Furthermore, 73% of drug poisoning-related hospitalisations were intentional (93 hospitalisations per 100,000 people) and 21% were unintentional (26 hospitalisations per 100,000 people) (**Figure 39**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (50 hospitalisations per 100,000 people) (**Figure 40**).

Compared to 2021-22, there were significant **decreases** in the 2022-23 rates of hospitalisations related to:

- antiepileptic, sedative-hypnotic and antiparkinsonism drugs (▼7.6%),
- non-opioid analgesics (▼15%),
- antidepressants (▼16%)
- opioids (▼10%), and
- antipsychotics and neuroleptics (▼14%)

(Table A20, Appendix).

In contrast, there were significant increases in the rates of hospitalisations related to:

- GHB (▲125%), and
- methamphetamine (▲7.7%).

Figure 37. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Queensland, 2003-04 to 2022-23.

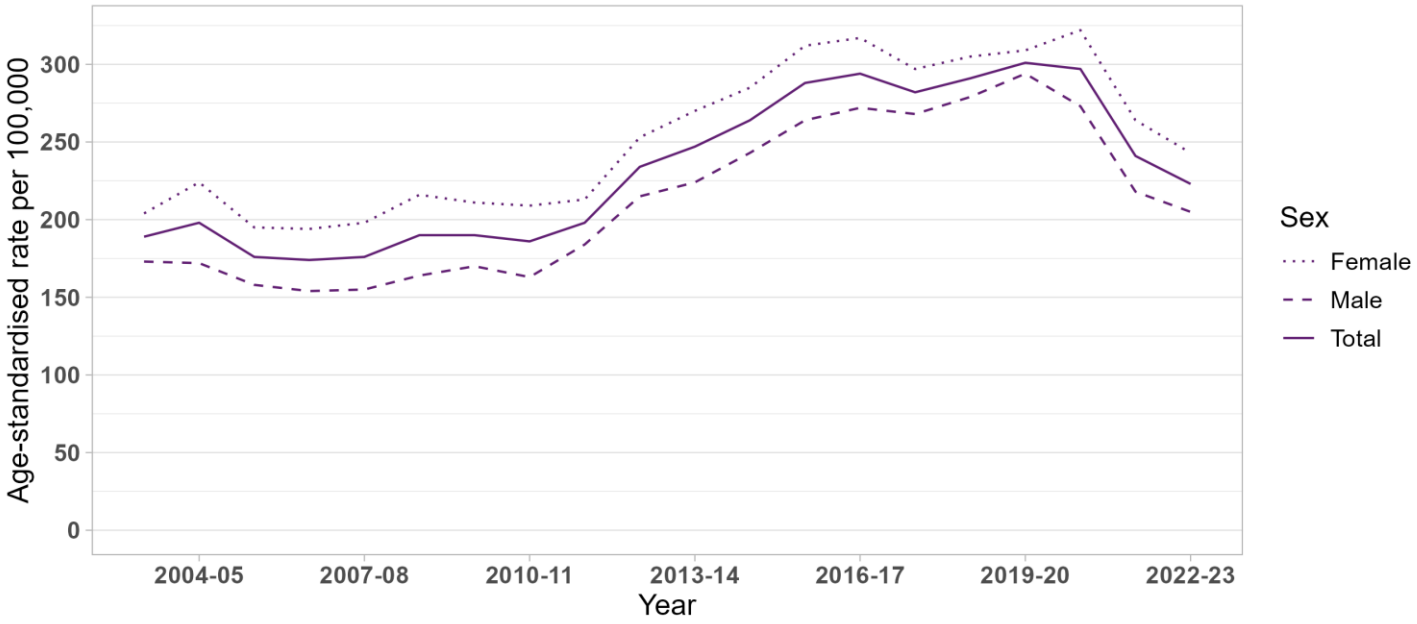
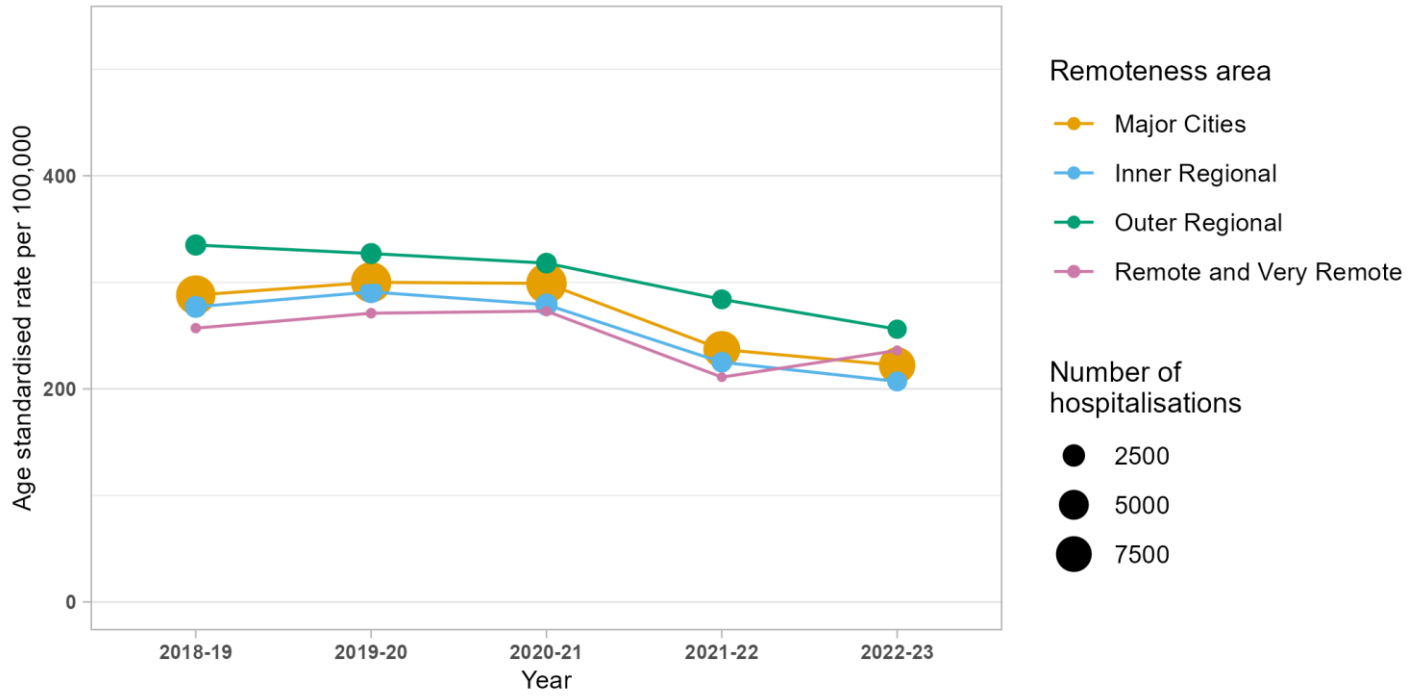


Figure 38. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Queensland, 2018-19 to 2022-23.



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 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), Queensland, 2003-04 to 2022-23.

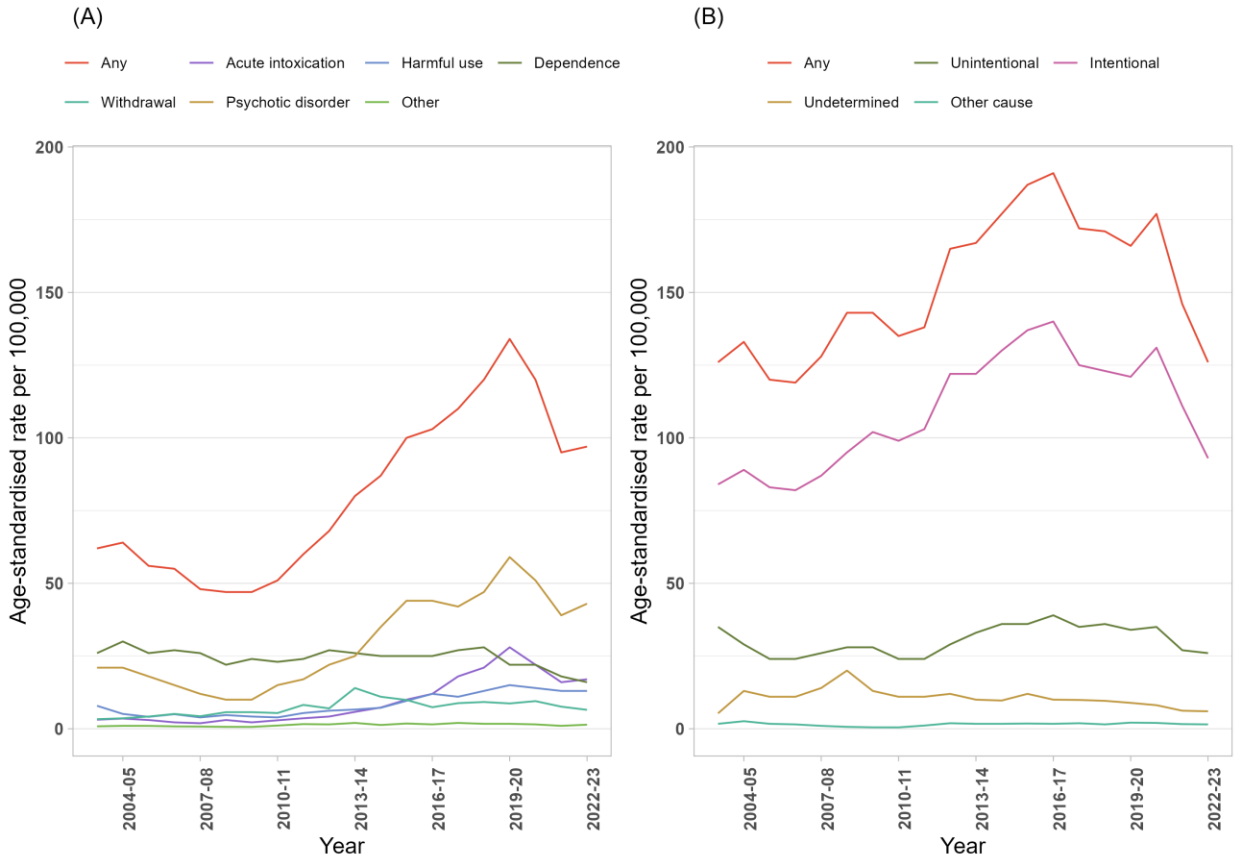
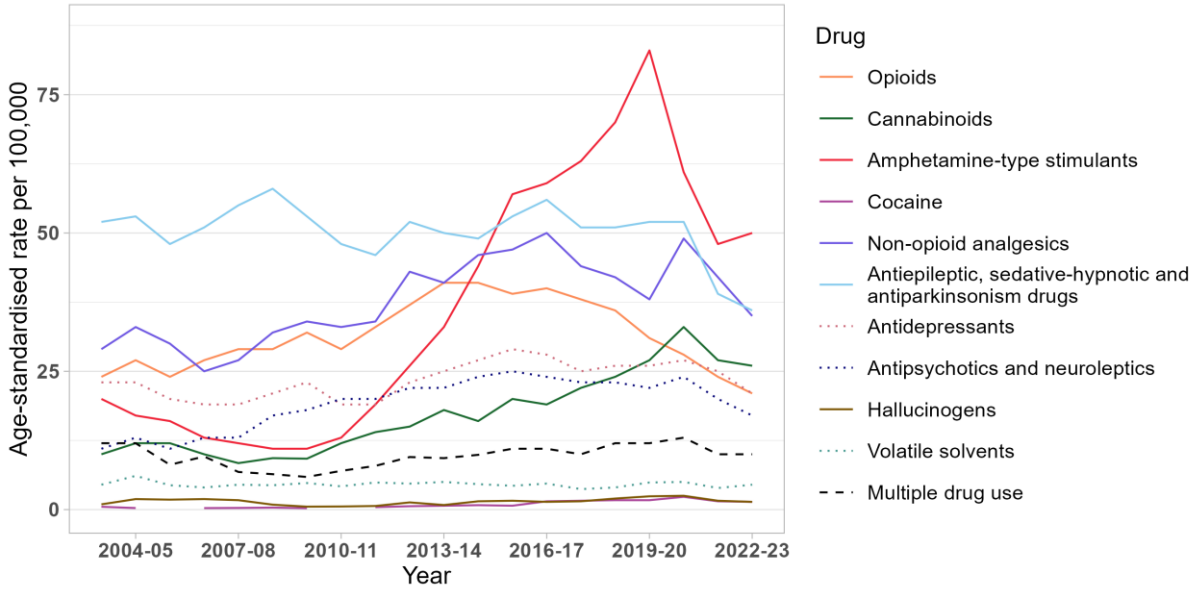
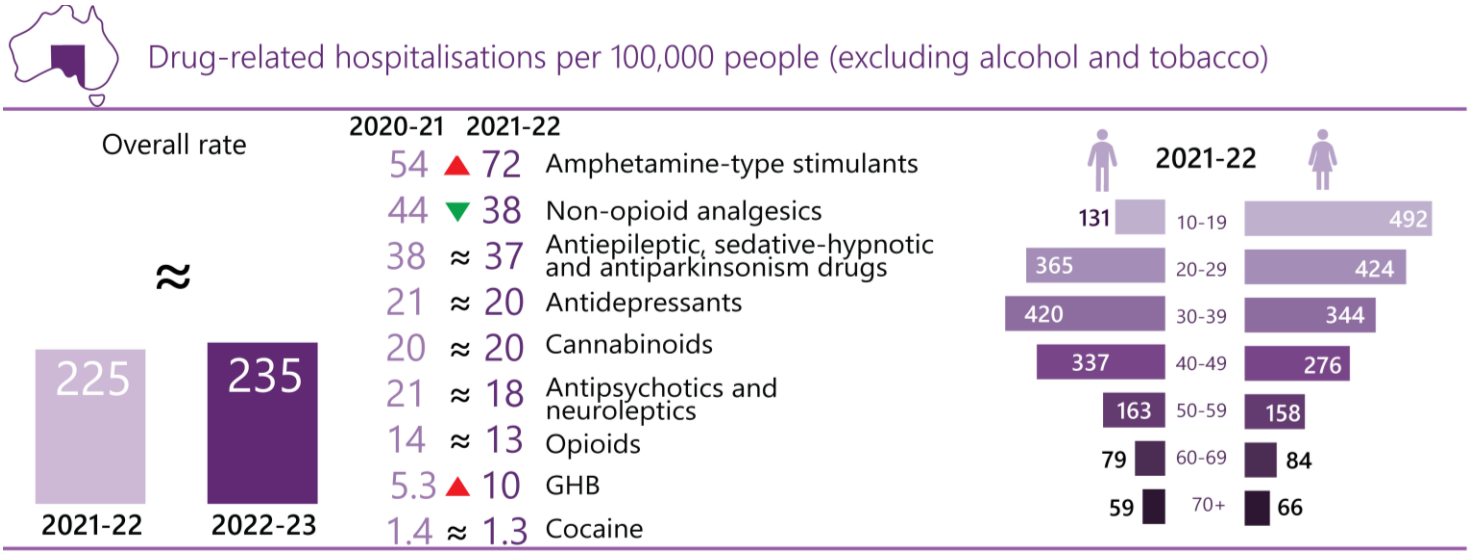


Figure 40. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Queensland, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. Sign '≈' indicates non-significant change.

There were 4,024 hospitalisations with a drug-related principal diagnosis in South Australia in 2022-23, equivalent to 0.47% of all hospitalisations in South Australia.

This is equivalent to 235 hospitalisations per 100,000 people, which was similar to the rate in 2021-22 rate (225 hospitalisations per 100,000 people) (Table A21, Appendix), although still higher than reported between 2003-04 and 2013-14 (**Figure 41**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (255 versus 216 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 , 10-19 and 40-49 age groups (394, 382, 306 and 306 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 30-39 age group, and among females in the 10-19 age group.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2022-23 was observed in outer regional South Australia (341 hospitalisations per 100,000 people), while the number of hospitalisations was highest in major city areas (2,799 hospitalisations) (**Figure 42**).

External Cause of Drug Poisoning

In 2022-23, 54% of drug-related hospitalisations in South Australia were due to drug poisoning. Furthermore, 76% of drug poisoning-related hospitalisations were intentional (96 hospitalisations per 100,000 people) and 16% were unintentional (18 hospitalisations per 100,000 people) (**Figure 43**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (72 hospitalisations per 100,000 people) (**Figure 44**).

Compared to 2021-2 there were significant decreases in the 2022-23 rates of hospitalisations related to:

- non-opioid analgesics (▼14%).

In contrast, there were significant increases in the rates of hospitalisations related to:

- amphetamine-type stimulants (▲34%),
- methamphetamine (▲41%),
- GHB (▲97%) (Table A21, Appendix).

Figure 41. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, South Australia, 2003-04 to 2022-23.

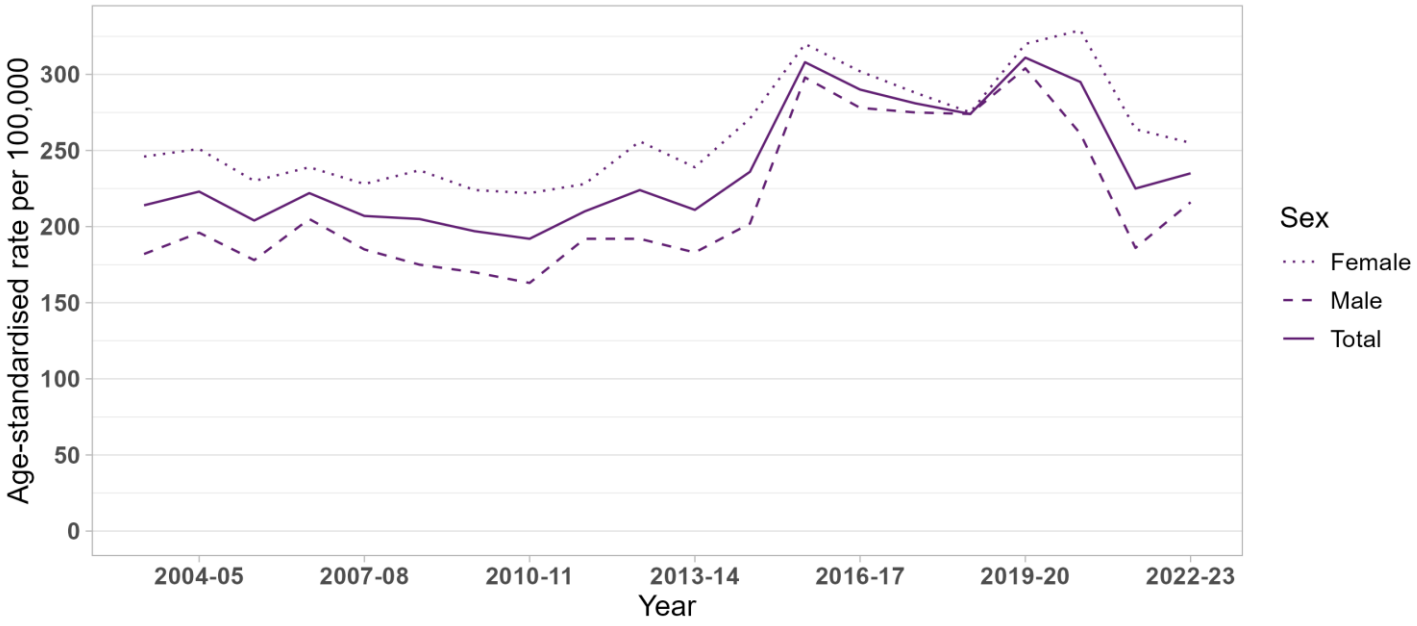
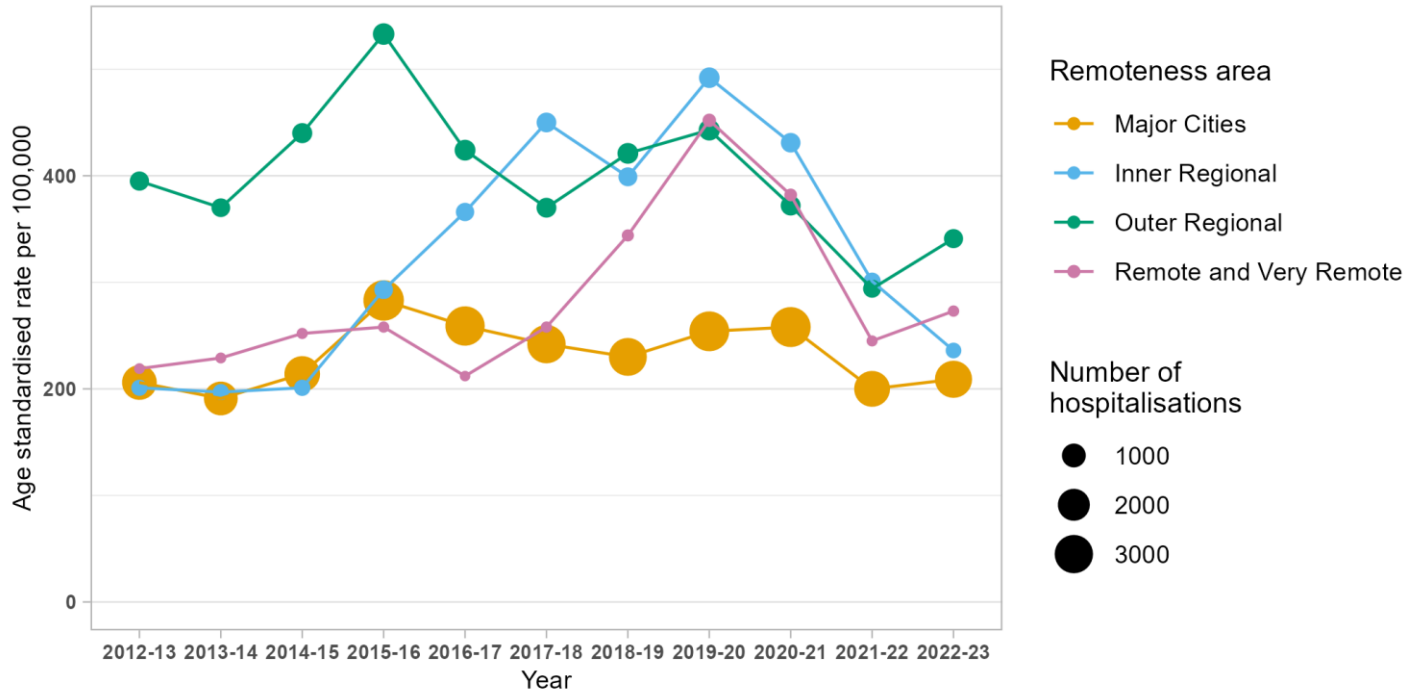


Figure 42. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, South Australia, 2012-13 to 2022-23.



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

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), South Australia, 2003-04 to 2022-23.

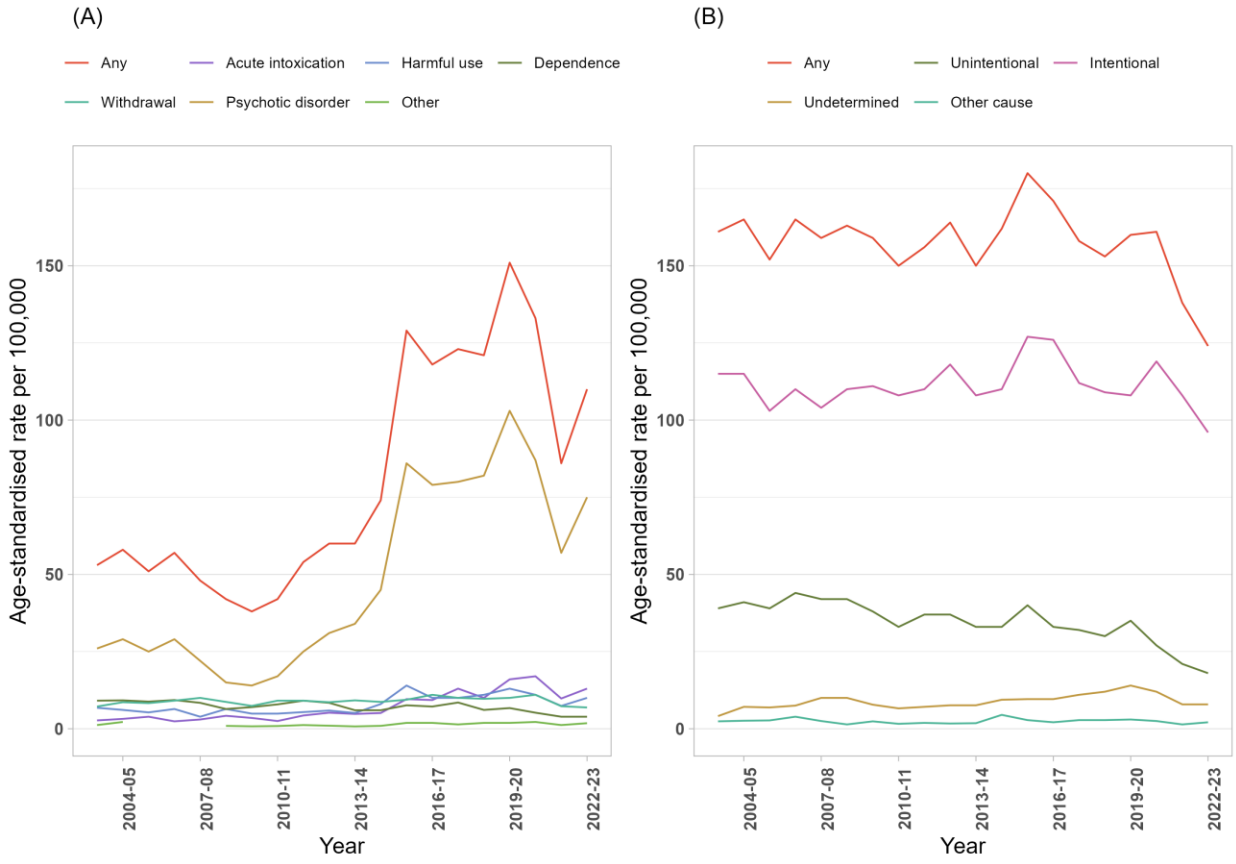
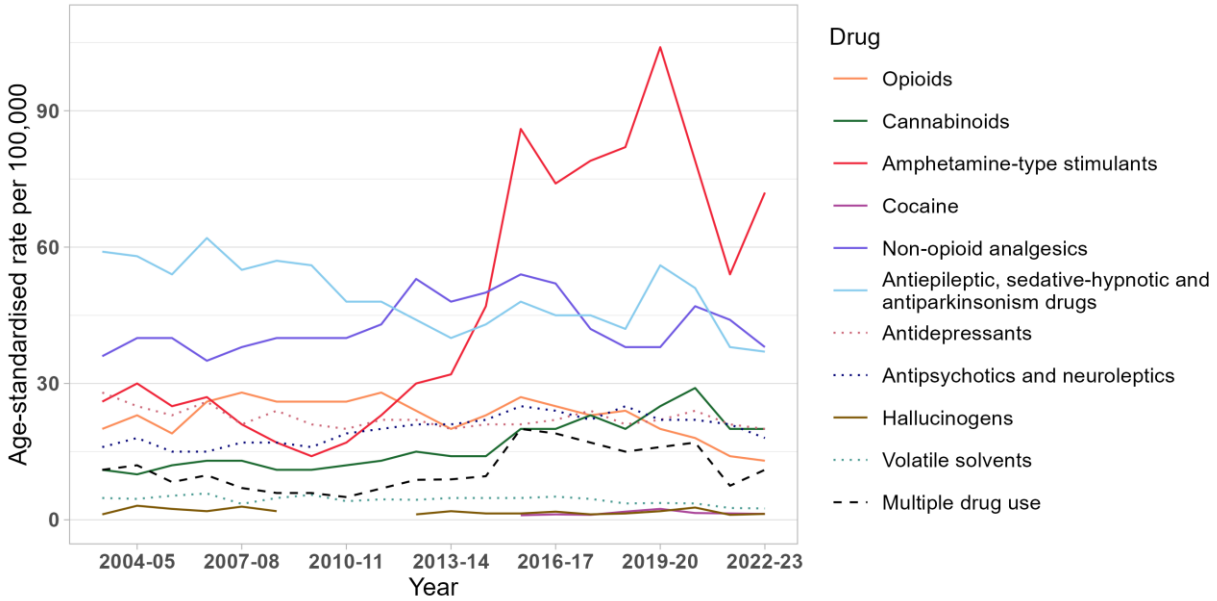
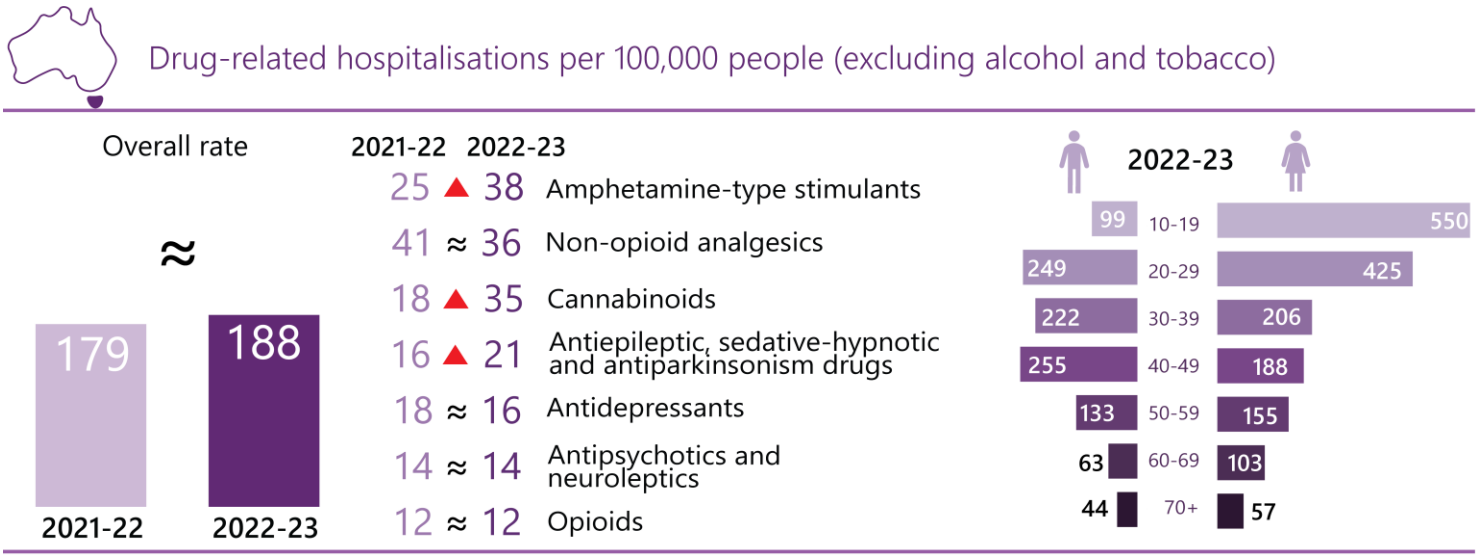


Figure 44. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, South Australia, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase in population rates from 2021-22 to 2022-23. Sign '≈' indicates no significant change.

There were 983 hospitalisations with a drug-related principal diagnosis in Tasmania in 2022-23.

This is equivalent to 188 hospitalisations per 100,000 people, which was similar to the rate in 2021-22 (179 hospitalisations per 100,000 people) (Table A22, Appendix) (**Figure 45**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (231 versus 148 hospitalisations per 100,000 people).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 10-19, 40-49 and 30-39 age groups (335, 318, 221 and 214 hospitalisations per 100,000 people, respectively). Among males, the rate of drug-related hospitalisations was highest in the 40-49 and 20-29 age groups, and among females in the 10-19 age group.

Remoteness Area of Usual Residence

The highest number and rate of hospitalisations in 2022-23 was observed in inner regional Tasmania (689 hospitalisations, 205 per 100,000 people), noting there are no major city areas in Tasmania (**Figure 46**).

External Cause of Drug Poisoning

In 2022-23, 54% of drug-related hospitalisations in Tasmania were due to drug poisoning. Furthermore, 76% of drug poisoning-related hospitalisations were intentional (78 hospitalisations per 100,000 people) and 16% were unintentional (15 hospitalisations per 100,000 people) (**Figure 47**).

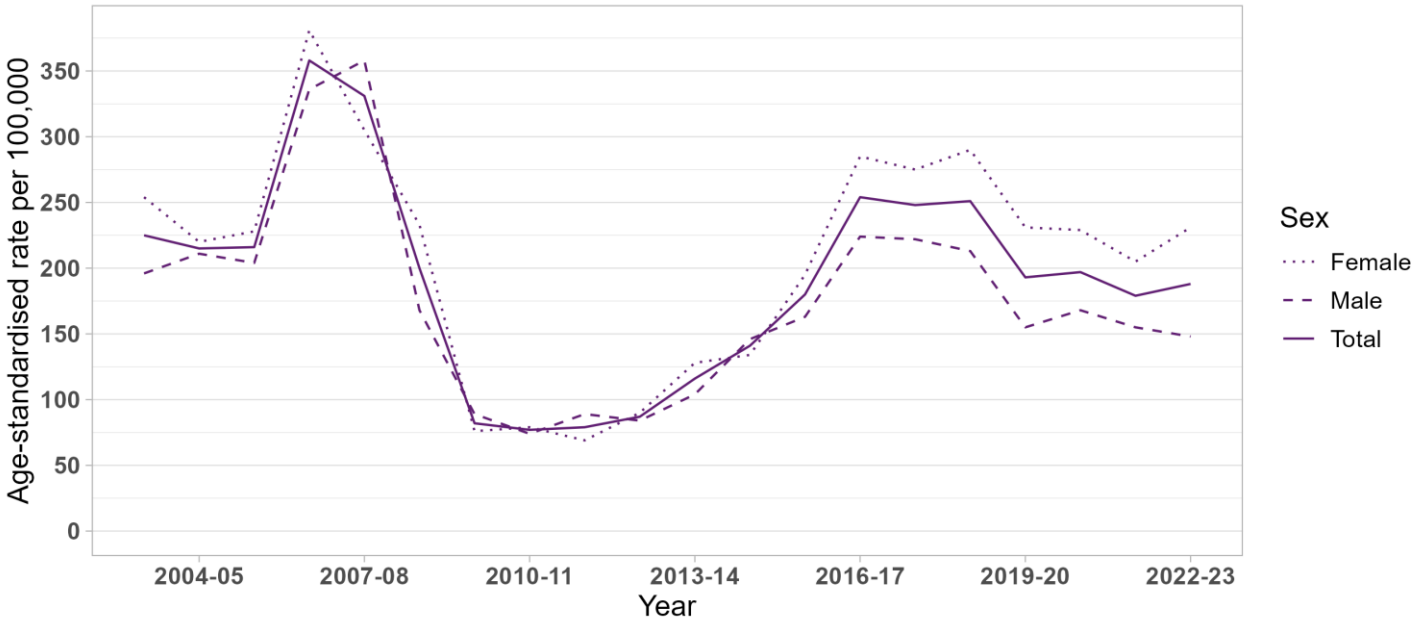
Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (38 hospitalisations per 100,000 people) (**Figure 48**).

Compared to 2021-22, there were significant increases in the 2022-23 rates of hospitalisations related to:

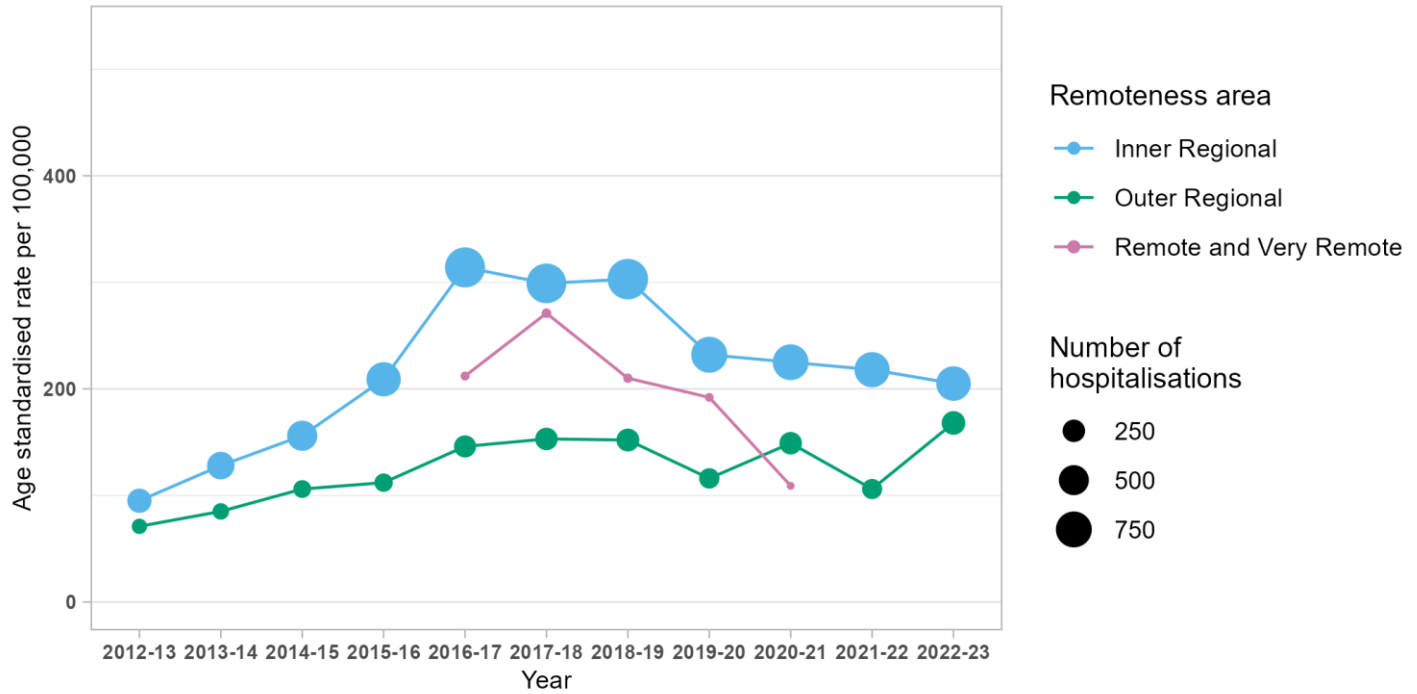
- amphetamine-type stimulants (▲69%),
- cannabinoids (▲89%),
- methamphetamine (▲53%), and
- antiepileptic, sedative-hypnotic and antiparkinsonism drugs (▲32%) (Table A22, Appendix).

Figure 45. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Tasmania, 2003-04 to 2022-23.



Note: 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. For Tasmania, gender has been reported instead of sex for 2022-23 financial year data.

Figure 46. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Tasmania, 2012-13 to 2022-23.



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 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), Tasmania, 2003-04 to 2022-23.

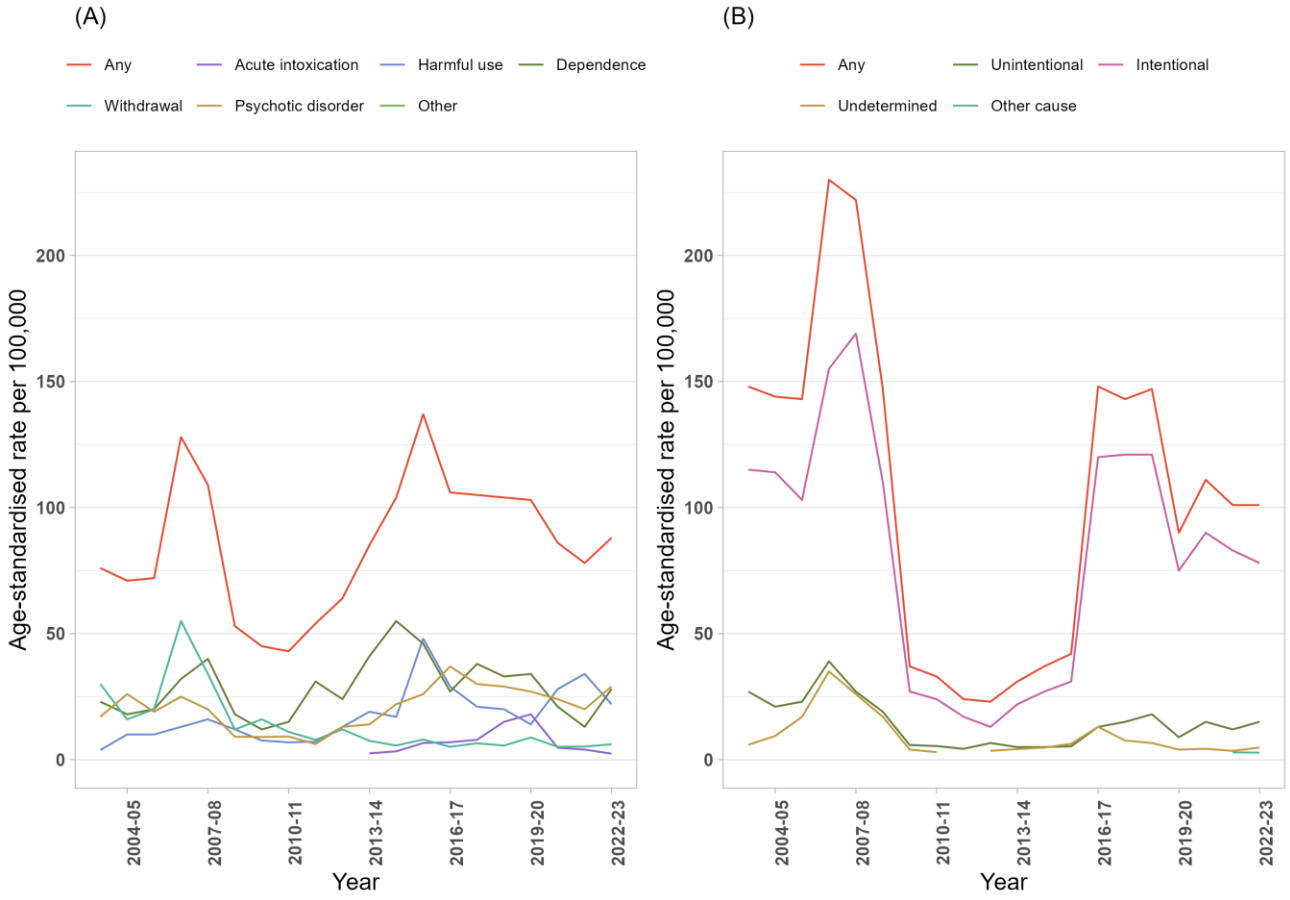
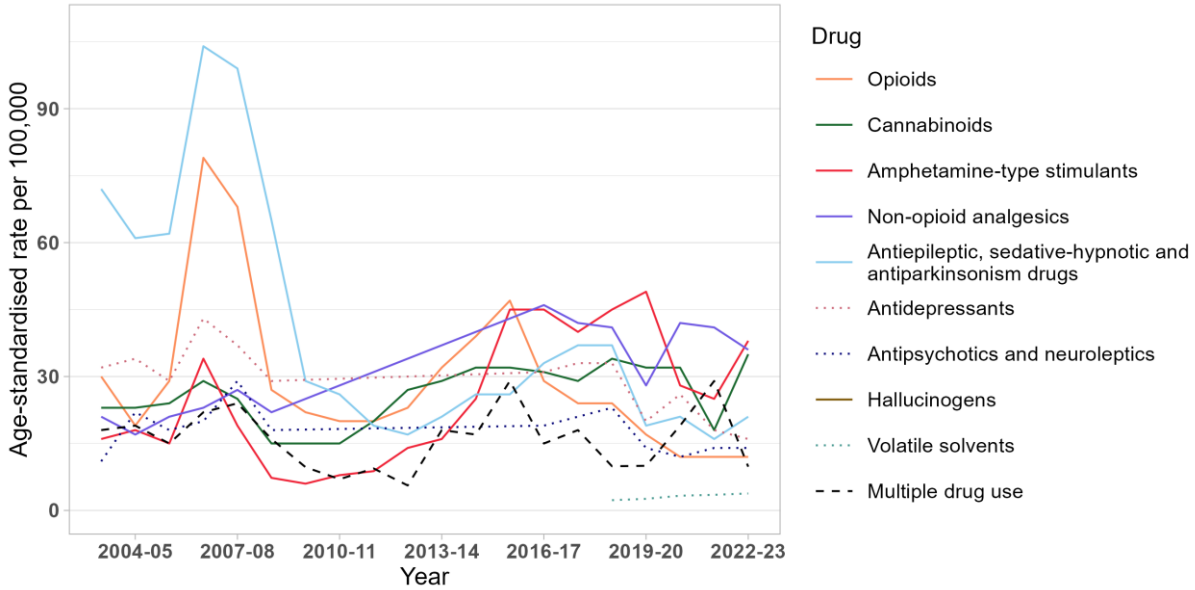
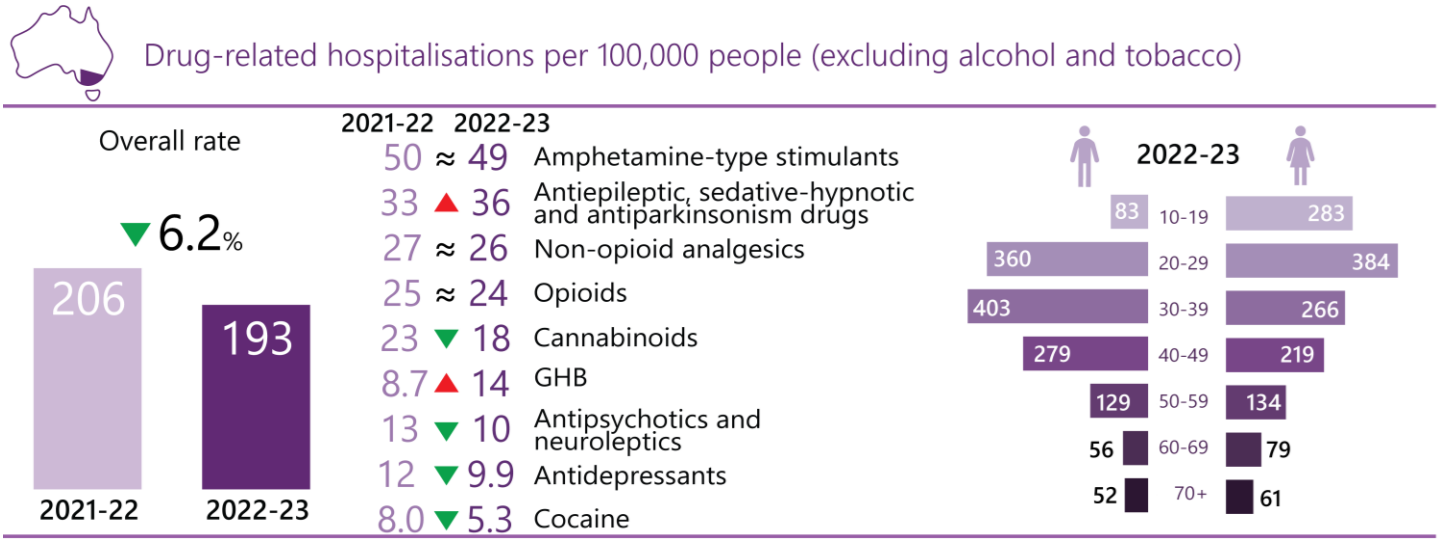


Figure 48. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Tasmania, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. Sign '≈' indicates no significant change.

There were 12,911 hospitalisations with a drug-related principal diagnosis in Victoria in 2022-23, equivalent to 0.42% of all hospitalisations in Victoria.

This is equivalent to 193 hospitalisations per 100,000 people, which was 6.2% lower than the rate in 2021-22 (206 hospitalisations per 100,000 people) (Table A23, Appendix) (**Figure 49**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (195 versus 191 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39 and 40-49 age groups (374, 334, and 249 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 number and rate of hospitalisations in 2022-23 was observed in major city areas (10,003 hospitalisations, 185 hospitalisations per 100,000 people) (**Figure 50**).

External Cause of Drug Poisoning

In 2022-23, 45% of drug-related hospitalisations in Victoria were due to drug poisoning. Furthermore, 68% of drug poisoning-related hospitalisations were intentional (60 hospitalisations per 100,000 people) and 19% were unintentional (16 hospitalisations per 100,000 people) (**Figure 51**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (49 hospitalisations per 100,000 people) (**Figure 52**).

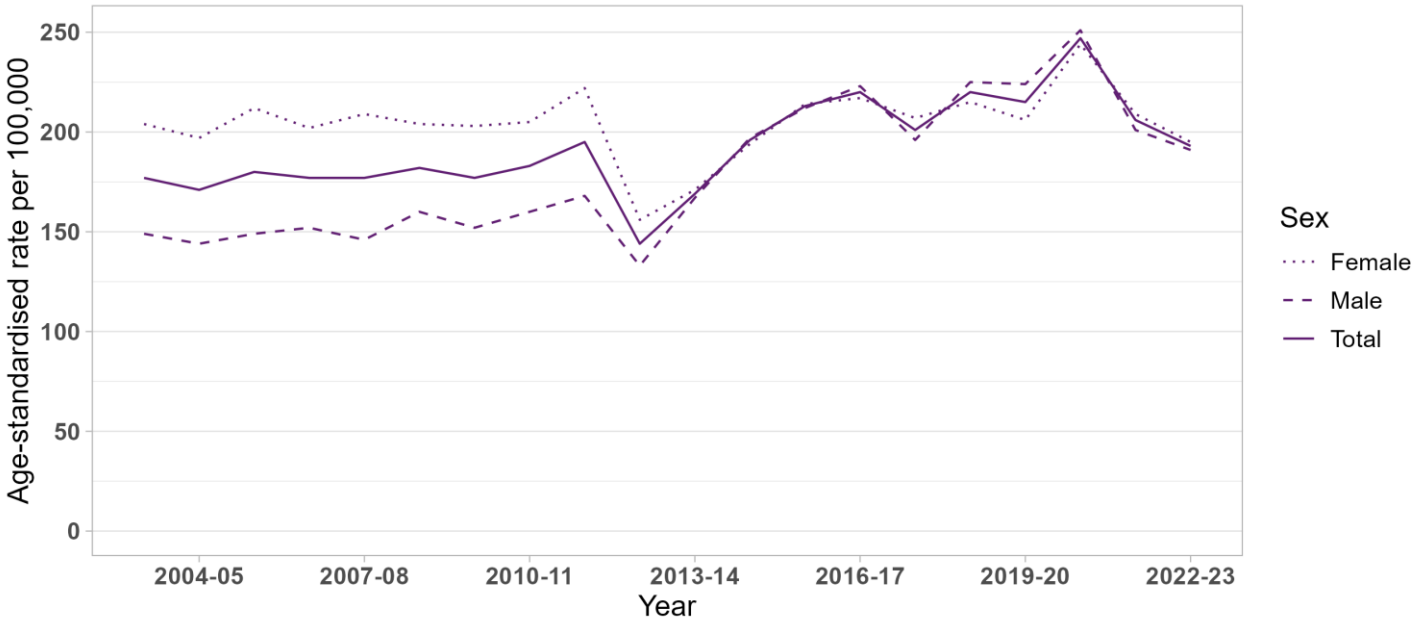
Compared to 2021-22, there were significant decreases in 2022-23 in the rates of hospitalisations related to:

- cannabinoids (▼24%),
- antipsychotics and neuroleptics (▼21%),
- antidepressants (▼15%),
- cocaine (▼34%), and
- hallucinogens (▼44%).

In contrast, there were significant increases in the rates of hospitalisations related to:

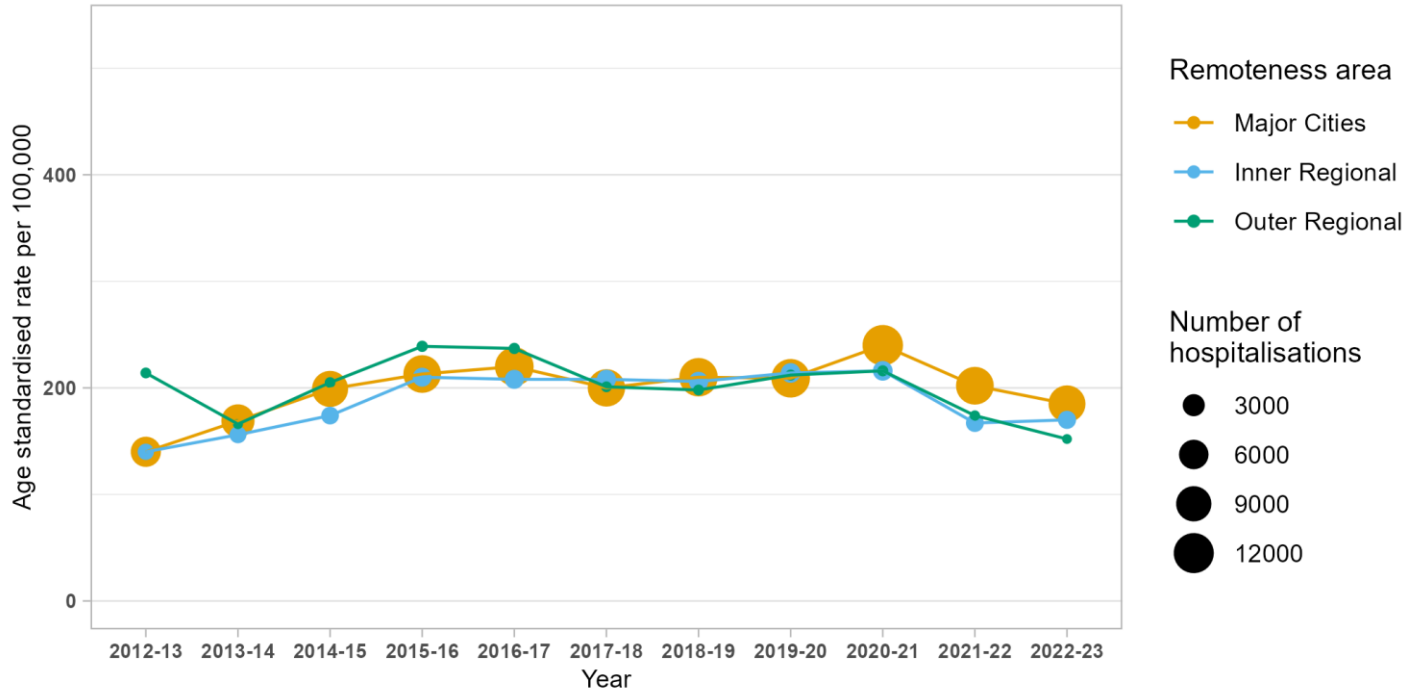
- antiepileptic, sedative-hypnotic and antiparkinsonism drugs (▲11%), and
- GHB (▲67%) (Table A23, Appendix).

Figure 49. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Victoria, 2003-04 to 2022-23.



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 50. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Victoria, 2012-13 to 2022-23.



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 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), Victoria, 2003-04 to 2022-23.

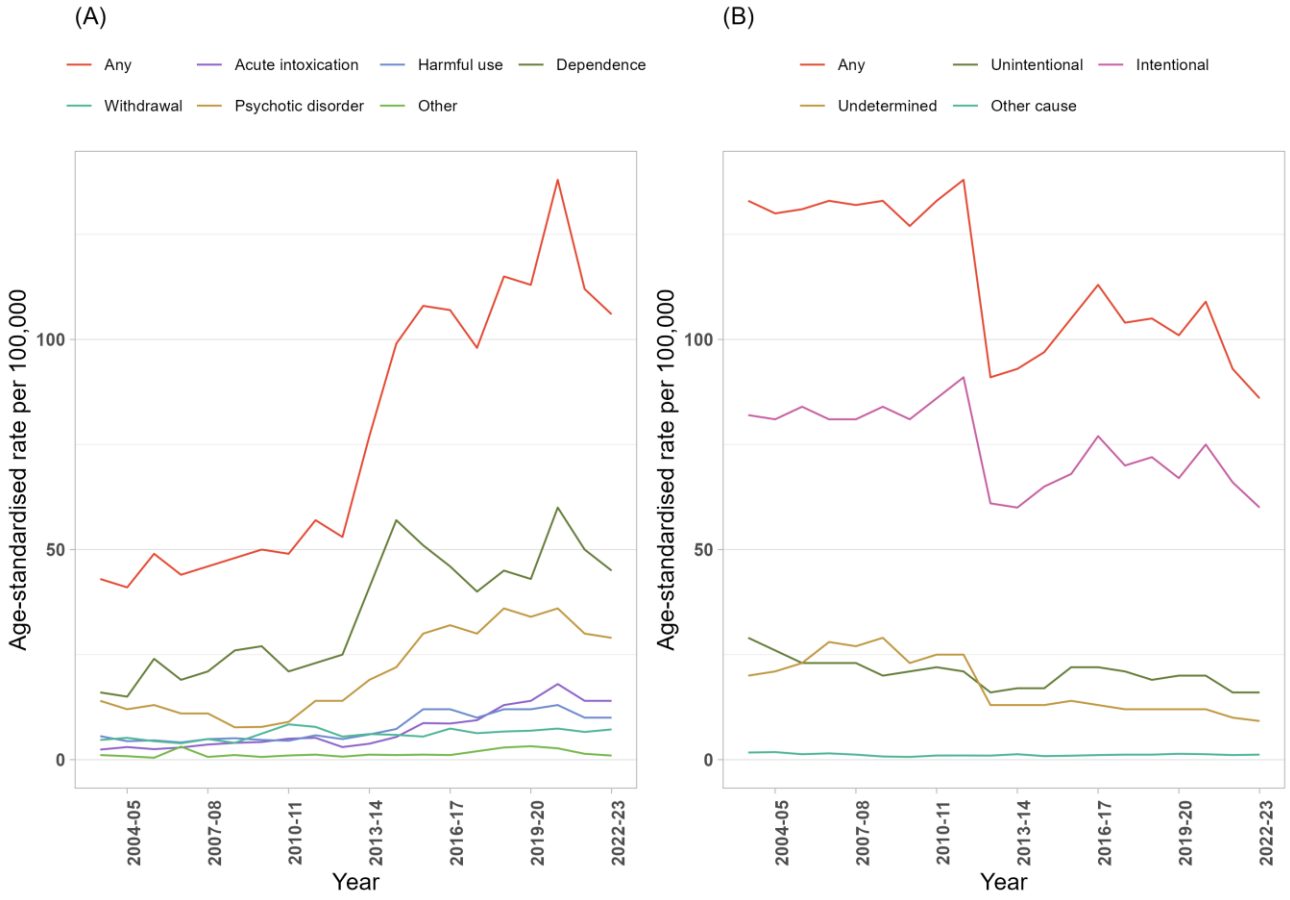
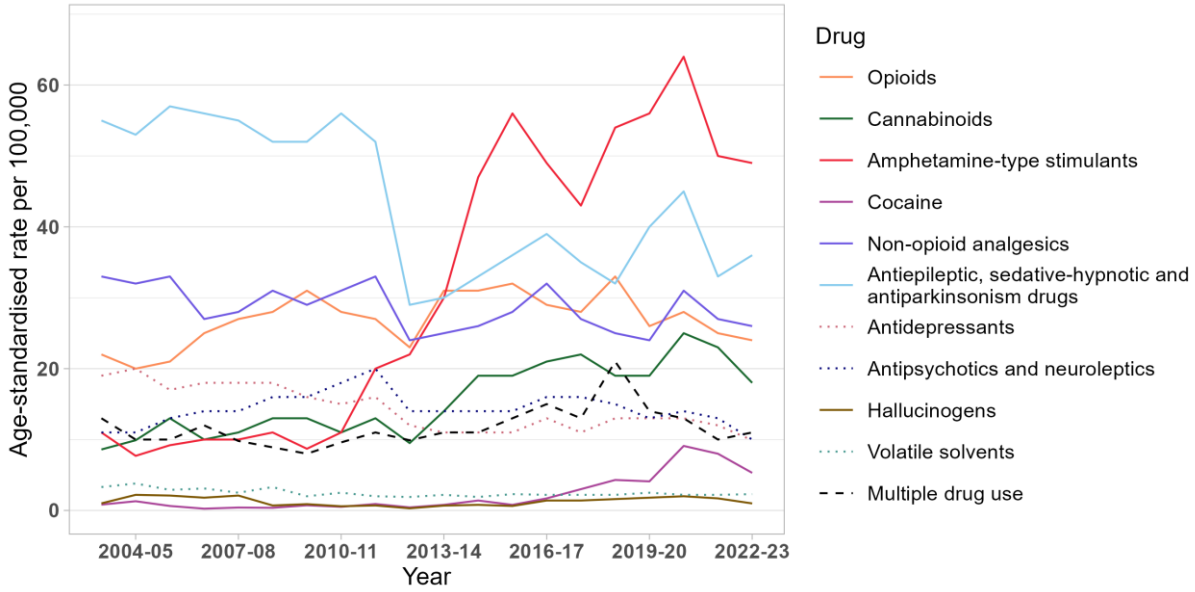
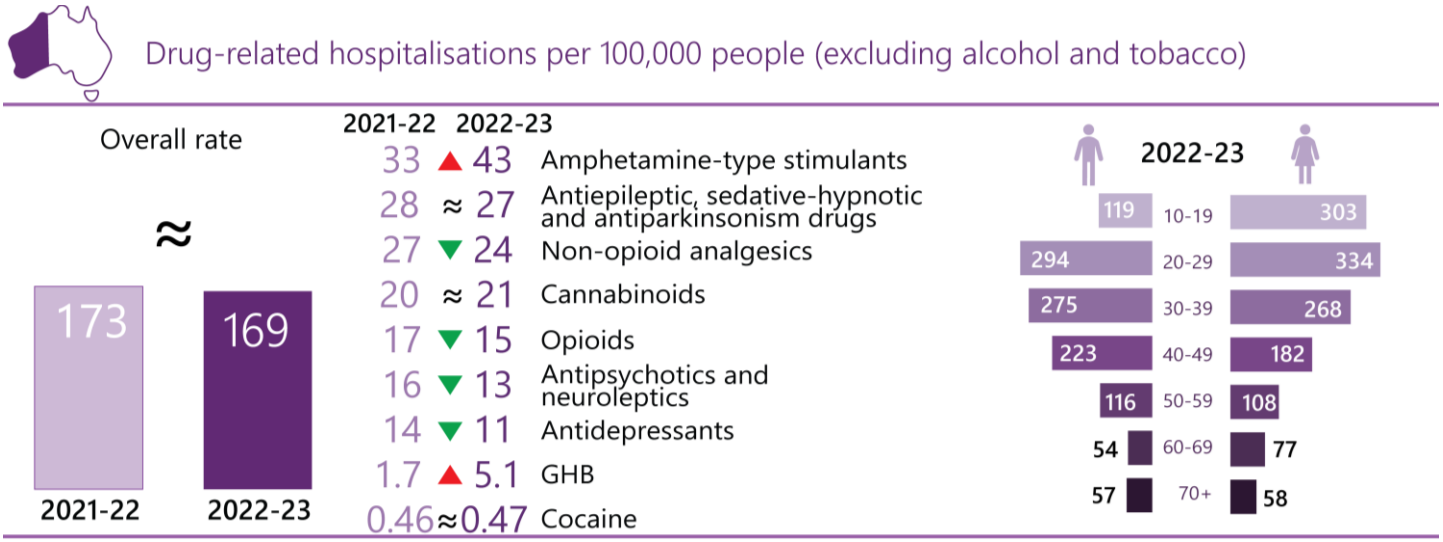


Figure 52. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Victoria, 2003-04 to 2022-23.



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: The ▲ up arrow indicates a statistically significant increase, while the ▼ down arrow indicates a statistically significant decrease in population rates from 2021-22 to 2022-23. Sign '≈' indicates no significant change.

There were 4,719 hospitalisations with a drug-related principal diagnosis in Western Australia in 2022-23, equivalent to 0.39% of all hospitalisations in Western Australia.

This is equivalent to 169 hospitalisations per 100,000 people, which was similar to the rate in 2021-22 (173 hospitalisations per 100,000 people) (Table A24, Appendix) and the lowest rate in the past two decades (**Figure 53**).

Sex

The rate of hospitalisations was higher among females than males in 2022-23 (183 versus 157 hospitalisations per 100,000 people, respectively).

Age

In 2022-23, the rate of hospitalisations was highest among the 20-29 age group, followed by the 30-39, 10-19 and 40-49 age groups (313, 271, 208 and 203 hospitalisations per 100,000 people, respectively). The rate of drug-related hospitalisations was highest in the 20-29 age group among both males and females.

Remoteness Area of Usual Residence

The highest rate of hospitalisations in 2022-23 was observed in outer regional Western Australia (218 per 100,000 people), while the number of hospitalisations was highest in major city areas (3,445 hospitalisations) (**Figure 54**).

External Cause of Drug Poisoning

In 2022-23, 53% of drug-related hospitalisations in Western Australia were due to drug poisoning. Furthermore, 68% of drug poisoning-related hospitalisations were intentional (62 hospitalisations per 100,000 people) and 26% were unintentional (23 hospitalisations per 100,000 people) (**Figure 55**).

Drug Type

In 2022-23, the rate of hospitalisations was highest where there was a principal diagnosis indicating amphetamine-type stimulants (43 hospitalisations per 100,000 people) (**Figure 56**).

Compared to 2021-22, there were significant decreases in 2022-23 in the rates of hospitalisations related to:

- non-opioid analgesics (▼13%),
- opioids (▼14%),
- antipsychotics and neuroleptics (▼18%), and
- antidepressants (▼21%).

In contrast, there were significant increases in the rates of hospitalisations related to:

- amphetamine-type stimulants (▲29%),
- methamphetamine (▲33%), and
- GHB (▲194%) (Table A24, Appendix).

Figure 53. Age-standardised rate per 100,000 people of drug-related hospitalisations, by sex, Western Australia, 2003-04 to 2022-23.

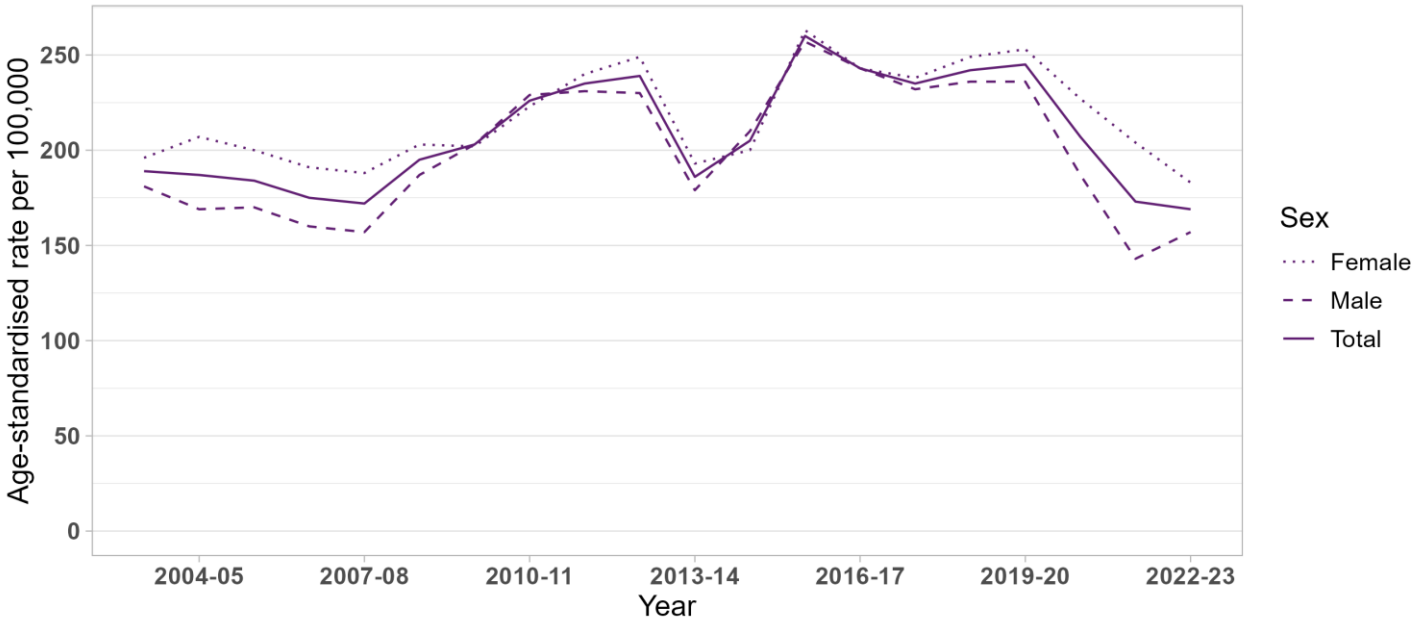
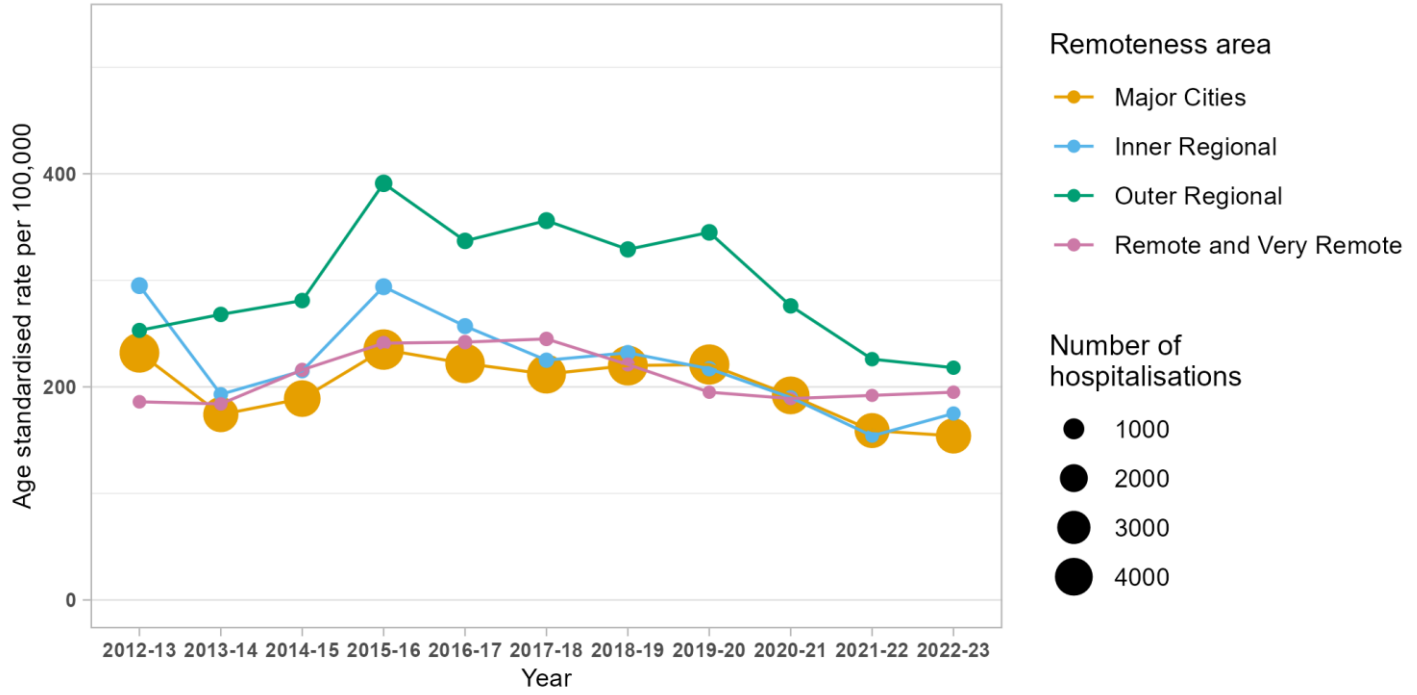


Figure 54. Age-standardised rate per 100,000 people of drug-related hospitalisations, by remoteness, Western Australia, 2012-13 to 2022-23.



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

Figure 55. 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, 2003-04 to 2022-23.

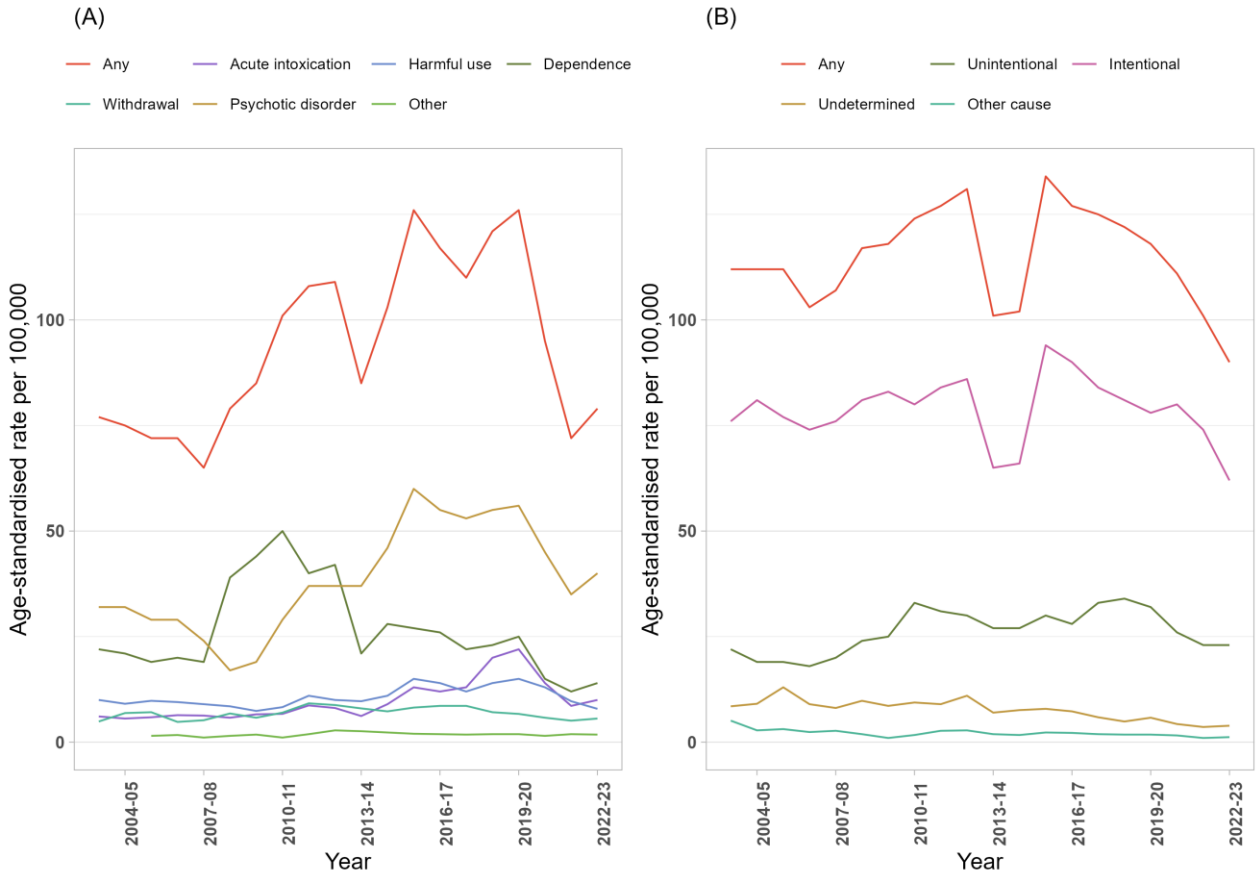
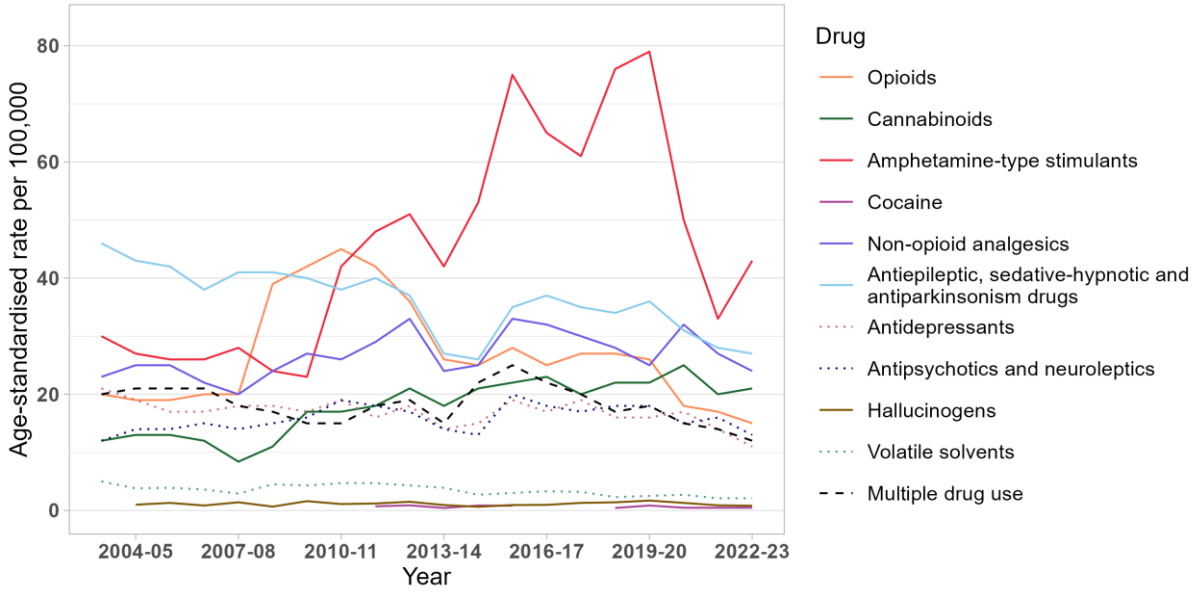


Figure 56. Age-standardised rate per 100,000 people of drug-related hospitalisations, by drug identified in the principal diagnosis, Western Australia, 2003-04 to 2022-23.



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. For Tasmania, gender has been reported instead of sex for 2022-23 financial year data.