National Illicit Drug Indicators Project

METHODS FOR
Trends in drug-related hospitalisations in Australia, 2003-2023

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

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

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Data source

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We acknowledge the traditional custodians of the land on which the work for this report was undertaken. We pay respect 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

Data Source

Data on hospitalisations presented in the online interactive visualisation and reported in the report were derived from the National Hospital Morbidity Database (NHMD) held by the Australian Institute of Health and Welfare (AIHW). Ethical approval to obtain the data, analyse them and present in this report was provided by the UNSW Human Research Ethics Committee.

Scope of the data

The National Hospital Morbidity Database (NHMD) is compiled from data supplied by the state and territory health authorities. It is a collection of electronic confidentialised summary records for hospital separations (that is, completed episodes of care) in public and private hospitals in Australia. Separations for which the care type was reported as 'newborn without qualified days', and records for 'posthumous organ procurement' and 'hospital boarders' have been excluded. It should be noted that state of hospitalisation equals the state of usual residence, and that cross-border separations 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.

Although there are national standards for data on hospital services, there are some variations in how hospital services are defined and counted, between public and private hospitals, among the states and territories and over time. The national data on hospital care does not include care provided by non-hospital providers, such as community health centres. For more information, see the AIHW report 'Variation in hospital admission policies and practices: Australian hospital statistics'.

At the time of separation, a principal (i.e., main) diagnosis, along with up to 99 additional diagnoses, may be recorded. The data presented in this report include hospitalisations where drugs were determined to be the principal reason for the hospital admission (i.e., identified in the principal diagnosis field). For comparison, we mentioned hospitalisations where drugs were identified in the first 20 diagnosis fields recognising those drugs either as principal diagnosis or conditions/complaints that coexisted with the principal diagnosis or developed during the episode of care, affecting patient's management and identified in the first 20 diagnosis fields.

When defining drug-related hospitalisations we excluded hospitalisations where the principal diagnosis is related to tobacco or alcohol use, other unspecified drug use and fetal and perinatal conditions. Nonetheless, we have provided a summary of alcohol-related hospitalisations in a dedicated feature box. It is important to note many drug-related hospitalisations involve more than one drug (including alcohol) but may have one substance coded as the 'principal diagnosis'. Further, sometimes it is not possible to determine one substance as the primary drug leading to the hospitalisation; these cases are coded and presented as 'multiple drug use' and thus will not be represented in the count of hospitalisations for a single substance.

Classification

Hospitalisations are coded according to the World Health Organization's (WHO) International Statistical Classification of Diseases (ICD) and Related Problems, Australian Modification. The ICD 10th revision (ICD-10-AM) (National Centre for Classification in Health, 1998) was used to code data dating from 1999 to the present in South Australia (SA), Western Australia (WA), and Queensland (QLD). The remaining jurisdictions commenced using ICD-10-AM codes in 1998. Caution should be exercised in comparing diagnosis, procedure and external cause data over time, as the classifications and coding standards for these data can change. Drug involvement in presentation to hospital may be underreported or under-ascertained, and the coding system used does not necessarily allow identification of the specific drug involved in presentations (often instead the broader substance category e.g., 'synthetic opioids' rather than 'fentanyl'). Please refer to Chronicle of ICD-10-AM/ACHI/ACS First-Eleventh Edition for information on changes in classifications and coding standards over time and ICD-10-AM editions.

Due to the different ways in which diagnoses are classified in the 9th and 10th revision of the ICD coding structure, analyses presented in this report include data from 1999-2000 to 2020-21 only. For trends in drug-related hospitalisations from 1993-94 to 2014-15 on a restricted set of diagnoses and/or drugs, please contact the authors (drugtrends@unsw.edu.au).

Presentation of results

Results of the analysis of the hospitalisations data are presented as:

- **number of hospitalisations**,
- **percentage**,
- **crude rate of hospitalisations per 100,000 people** with corresponding 95% confidence intervals (95% CI), calculated using the Australian Bureau of Statistics estimated resident population (ERP) figures (including population by sex, age group, remoteness and jurisdiction) as of 30 June each year released on 12th December 2024, and
- **age-standardised rate per 100,000 people** with corresponding 95% CI, calculated using the Australian Bureau of Statistics ERP figures as of 30 June each year released on 12th December 2024 and the Australian Standard Population at 30 June 2001.

Estimates from data with counts less than or equal to 5 have been suppressed to protect confidentiality. Age-standardised rates enable the comparison of rates over time and between populations of different age structures. Age-standardised rates were calculated using the direct standardisation method as recommended by the Australian Bureau of Statistics (ABS) and AIHW. Rates may not be comparable to other sources where a different standard population may have been applied. In accordance with recommendations to ensure stability of age-standardised rates from sparse data, age-standardised rates were not calculated if the number of total hospitalisations was less than or equal to 10. In this case, the reader should refer to other measures such as number or crude rate of hospitalisations. Age-standardised rates are only calculated for people of all ages (i.e., the rate is not calculated for specific age groups). In the online interactive visualisation, data are not displayed if the age-standardised rate is selected for age group analysis.

Crude rate per 100,000 population and age-standardised rate per 100,000 population are computed of the population of interest (e.g., rate among females is computed of the female population).

Rate ratio (crude or age-standardised; RR) was calculated to compare the rate for the year 2022-23 ($rate_{2022-23}$) with the corresponding rate for the year 2021-22 ($rate_{2021-22}$) as follows:

$$RR = \frac{rate_{2022-23}}{rate_{2021-22}}$$

The 95% confidence interval of the crude rate ratio is calculated using the -ir- command in Stata version 16.0 which uses the exact binomial method described by Rothman (1986). The weights used for age-standardisation of the rates were used in the -ir- command to obtain the 95% confidence interval of the age-standardised rate ratio.

Percent change and its corresponding 95% confidence interval are then calculated as:

$$Percent\ change = (RR - 1) \times 100\%$$

The percent change is considered statistically significant when 0 lies outside of the 95% confidence interval of the percent change.

Age and sex

Age of the person at the time of admission to hospital is provided by the AIHW in the NHMD as a 5-year and 10-year age group. In the report and in the online data visualisation we report on findings for Australians of all ages and by 10-year age group (10-19 to 60-69 and 70 and over), where data allows for such disaggregation. We do not report on finding for age

under 10 years due to sensitivity of these data, however this age group is included in analysis of total hospitalisations. Sex is reported as male and female, as provided by the AIHW in the NHMD. Hospitalisations where sex was reported as intersex or indeterminate or was not stated/inadequately described are grouped in the NHMD as one category. These records are not included in sex analysis but are included in analyses of total hospitalisations. For Tasmania, gender has been reported instead of sex for 2022-23 financial year data.

Jurisdiction and remoteness area

Data on state and territory is defined by the place of usual residence of the admitted patient. Records where the state of hospitalisation was the same as the state of usual residence were provided (i.e., cross-border separations were excluded).

Data on the remoteness area of usual residence was classified, using the Australian Statistical Geography Standard (ASGS), into five categories: Major Cities, Inner Regional, Outer Regional, Remote, and Very Remote Australia. These data have been collected by AIHW in the NHMD dataset since 2012-13. Due to small numbers, we further combined Remote and Very Remote Australia into one category to protect confidentiality. Data on remoteness was released by all jurisdictions, except Queensland, until 2018-19. The omission of Queensland data means that national trend analysis could not be presented for the complete time period and only summary statistics and change between 2018-19 and 2022-23 are available for Queensland and Australia. Trend analysis for period 2012-13 to 2022-23 are available for other jurisdictions for which data were released.

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.

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.

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 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. The LOS data in the report is only presented for the most recent 2022–23 data.

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. For this report we will use the following framework (Flaws et al.):

- **Short ICU Stay: less than 24 hours.** This might include patients admitted for observation or those who quickly stabilise and are transferred out of the ICU.
- **Moderate ICU Stay: 24-72 hours.** This includes patients with acute conditions that require intensive monitoring and treatment but stabilise within a few days.
- **Long ICU Stay: 3-7 days.** These patients often have more severe conditions or complications that require prolonged intensive care.
- **Extended ICU Stay: more than 7 days.** This includes patients with severe trauma, complex surgeries, or multiple organ failures requiring extended critical care.

The LOS in ICU data in the report is only presented for the most recent 2022–23 data.

Limitation in jurisdictional data

Tasmanian records

For Tasmanian records, provision of data between 2008-09 and 2015-16 was limited to selected drug and alcohol-related principal and/or additional diagnoses and external causes. Specifically, of the ICD-10-AM codes specified above, only records with following codes were provided:

- Principal diagnosis codes at full character level (where applicable) for F10, F11, F12, F13, F14, F15, F16, F19, T40, T423, T424, T427, T436, T439.

Particularly, many of the T-codes related to poisoning are missing. Estimates of drug-related hospitalisations for this period are likely to be underestimated as a consequence.

Victorian records

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 was provided in the emergency department were not considered for admission, irrespective of whether a criterion for admission was met. From 2013-14 onwards, "ED-only admissions" were largely replaced with admissions to Short Stay Observation Units.

Total number of hospitalisations in Australian Capital Territory, Northern Territory and Tasmania

Total number of hospitalisations in public and private hospitals in 2022-23 was not available for Australian Capital Territory, Northern Territory and Tasmania. For those jurisdictions only data on the number of hospitalisations from public hospitals was available in the Admitted patients report by the Australian Institute of Health and Welfare, hence the percentage of drug-related hospitalisation of all hospitalisations in these jurisdictions could not be calculated.

Terminology

Terminology used in this report aligns with terminology used by AIHW in the report Drug related hospitalisations to describe findings from the NHMD.

An **admitted patient** is a patient who undergoes a hospital's formal admission process to receive treatment and/or care.

A **hospitalisation** in our reporting (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. There can be more than one hospitalisation for each patient and hospitalisation can be either same-day (hospital admission and separation happen on the same day) or overnight (hospital admission and separation happen on a different date).

Each NHMD separation record includes one principal diagnosis and up to 99 additional diagnoses.

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.

Additional diagnoses are conditions or complaints that either coexists with the principal diagnosis or develop during the episode of care and affect patient's management.

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 hospital care with principal diagnosis of selected substance-use disorder or harm due to selected substances. Hospitalisations where the diagnosis of drug-related harm or disorder is additional to the principal diagnosis, such as problems related to certain chronic conditions, have been excluded and, as aforementioned, hospitalisations where alcohol or tobacco comprise the principal diagnosis are not included.

Coding of hospitalisations

All drug-related hospitalisations

The following ICD-10-AM codes were used to examine trends in drug-related hospitalisations from 2002-03 to 2022-23.

Drug type	Examples of drugs commonly assigned to ICD-10-AM category	ICD-10-AM
Opioids	Heroin, Oxycodone, Morphine, Codeine, Methadone, Fentanyl, Tramadol, Pethidine	F11.0–F11.9, T40.0–T40.4, T40.6
Opium	Opium	T40.0
Heroin	Heroin	T40.1
Natural and semi-synthetic opioids	Oxycodone, Morphine, Codeine	T40.2
Methadone	Methadone	T40.3
Synthetic opioids	Fentanyl, Tramadol, Pethidine	T40.4
Other and unspecified opioids	--	T40.6
Non-opioid analgesics	Paracetamol, Ibuprofen, Aspirin	F55.2, T39.0–T39.9, N14.0
4-Aminophenol derivatives	Paracetamol	T39.1
Antiepileptic, sedative-hypnotic and antiparkinsonism drugs	Barbiturates, Pregabalin, Benzodiazepines, Ketamine	F13.0*–F13.9*, T41.2*, T42.0–T42.8
Benzodiazepines	Benzodiazepines	T42.4
GHB	GHB, gamma hydroxybutyrate	F13.x1, T41.21
Cannabinoids	Cannabis, Cannabis derivatives	F12.0–F12.9, T40.7
Hallucinogens	LSD	F16.0*-F16.9*, T40.8–T40.9
Cocaine	Cocaine	F14.0–F14.9, T40.5
Amphetamine-type stimulants	Methamphetamine, MDMA, Caffeine	F15.0*–F15.9*, T43.6*
Methamphetamine	Methamphetamine	F15.x1, T43.61
MDMA/ecstasy	Ecstasy, MDMA, Molly,	F15.x2, T43.62
Antidepressants	Sertraline, Citalopram, Venlafaxine, Fluoxetine, Mirtazepine, Fluvoxamine, Paroxetine, Duloxetine	F55.0, T43.0–T43.2
Antipsychotics and neuroleptics	Quetiapine, Olanzapine, Risperidone	T43.3–T43.5
Volatile solvents	Petroleum products, nitrogen oxides	F18.0–F18.9, T52.0–T52.9, T53.0–T53.9, T59.0, T59.8
Multiple drug use	--	F19.0–F19.9

*ICD-10-AM code starting with the characters

Principal diagnosis and external cause

The following ICD-10-AM codes were used to examine trends in hospitalisations related to drug poisoning and mental and behavioural disorders due to substance use from 1999-00 to 2022-23.

Diagnosis category	ICD-10-AM
Poisoning	T40.0-T40.9, T39.0–T39.9, T42.0–T42.8, T43.0-T43.6, T52.0–T52.9, T53.0–T53.9, T59.0, T59.8
Mental and behavioural disorder due to substance use	F11-F16, F18, F19
Acute intoxication	Fxx.0*
Harmful use	Fxx.1*, F55.0 F55.2
Dependence	Fxx.2*
Withdrawal	Fxx.3*, Fxx.4*
Drug-induced psychotic disorder	Fxx.5*, Fxx.7*
Other	Fxx.6*, Fxx.8*, Fxx.9*

* Codes starting with 'F' and with the third digit as specified

External cause of injury and poisoning	ICD-10-AM
Poisoning - Unintentional	X40-X49
Poisoning - Intentional	X60-X69
Poisoning - Undetermined intent	Y10-Y19
Other	V00-Y98 excluding X40-X49, X60-X69, Y10-Y19, Y92, Y93

The *Other* category of the *External cause of injury and poisoning* accounts for 0.71% of all drug-related hospitalisations and 1.5% of the external causes of injury and poisoning. Due to small numbers, it is not analysed in detail under Principal Diagnosis of Drug Poisoning in Chapter 3.

Opioid-related hospitalisations

The following ICD-10-AM codes were used to examine trends in opioid-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
	Poisoning by narcotics and psychodysleptics:	T40.0–T40.4, T40.6
Poisoning	Opium	T40.0
Poisoning	Heroin	T40.1
Poisoning	Natural and semi-synthetic	T40.2
Poisoning	Methadone	T40.3
Poisoning	Other synthetic narcotics	T40.4
Poisoning	Other and unspecified narcotics	T40.6
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of opioids:*	F11.0-F11.9
Acute intoxication	Acute intoxication	F11.0
Harmful use	Harmful use	F11.1
Dependence	Dependence syndrome	F11.2
Withdrawal	Withdrawal state	F11.3
Withdrawal	Withdrawal state with delirium	F11.4
Drug-induced psychotic disorder	Psychotic disorder	F11.5
Other	Amnesic syndrome	F11.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F11.7
Other	Other mental and behavioural disorders	F11.8
Other	Unspecified mental and behavioural disorder	F11.9

Non-opioid analgesic-related hospitalisations

The following ICD-10-AM codes were used to examine trends in non-opioid analgesic-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Harmful use	Harmful use of nondependence-producing substances: analgesics	F55.2
	Poisoning by nonopioid analgesics, antipyretics and antirheumatics:	T39.0–T39.9
Poisoning	Salicylates	T39.0
Poisoning	4-Aminophenol derivatives	T39.1
Poisoning	Other nonsteroidal anti-inflammatory drugs [NSAID]	T39.3
Poisoning	Antirheumatics, not elsewhere classified	T39.4
Poisoning	Other nonopioid analgesics and antipyretics, not elsewhere classified	T39.8
Poisoning	Nonopioid analgesic, antipyretic and antirheumatic, unspecified	T39.9
Other	Drug- and heavy-metal-induced tubulo-interstitial and tubular conditions: analgesic nephropathy	N14.0

Antiepileptic, sedative-hypnotic and antiparkinsonism drug-related hospitalisations

The following ICD-10-AM codes were used to examine trends in antiepileptic, sedative-hypnotic and antiparkinsonism drug-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Poisoning	Poisoning by other and unspecified general anaesthetics	T41.2*
	Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs:	T42.0-T42.8
Poisoning	Hydantoin derivatives	T42.0
Poisoning	Iminostilbenes	T42.1
Poisoning	Succinimides and oxazolidinediones	T42.2
Poisoning	Barbiturates	T42.3
Poisoning	Benzodiazepines	T42.4
Poisoning	Mixed antiepileptics, not elsewhere classified	T42.5
Poisoning	Other antiepileptic and sedative-hypnotic drugs	T42.6
Poisoning	Antiepileptic and sedative-hypnotic drugs, unspecified	T42.7
Poisoning	Antiparkinsonism drugs and other central muscle-tone depressants	T42.8
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of sedatives or hypnotics:*	F13.0*-F13.9*
Acute intoxication	Acute intoxication	F13.0*
Harmful use	Harmful use	F13.1*
Dependence	Dependence syndrome	F13.2*
Withdrawal	Withdrawal state	F13.3*
Withdrawal	Withdrawal state with delirium	F13.4*
Drug-induced psychotic disorder	Psychotic disorder	F13.5*
Other	Amnesic syndrome	F13.6*
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F13.7*
Other	Other mental and behavioural disorders	F13.8*
Other	Unspecified mental and behavioural disorder	F13.9*

*ICD-10-AM code starting with the characters

Cannabinoid-related hospitalisations

The following ICD-10-AM codes were used to examine trends in cannabinoid-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Poisoning	Poisoning by narcotics and psychodysleptics: Cannabis (derivatives)	T40.7
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of cannabinoids:*	F12.0-F12.9
Acute intoxication	Acute intoxication	F12.0
Harmful use	Harmful use	F12.1
Dependence	Dependence syndrome	F12.2
Withdrawal	Withdrawal state	F12.3
Withdrawal	Withdrawal state with delirium	F12.4
Drug-induced psychotic disorder	Psychotic disorder	F12.5
Other	Amnesic syndrome	F12.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F12.7
Other	Other mental and behavioural disorders	F12.8
Other	Unspecified mental and behavioural disorder	F12.9

Hallucinogen-related hospital separations

The following ICD-10-AM codes were used to examine trends in hallucinogen-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
	Poisoning by narcotics and psychodysleptics [hallucinogens]:	T40.8-T40.9
Poisoning	Lysergide [LSD]	T40.8
Poisoning	Other and unspecified psychodysleptics [hallucinogens]	T40.9
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of hallucinogens:*	F16.0*-F16.9*
Acute intoxication	Acute intoxication	F16.0*
Harmful use	Harmful use	F16.1*
Dependence	Dependence syndrome	F16.2*
Withdrawal	Withdrawal state	F16.3*
Withdrawal	Withdrawal state with delirium	F16.4*
Drug-induced psychotic disorder	Psychotic disorder	F16.5*
Other	Amnesic syndrome	F16.6*
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F16.7*
Other	Other mental and behavioural disorders	F16.8*
Other	Unspecified mental and behavioural disorder	F16.9*

*ICD-10-AM code starting with the characters

Cocaine-related hospitalisations

The following ICD-10-AM codes were used to examine trends in cocaine-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Poisoning	Poisoning by narcotics and psychodysleptics: Cocaine	T40.5
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of cocaine:*	F14.0-F14.9
Acute intoxication	Acute intoxication	F14.0
Harmful use	Harmful use	F14.1
Dependence	Dependence syndrome	F14.2
Withdrawal	Withdrawal state	F14.3
Withdrawal	Withdrawal state with delirium	F14.4
Drug-induced psychotic disorder	Psychotic disorder	F14.5
Other	Amnesic syndrome	F14.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F14.7
Other	Other mental and behavioural disorders	F14.8
Other	Unspecified mental and behavioural disorder	F14.9

Amphetamine-type stimulant-related hospitalisations

The following ICD-10-AM codes were used to examine trends in amphetamine-type stimulant-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Poisoning	Poisoning by psychostimulants (excluding cocaine)	T43.6*
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of other stimulants, including caffeine:*	F15.0*-F15.9*
Acute intoxication	Acute intoxication	F15.0*
Harmful use	Harmful use	F15.1*
Dependence	Dependence syndrome	F15.2*
Withdrawal	Withdrawal state	F15.3*
Withdrawal	Withdrawal state with delirium	F15.4*
Drug-induced psychotic disorder	Psychotic disorder	F15.5*
Other	Amnesic syndrome	F15.6*
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F15.7*
Other	Other mental and behavioural disorders	F15.8*
Other	Unspecified mental and behavioural disorder	F15.9*

*ICD-10-AM code starting with the characters

Antidepressant, antipsychotic and neuroleptic-related hospitalisations

The following ICD-10-AM codes were used to examine trends in antidepressant, antipsychotic and neuroleptic-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
	Antidepressants	
Harmful use	Harmful use of nondependence-producing substances: antidepressants	F55.0
	Poisoning by psychotropic drugs, not elsewhere classified:	T43.0-T43.2
Poisoning	Tricyclic and tetracyclic antidepressants	T43.0
Poisoning	Monoamine-oxidase-inhibitor antidepressants	T43.1
Poisoning	Other and unspecified antidepressants	T43.2
	Antipsychotics and neuroleptics	
	Poisoning by psychotropic drugs, not elsewhere classified:	T43.3-T43.5
Poisoning	Phenothiazine antipsychotics and neuroleptics	T43.3
Poisoning	Butyrophenone and thioxanthene neuroleptics	T43.4
Poisoning	Other and unspecified antipsychotics and neuroleptics	T43.5

Volatile solvent-related hospitalisations

The following ICD-10-AM codes were used to examine trends in volatile solvent-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
	Toxic effect of organic solvents:	
Poisoning	Petroleum products	T52.0
Poisoning	Benzene	T52.1
Poisoning	Homologues of benzene	T52.2
Poisoning	Glycols	T52.3
Poisoning	Ketones	T52.4
Poisoning	Other organic solvents	T52.8
Poisoning	Organic solvent, unspecified	T52.9
	Toxic effect of halogen derivatives of aliphatic and aromatic hydrocarbons:	
Poisoning	Carbon tetrachloride	T53.0
Poisoning	Chloroform	T53.1
Poisoning	Trichloroethylene	T53.2
Poisoning	Tetrachloroethylene	T53.3
Poisoning	Dichloromethane	T53.4
Poisoning	Chlorofluorocarbons	T53.5
Poisoning	Other halogen derivatives of aliphatic hydrocarbons	T53.6
Poisoning	Other halogen derivatives of aromatic hydrocarbons	T53.7
Poisoning	Halogen derivative of aliphatic and aromatic hydrocarbons, unspecified	T53.9
	Toxic effect of other gases, fumes and vapours:	
Poisoning	Nitrogen oxides	T59.0
Poisoning	Other specified gases, fumes and vapours	T59.8
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of volatile solvents:*	F18.0-F18.9
Acute intoxication	Acute intoxication	F18.0
Harmful use	Harmful use	F18.1
Dependence	Dependence syndrome	F18.2
Withdrawal	Withdrawal state	F18.3
Withdrawal	Withdrawal state with delirium	F18.4
Drug-induced psychotic disorder	Psychotic disorder	F18.5
Other	Amnesic syndrome	F18.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F18.7
Other	Other mental and behavioural disorders	F18.8
Other	Unspecified mental and behavioural disorder	F18.9

Multiple drug use-related hospitalisations

The following ICD-10-AM codes were used to examine trends in multiple drug use-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to multiple drug use and use of psychoactive substances:*	F19.0-F19.9
Acute intoxication	Acute intoxication	F19.0
Harmful use	Harmful use	F19.1
Dependence	Dependence syndrome	F19.2
Withdrawal	Withdrawal state	F19.3
Withdrawal	Withdrawal state with delirium	F19.4
Drug-induced psychotic disorder	Psychotic disorder	F19.5
Other	Amnesic syndrome	F19.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F19.7
Other	Other mental and behavioural disorders	F19.8
Other	Unspecified mental and behavioural disorder	F19.9

Alcohol-related hospitalisations

The following ICD-10-AM codes were used to identify alcohol-related hospitalisations from 2002-03 to 2022-23.

Diagnosis category	ICD-10 diagnosis	ICD-10-AM
	Toxic effect of alcohol	T51.0 – T51.9
Poisoning	Toxic effect of ethanol	T51.0
Poisoning	Toxic effect of methanol	T51.1
Poisoning	Toxic effect of 2-Propanol	T51.2
Poisoning	Toxic effect of fusel oil	T51.3
Poisoning	Toxic effect of other alcohols	T51.8
Poisoning	Toxic effect of alcohol, unspecified	T51.9
Mental and behavioural disorder due to substance use	*Mental and behavioural disorders due to use of alcohol:*	F10.0-F10.9
Acute intoxication	Acute intoxication	F10.0
Harmful use	Harmful use	F10.1
Dependence	Dependence syndrome	F10.2
Withdrawal	Withdrawal state	F10.3
Withdrawal	Withdrawal state with delirium	F10.4

Drug-induced psychotic disorder	Psychotic disorder	F10.5
Other	Amnesic syndrome	F10.6
Drug-induced psychotic disorder	Residual and late-onset psychotic disorder	F10.7
Other	Other mental and behavioural disorders	F10.8
Other	Unspecified mental and behavioural disorder	F10.9
	Other alcohol-related codes including alcohol-induced diseases	
Other alcohol-related	Alcohol-induced pseudo-Cushing's syndrome	E24.4
Other alcohol-related	Niacin deficiency [pellagra]	E52
Other alcohol-related	Degeneration of nervous system due to alcohol	G31.2
Other alcohol-related	Alcoholic polyneuropathy	G62.1
Other alcohol-related	Alcoholic myopathy	G72.1
Other alcohol-related	Alcoholic cardiomyopathy	I42.6
Other alcohol-related	Alcoholic gastritis	K29.2
Other alcohol-related	Alcoholic gastritis, without mention of haemorrhage	K29.20
Other alcohol-related	Alcoholic gastritis, with haemorrhage	K29.21
Other alcohol-related	Alcoholic liver disease	K70*
Other alcohol-related	Alcohol-induced acute pancreatitis	K85.2
Other alcohol-related	Alcohol-induced chronic pancreatitis	K86.0
Other alcohol-related	Counselling and surveillance for alcohol use disorder	Z71.4
Other alcohol-related	Finding of alcohol in blood	R78.0

*ICD-10-AM code starting with the characters