

Executive Summary

This report presents findings on all drug-induced deaths (i.e., overdose and other drug-induced deaths where drugs have been deemed the underlying cause of death) in Australia from 2003 to 2022.

Data are from the Cause of Death Unit Record File (COD URF) collated by the Australian Bureau of Statistics (ABS).

The ABS undertakes a revision process for coroner-certified deaths over a 3-year period. Accordingly, data for 2021 and 2022 are classified as 'revised' and 'preliminary revised', respectively, but are not final and will be subject to revision. Indeed, the 2021 revised estimates are anticipated to increase between 0.56% and 1.6% after further revision, and the 2022 preliminary revised estimates by 2.3% and 11% after a further two revisions.

Impact of COVID-19 pandemic on mortality (see Panel B). Study of mortality needs to be considered in light of the emergence of the COVID-19 pandemic in Australia in early 2020 and the subsequent direct and indirect effects on mortality. Direct effects refer to mortality directly due to the pandemic such as deaths due to COVID-19 itself; indirect effects refer to deaths that may have been influenced by the pandemic or related factors such as change in access to health care. Overall mortality in Australia increased in 2021 and 2022, with statistically significant excess mortality being recorded in 2022. This excess mortality in 2022 has been attributed predominantly to deaths related to COVID-19 infection. As each Australian jurisdiction experienced the pandemic differently there are some variations in mortality trends as a consequence.

These broader trends in mortality should be considered when studying overdose and other drug-induced deaths. Deaths due to external causes - like drug-induced deaths - are unlikely to have contributed to the overall excess mortality recorded in Australia in 2022. Typically, any increase in the rate of drug-induced deaths in 2022 reflects a return to rates observed in 2020 and earlier following a decline in 2021. It is important to reinforce that data for 2021 and 2022 are subject to revision upwards; revised data for these years, plus estimates for 2023, will help to elucidate trends in overall mortality and drug-induced deaths in this post-pandemic era.

Estimates in this report do not include deaths where conditions related to alcohol or tobacco use comprise the underlying cause of death as they fall outside our monitoring (see methods). Reference to drug overdose deaths involving alcohol throughout the report relates to situations where a drug other than alcohol (or tobacco) was identified as the underlying cause of death but alcohol was also cited as involved in that death. The only exception comprises **Panel C**, where we provide estimates of alcohol-induced deaths in the Australian population for context and comparison to drug-induced deaths.

Estimates comprise number of deaths and age-standardised mortality rates for Australians of all ages, disaggregated by sex, age, remoteness of usual residence, underlying cause of death and intent, psychosocial risk factors, drug type, and jurisdiction of usual residence. Average annual percent change was estimated using Joinpoint regression for the trend between 2003-2020 in drug-induced deaths and by drug involvement. Statistical comparisons were undertaken of estimated rates for 2021 versus 2022. All other comparisons are descriptive.

Our public [online data visualisation](#) allows viewers to disaggregate data in different ways, and to download these images for their own use.

Overall

Drug-induced deaths in Australia continue to be a significant public health issue. Preliminary data show that there were [1,819](#) drug-induced deaths (including those from drug overdose) among Australians in 2022.

This number of deaths is equivalent to 5 drug-induced deaths per day among Australians and comprised around 1% of all registered deaths in Australia in 2022.

Since 2003, the rate of drug-induced deaths steadily increased on average by 4.1% per year, reaching a peak in 2017 of 8.2 deaths per 100,000 people. This slowly declined to 7.7 per 100,000 people in 2020; the revised 2021 and preliminary 2022 estimates were lower again and similar to each other (7.1 and 7.0 deaths per 100,000 people, respectively). The 2021 and 2022 estimates are not final and may increase with further revision, with a greater increase anticipated for the latter.

The issue of drug-induced deaths is complex and multifaceted, with factors such as socio-economic disadvantage, mental health, and lack of access to healthcare and harm reduction services playing a key role.

Alcohol-induced deaths (see Panel C). Alcohol use as an underlying cause of death is excluded from analysis in this report, which is focused on trends related to the use of illegal or pharmaceutical drugs. However, alcohol is a major contributor to mortality in Australia. According to most recent data, there were 1,780 alcohol-induced deaths registered in Australia, equivalent to 6.2 deaths per 100,000 people in 2022 and approximately five deaths per day. This rate is the highest recorded over the course of monitoring (i.e., past 20 years) and has the potential to rise further with the subsequent data revisions. Overall, these findings suggest rising alcohol-induced mortality in Australia. These estimates only capture deaths directly attributed to alcohol use; those deaths partly attributed to alcohol typically carry an even greater mortality burden.

Sex

In 2022, [males](#) accounted for 63% (1,155 deaths) of drug-induced deaths. This profile has been consistent over time.

The drug-induced death rate in the male population was 9.1 deaths per 100,000 males in 2022, which was comparable to the rate in 2021 (9.1 deaths per 100,000 males). The rate in the male population was two times higher than the rate in females (4.9 deaths per 100,000 females in 2022). The rate among females in 2022 was also similar to the rate in 2021 (5.1 deaths per 100,000 females).

Age

In 2022, the largest proportion of drug-induced deaths occurred among those aged [45-54](#) (27%, 489 deaths) and 35-44 (23%, 424 deaths). This represents an increase in the number of deaths among those aged 45-54 and a decrease in the 35-44 age group.

From 2003 to 2020, the [age distribution](#) of deaths changed. In the early 2000s, young to middle-aged adults (i.e., 25-34 age group, followed by 35-44 age group) comprised the greater percentage of deaths. However, over time, the percentage of deaths in the 15-24 and 25-34 age groups decreased, while those in the 45-54, 55-64,

and 65-74 age groups increased. Rates for all age groups were similar between 2021 and 2022.

Remoteness Area of Usual Residence

As in previous years, the greatest proportion of drug-induced deaths in 2022 occurred in [major city areas](#) (73%, 1,335 deaths), followed by inner regional (17%, 306 deaths), outer regional (7.0%, 128 deaths), and remote/very remote (1.3%, 23 deaths) areas.

After adjusting for population size, the rate of drug-induced deaths in 2022 was also highest among people from [major city areas](#) (7.1 deaths per 100,000 people), followed by the inner regional areas (6.6 deaths per 100,000 people), and was lowest in remote/very remote areas (4.6 deaths per 100,000 people).

The 2021 and 2022 estimates were not statistically different from each other in all remoteness areas.

Socioeconomic Advantage and Disadvantage

In 2022, 32% (575 deaths) of drug-induced deaths occurred in residents of the most disadvantaged areas. This amounted to 30% (346 deaths) for males and 34% (229 deaths) for females, respectively. While the greatest proportion of decedents aged 25 to 84 lived in the two most disadvantaged areas (quintiles 1 and 2), high proportions of those aged 15 to 24 resided in fairly advantaged areas (26%, 29 deaths in quintile 3 and 21%, 23 deaths in quintile 4). Those living in the most disadvantaged areas accounted for the highest percentage of overdose deaths involving all drug types, except for cocaine where 31% of deaths (21 deaths) occurred among people living in the most advantaged areas.

Underlying Cause of Death and Intent

The intent of death is recorded for drug overdose deaths only. As in previous years, drug overdose ('poisoning') deaths accounted for 97% (1,765 deaths) of all drug-induced deaths in 2022. In 2022, 73% (1,291 deaths) of drug overdose deaths were coded as [unintentional](#) and 24% (422 deaths) as intentional.

The rate of unintentional drug overdose deaths nearly [doubled](#) from 2003 to 2018, increasing on average by 4.5% per year, and thereafter declining somewhat. In contrast, the rate of intentional drug overdose deaths has remained low and relatively stable.

A comparison of the estimated rates did not identify a significant difference between 2022 and 2021 in unintentional and intentional drug overdose deaths.

Psychosocial Risk Factors

Between 2017 and 2022, two-in-five (43%, 5,044 deaths) drug-induced deaths had at least one psychosocial risk factor coded. Almost two-thirds (64%) of the identified risk factors were related to socioeconomic and psychosocial circumstances (in particular, problems related to primary support group).

In 2022, as in previous years, [personal history of self-harm](#) was the most frequently identified psychosocial risk factor (12%, 223 deaths). It was more common in deaths involving females than males. It was also the most frequently identified psychosocial risk factors across all age groups, except for those aged 75 and over, for whom limitation of activities due to disability was the most common psychosocial risk factor (20%).

Place of Occurrence

In 2022, the most common location of the incident underlying the drug overdose death was home (78%, 1,374 deaths). This has been consistent over time. The location was coded as home for a larger proportion of intentional (81%, 343 deaths) than unintentional (77%, 991 deaths) deaths.

Drug Involvement

Similar to previous years, [opioids](#) (such as heroin and pharmaceutical opioids) were the most commonly involved drug class in drug overdose deaths in 2022 (62%, 1,123 deaths), followed by antiepileptic, sedative-hypnotic and anti-parkinsonism drugs (52%, 948 deaths; predominantly benzodiazepines, 786 deaths).

The rates of drug overdose deaths for all drug types have increased from 2003, generally peaking in 2017 or 2018, except for [cocaine](#) and [amphetamine-type stimulants](#), whose rates kept increasing and peaked in 2020.

Analysis showed a significantly lower rate of drug overdose deaths in 2022 as compared to 2021 for:

- antiepileptic, sedative-hypnotic and anti-parkinsonism drugs, and
- cannabinoids.

Caution is needed when interpreting the decrease in the involvement of cannabinoids in drug-induced deaths until further data revisions. An increase in the use of the R78.3 code ('Finding of hallucinogen in blood', which includes cannabinoids) in 2022 compared to 2021 may have contributed to the reduced use of the T40.7 code ('Poisoning by cannabis (derivatives)') during the same period.

Profile of Drug Involvement

Between 2018 and 2022, the majority (77%) of drug overdose deaths included two or more drug classes of interest. Despite that, the most common drug pattern profiles for unintentional overdose deaths were amphetamine-type stimulants only (6.3%) and heroin only (5.7%). For intentional overdose deaths, the most common drug pattern profile was antiepileptic, sedative-hypnotic and anti-parkinsonism drugs only (8.7%).

Drug Overdose Deaths Involving Opioids

In 2022, there were [1,123](#) drug overdose deaths involving opioids among Australians. These deaths typically occurred among males (65%, 735 deaths) and in the 45-54 (27%, 308 deaths) and 35-44 (26%, 287 deaths) age groups. Four-in-five (82%, 923 deaths) were considered unintentional.

From 2003 to 2017, opioid-related overdose deaths more than doubled, increasing by an average of 6.9% per year, peaking at 5.8 deaths per 100,000 people in 2017. Subsequently, the rate gradually declined to 4.9 deaths per 100,000 people in 2020, with 2021 and 2022 estimates being lower again and similar to each other (4.3 and 4.4 deaths per 100,000 people, respectively).

An increase was evident for overdose deaths involving heroin from 2021 to 2022. The rate for 2022 is similar to that for 2020 (i.e., 'pre-COVID'), with a decrease in the rate recorded in 2021. It is important to reinforce that rates for 2021 and 2022 will be revised further. The rate of deaths involving natural and semi-synthetic opioids significantly decreased from 2021 to 2022.

One-in-three (34%, 387 deaths) opioid-overdose deaths in 2022 were attributable to [heroin only](#), 56% (632 deaths) to opioids other than heroin (e.g., pharmaceutical opioids) and 8.9% (100 deaths) to both heroin and other opioids. Indeed, in 2022, heroin emerged as the predominant

opioid type in opioid overdose deaths (43%, 487 deaths), marking a departure from prior years, where natural and semi-synthetic opioids comprised the largest proportion of opioid overdose deaths (46% in 2021).

Drug Overdose Deaths Involving Amphetamine-Type Stimulants

There were [516](#) drug overdose deaths involving amphetamine-type stimulants among Australians in 2022 (28% of overdose deaths). These deaths typically occurred among males (72%, 369 deaths) and in the 35-44 (30%, 153 deaths), 45-54 (30%, 154 deaths) and 25-34 (19%, 99 deaths) age groups.

The rate of drug overdose deaths involving amphetamine-type stimulants increased significantly between 2003 and 2020, increasing on average by 16% per year. The highest rate of [2.5 deaths](#) per 100,000 people was recorded in 2020. The estimated rates in 2021 and 2022 were lower (2.0 and 2.1 deaths per 100,000 people, respectively) but will be subject to revision.

Drug Overdose Deaths Involving Cocaine

There were [68](#) drug overdose deaths involving cocaine among Australians in 2022 (3.7% of overdose deaths). These deaths typically occurred among males (84%, 57 deaths) and in the 25-34 (44%, 30 deaths) age group, and 91% (61 deaths) were unintentional.

Although absolute numbers remain small, the rate of drug overdose deaths involving cocaine increased on average by 11% per year from 2003, reaching a high of 0.39 deaths per 100,000 people in 2020. The estimated 2021 and 2022 rates were 0.28 and 0.36 deaths per 100,000 people, respectively.

Jurisdiction of Usual Residence

Detailed analyses of deaths by jurisdiction (including by sex, age, intent, remoteness area, drug type and place of occurrence) are available at the end of this report.