

NCIS FACT SHEET

Opioid-related deaths in Australia

18,246

opioid-related
deaths, 2001-2018

1013

deaths per year
on average

90.8%

involved primary
opioid contribution

Opioids are drugs that act on the brain's opioid receptors and depress the central nervous system. This fact sheet reports on deaths involving contribution from any opioid, including medications and illicit drugs.

Opioids include medications used for pain relief and illicit drugs, such as heroin. Opioids can be harmful if misused or combined with other central nervous system depressants (1).

Opioids were the most common drug class identified in all drug-induced deaths over the past two decades (2). Opioid use accounted for over one third of Australia's illicit drug use burden in 2015 (3).

National overview

There were 18,246 opioid-related deaths reported to an Australian coroner from 2001 to 2018.

Opioid-related deaths **more than doubled** during this period from 609 deaths in 2001 to 1393 deaths in 2018.

The highest proportion of opioid-related deaths were notified to a coroner in New South Wales (30.4%), followed by Victoria (27.3%), Queensland (18.0%) and Western Australia (12.7%)

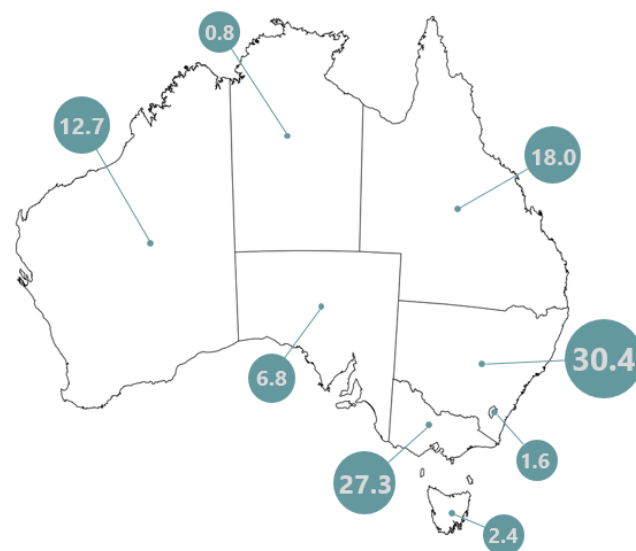


Figure 1. Proportion of opioid-related deaths by jurisdiction of investigation, 2001-2018

Smaller proportions of deaths were reported in other jurisdictions (Figure 1). This is generally consistent with Australia's population distribution.

Age range and sex

Opioid-related deaths occurred in a higher proportion of males than females.

Deaths of males occurred most frequently among those aged 35-44 years. Deaths of females were nearly equally as common among those aged 35-44 years and 45-54 years.

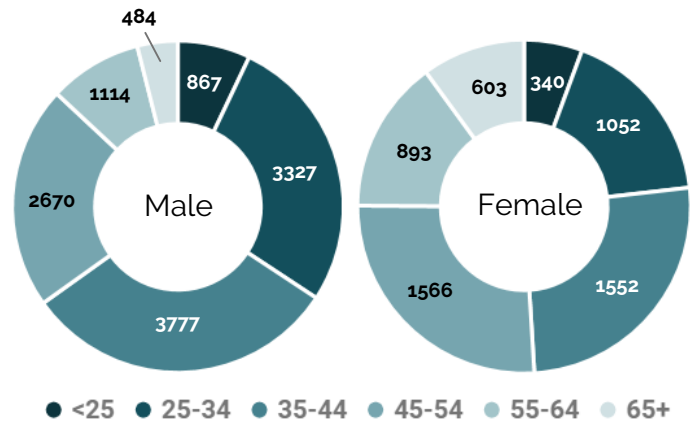


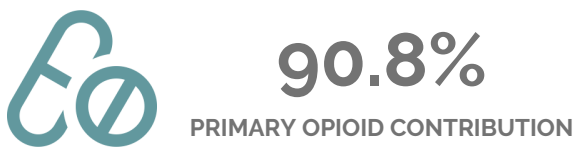
Figure 2. Frequency of opioid-related deaths by age group and sex (where known), 2001-2018 (4)

Intent type

The majority of opioid-related deaths were unintentional in nature (69.5%, n=12,689). One fifth (20.0%, n=3658) were due to intentional self-harm. In 5.6% of cases (n=1029), the coroner was unable to determine the intent of the deceased.

Contribution and other drug involvement

These deaths most frequently involved an opioid as a primary contributor (n=16,563; secondary - n=1683 or 9.2%).



In 80.7% (n=14,732) of cases, drugs other than opioids were also identified as contributing to death.

The most common other drug types detected were sedatives and hypnotics (such as alcohol and benzodiazepines), followed by antidepressants and antipsychotics, and other analgesics (Figure 3).

Primary contribution relates to cases where drug toxicity was the primary cause of death. **Secondary** contribution relates to cases where drugs contributed to a death caused by another form of injury (such as drowning or a vehicle incident)

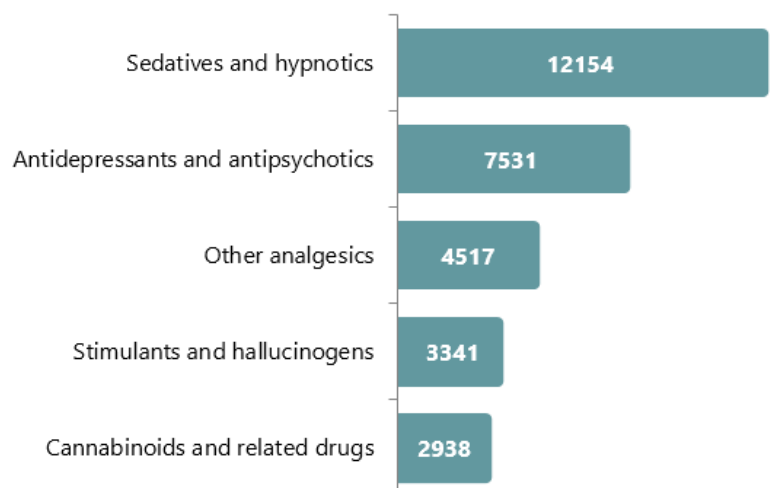


Figure 3. Frequency of opioid-related deaths by most common other drug class identified, 2001-2018

Specific opioids

This section provides further information in relation to specific opioid drugs

The seven most commonly identified opioid drugs contributed to 96.6% of all deaths (n=17,617).

The most commonly identified drugs were: morphine, codeine, heroin, methadone, oxycodone, tramadol and fentanyl.

The frequency of deaths associated with these drugs increased between 2001 and 2018 (Figure 4). The highest proportional increase was in deaths involving fentanyl, from fewer than 10 deaths in the calendar years 2001-03, to 437 deaths in the 2016-18 period (>95% increase).

By comparison, the frequency of heroin-related deaths increased by 59.7% between the 2001-03 and 2016-18 periods.

Opioid drug	Frequency	Percentage
Morphine	6907	37.9
Codeine	6003	32.9
Heroin	4391	24.1
Methadone	3683	20.2
Oxycodone	3268	17.9
Tramadol	1617	8.9
Fentanyl	1101	6.0

Figure 4. Frequency and proportion of opioid-related deaths by specified opioids drug, 2001-2018 (5)

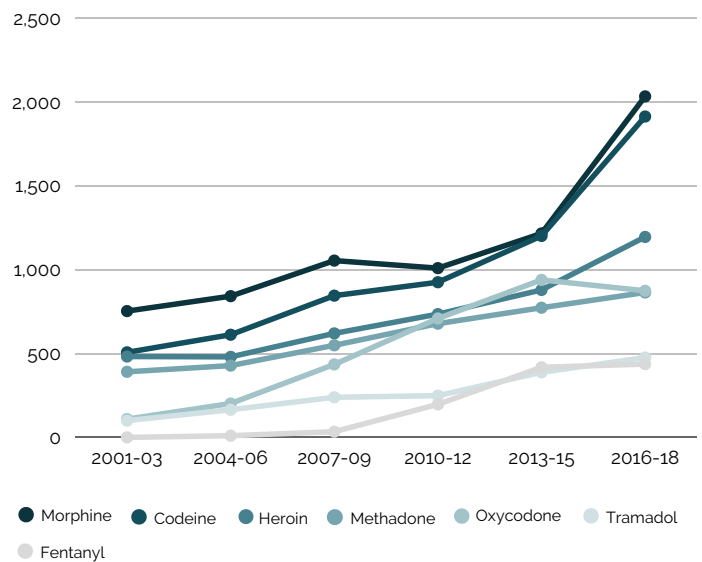


Figure 4. Frequency of opioid-related deaths by specified opioid drug and year of notification, 2001-2018

Deaths were most frequent among those aged 35-44 years for all of the most commonly identified drugs except oxycodone, for which deaths occurred most frequently among those aged 45-54 years.

There were notable differences in the distribution of deaths by sex (Figure 5).

Opioid drug	Male (%)	Female (%)
All opioids	67.1	32.9
Morphine	67.8	32.2
Codeine	61.0	39.0
Heroin	81.6	18.4
Methadone	67.9	32.1
Oxycodone	59.1	40.9
Tramadol	58.8	41.2
Fentanyl	71.7	28.3

Figure 5. Proportion of opioid-related deaths by specified opioid drug and sex, 2001-2018

Of deaths involving the most commonly identified opioid drugs, heroin-related deaths were the most likely to be unintentional in nature (86.1%, n=3779).

Deaths involving oxycodone and tramadol were the most likely to be due to intentional self-harm (oxycodone - 30.2% or n=987, tramadol - 29.4% or n=475).

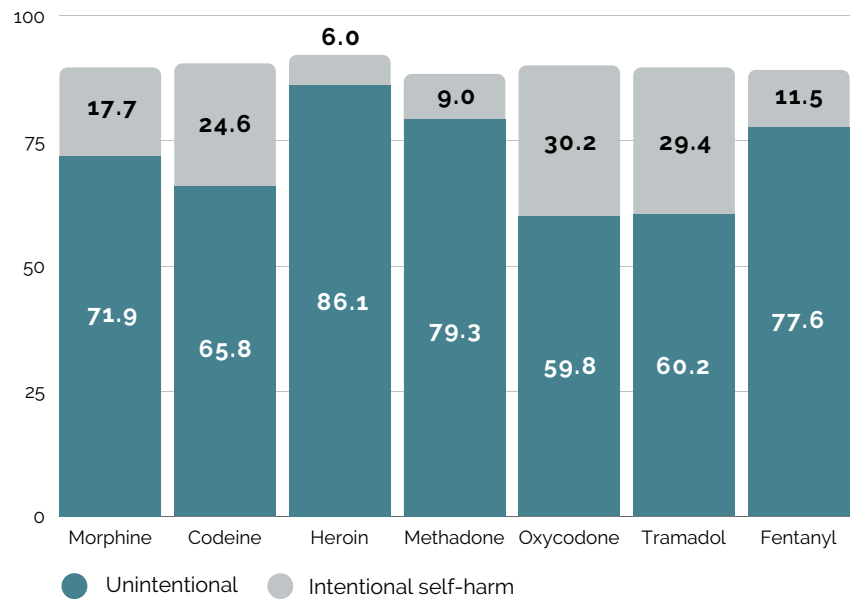


Figure 6. Proportion of opioid-related deaths by specified opioid drug and intent type (unintentional and intentional self-harm only), 2001-2018

Heroin was the most likely drug to be identified in isolation - the sole drug contributing to death (31.2% of heroin-related deaths, n=1372).

By contrast, deaths involving codeine almost always involved other drugs (99.0% of codeine-related deaths, n=5944), whether other opioids or other drug classes .

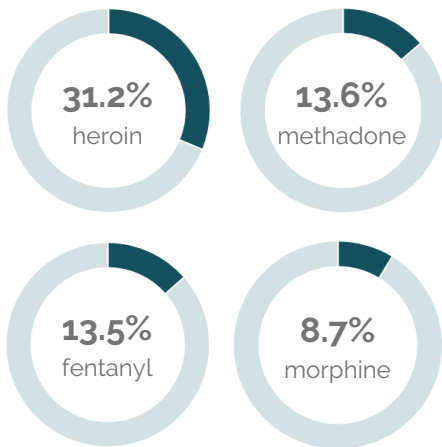


Figure 7. Proportion of deaths where sole drug identified by specified opioid drug, 2001-2018

1. Alcohol and Drug Foundation 2020, [Opioids](#)
2. Australian Institute of Health and Welfare 2020, [Alcohol, tobacco & other drugs in Australia](#)
3. Australian Institute of Health and Welfare 2019, [Australian Burden of Disease Study: impact and causes of illness and death in Australia 2015](#)
4. Note the age groupings are not equally distributed. Caution should be applied when comparing specific age groups
5. Note the sum of specific opioid-related deaths is greater than the total number of opioid-related deaths due to the potential for multiple drugs to be detected for a single case

The data presented in this fact sheet was extracted from the National Coronial Information System (NCIS) in January 2021. The dataset extracted contained every external cause fatality where an opioid was listed in the 'Drug' coding fields that was reported to an Australian coroner from 1 January 2001 to 31 December 2018. Cases were included where the coronial investigation had concluded and the case was closed on the NCIS. Population data was sourced from the Australian Bureau of Statistics. Visit the NCIS website for information on [data sources and limitations](#). To request a comprehensive data report, contact the NCIS or visit www.ncis.org.au.

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