

Drug-induced deaths in Australia 2006



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Background

- In Australia, “drug induced deaths” are deaths where drugs are determined to be the main cause of death [1].
- In this bulletin, drug-induced deaths include the following categories of death:
 - Intentional self-harm (i.e. suicide) by drugs ;
 - Assault (i.e. homicide) by drugs;
 - Accidental drug-induced deaths either from poisoning by drugs, or from mental and behavioural disorders due to drug use; and
 - Drug deaths where the intent of poisoning was undetermined.
- In accordance with the Australian Bureau of Statistics definition, drug-induced deaths in this bulletin, do not include deaths related to alcohol or tobacco use [1].
- This is the first bulletin in a new series examining drug induced deaths in Australia.
- The aim of this bulletin is to examine;
 - the number of drug-induced deaths among those aged between 15 and 54;
 - whether the deaths were determined by the coroner as being accidental overdose, intentional self-harm, assault or of undetermined intent;
 - deaths by drug type; and
 - the number of accidental opioid¹ deaths occurring;
 - i) in each jurisdiction;
 - ii) by age; and
 - iii) by gender
- This data is based on drug-induced deaths that were registered in 2006, rather than deaths that occurred in 2006. Ninety-two percent of these deaths occurred in 2006, and 8% in 2005.
- The Australian Bureau of Statistics (ABS) collates and manages the national causes of death database, utilising information from the National Coronial Information System (NCIS). Prior to 2003, ABS staff visited coronial offices to manually update information about the cause of death for records that had not yet been loaded onto the NCIS. Since 2003 the ABS has progressively ceased visiting jurisdictional coronial offices, therefore ceasing manual updates of deaths that were not already included on the NCIS.
- In 2006 the ABS relied solely on the data contained on NCIS at the time the ABS ceased processing the 2006 deaths data.
- The change in methodology in the collation of deaths data makes comparisons to earlier overdose bulletins published by the National Drug and Alcohol Research Centre difficult [2, 3].

¹ No further analysis is done on other drug-related deaths as numbers are too small.



Background continued...

- In particular this change has a number of implications for the reporting and interpretation of deaths data that should be noted:
 - In 2006, a number of jurisdictions reported backlogs in the number of cases that had been finalised by the coroner (i.e. the coroner had determined the cause of death), but had not yet been loaded onto NCIS.
 - Most notably, QLD and NSW had higher backlogs than the other jurisdictions.
 - In these instances, the cases remain ‘open’ on NCIS and are coded ‘cause unknown’, despite the fact that the coroner has made a decision on the cause of death.
 - Consistent with high backlogs reported in NSW and QLD, Table 1 shows that these jurisdictions also have higher numbers of ‘open’ cases that have been coded ‘cause unknown’. This is likely to lead to a decrease in the number of drug-induced deaths reported in comparison to previous years.
 - Opioid-related deaths in NSW and QLD are most likely to be affected given that both jurisdictions have recorded higher numbers of these deaths during the period 2000 to 2005.
 - In order to minimise the impact of these changes, the ABS intend to release revisions of deaths data, following the first release, to allow for the time between cases being finalised, and uploaded to the NCIS. These revisions are due to be implemented from the 2007 causes of death database onwards. Revisions of the 2006 data will not be released.

Table 1: Number of open coronial cases coded as unknown cause by jurisdiction, 2006

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
Unknown cause*	153	12	450	8	61	5	8	7	704

Source: Australian Bureau of Statistics Technical Note 2: Coroner Certified Deaths, 3303.0 2006

Notes on interpretation

- The following findings relate to numbers of deaths recorded at the time of closure of the 2006 ABS deaths data file. These figures may not be complete as a proportion of deaths will not yet be uploaded to the NCIS.
- Appendix A records the ICD 10 codes on which these results are based.
- Only deaths where the person was aged between 15 and 54 years of age are included, as the majority of accidental drug-related deaths occur within this age range.
- These findings should be interpreted in conjunction with the ABS Technical Note 2: Coroner Certified Deaths, 3303.0 2006, available on the ABS website.

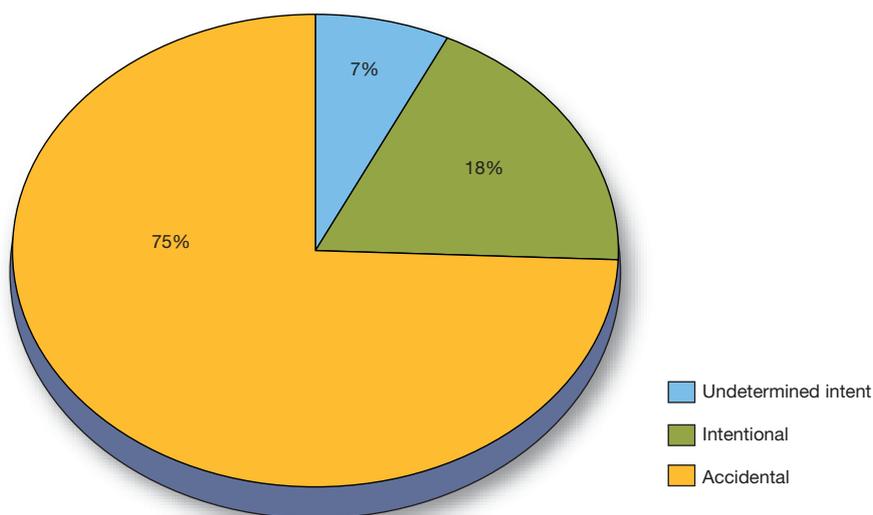


Findings

ALL DRUG-INDUCED DEATHS

- At the time of closure of the 2006 ABS causes of death data file, there were:
 - 635 deaths nationally in which drugs were determined to be the underlying cause of death² (Figure 1);
 - 473 (75%) of these deaths were determined to be accidental drug-induced deaths;
 - 117 (18%) were determined to be drug-induced deaths due to intentional self-harm; and
 - 45 (7%) were recorded as drug-induced deaths where intent was undetermined.

Figure 1: All drug-induced deaths by intent among persons aged 15–54 years in Australia, 2006



² The underlying cause of death is defined as the disease or injury which initiated the train of morbid events leading directly to death. To be classified as a drug-induced death, the coroner must state that the death was a direct result of drug use [1].



Findings continued...

ACCIDENTAL DRUG-INDUCED DEATHS

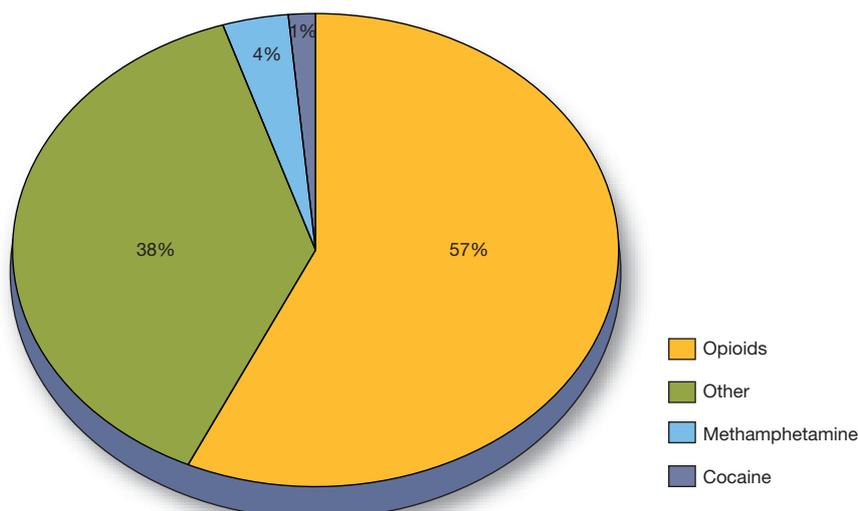
Underlying cause by drug type

- At the time of closure of the 2006 ABS causes of death data file, there were:
 - 473 deaths nationally where the underlying cause was determined to be accidental drug-induced death (Figure 2);
 - 269 (57%) of these deaths were recorded with opioids as the underlying cause;
 - 18 (4%) were recorded with methamphetamine as the underlying cause;
 - 6 (1%) were recorded with cocaine as the underlying cause; and
 - 180 (38%) were recorded with drugs other than opioids, cocaine or methamphetamine as the underlying cause. Drugs included psychotropics (including anti-depressants and anti-psychotic agents), anti-epileptic, sedative/hypnotic and anitparkinsonism drugs (particularly benzodiazepines), diuretics and other unspecified medicaments, and nonopioid analgesics, antipyretics and antirheumatic drugs. In many instances these deaths had several drugs recorded.

Any mention amphetamine and cocaine-related deaths

- At the time of closure of the 2006 ABS causes of death data file, there were:
 - 66 deaths where methamphetamine was thought to be either the underlying or contributory cause;
 - 13 deaths where cocaine was thought to be either the underlying or contributory cause.

Figure 2: Accidental drug-induced deaths by drug type among persons aged 15–54 years in Australia, 2006





Findings continued...

OPIOID-RELATED DEATHS

- Analysis of the 269 opioid-related deaths recorded among 15 to 54 year olds in Australia in 2006 revealed that:
 - NSW reported the highest number of opioid-related deaths in 2006, followed by VIC (Table 2).
 - Males comprised approximately three quarters (74%) of these deaths nationally (Table 3); and
 - Numbers per million persons of opioid-related deaths were lowest among the 15 to 24 year age group (Figure 3).

Table 2: Number of accidental deaths due to opioids by jurisdiction among those aged 15–54, 2006

Jurisdiction	2006
NSW	114
VIC	80
QLD	13
SA	17
WA	29
TAS	10
NT	np*
ACT	np*
Australia	269

*np means that the data in these jurisdictions were not published in order to protect confidentiality

Table 3: Number of accidental deaths due to opioids by gender and jurisdiction, among those aged 15–54, 2006

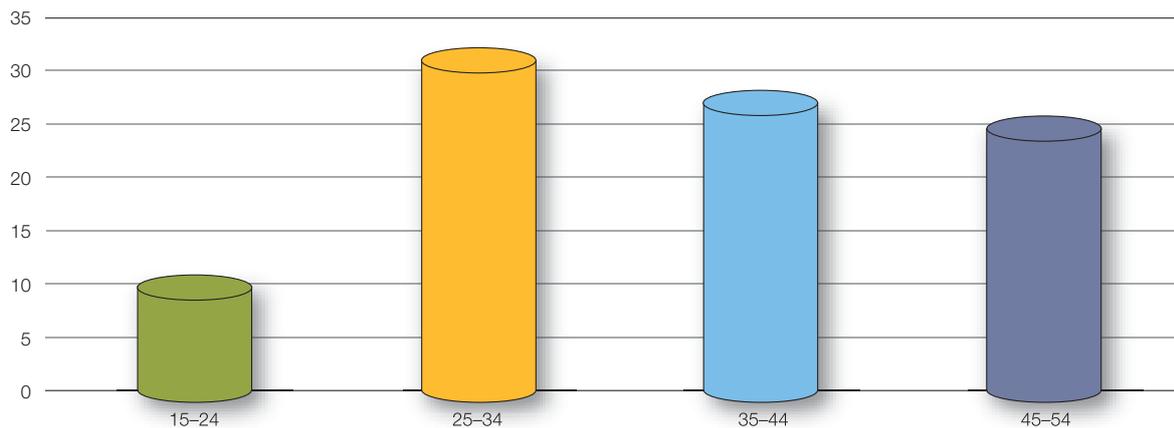
Jurisdiction	Males	Females
NSW	86	28
VIC	60	20
QLD	8	5
SA	11	6
WA	23	6
TAS	4	6
NT	np*	np*
ACT	np*	np*
Australia	198	71

* np means that the data in these jurisdictions were not published in order to protect confidentiality



Findings continued...

Figure 3: Number of accidental deaths due to opioids per million persons by ten year age group, 2006



Implications

- Caution needs to be taken when interpreting these results as drug-induced (particularly opioid) deaths may be incomplete at the time the ABS closed the 2006 causes of death data file.
- The majority (75%) of drug-induced deaths among Australians aged 15 to 54 in 2006 were determined by the coroner to be accidental.

● **Opioid-related deaths**

- Numbers of opioid-related deaths were highest relative to deaths due to other drugs, accounting for 57% of accidental drug-induced deaths in 2006.
- Deaths due to opioids were highest in individuals aged 25 years and older, and relatively prevalent among the 45 to 54 year age group.
- This is consistent with other research that suggests a decline in the number of young injecting drug users in Australia in the past five years, as well as a decline in new initiates to injecting drug use [4].
- These trends are also consistent with other health indicators such as hospital admissions. There has been a decline in opioid-related hospital admissions recorded among the 10 to 19 and the 20 to 29 year age group, since 2001, while increases have been recorded among the older age groups [5].
- There is a growing body of literature demonstrating the increasingly poor physical health of opioid users (including complex cardiac pathology and hepatic function) as they age and continue to engage in injecting drug use [6, 7].
- Harm reduction strategies and programs such as needle and syringe programs should increasingly target older injecting drug users, ensuring that the complexities of their needs are addressed.

● **Methamphetamine and cocaine-related deaths**

- Deaths due to methamphetamine and cocaine were markedly lower than numbers of opioid-related deaths
- Despite lower numbers, research has shown that methamphetamine use is associated with significant harms [8, 9], so continued research into effective treatment for psychostimulant dependence should remain a priority.
- Psychostimulant users appear to be a difficult group to engage in treatment and harm reduction services [10], and accordingly, strategies to enhance engagement among this group are required.

Appendix A

In this report, the following ICD-10 codes have been used for deaths where drugs (excluding alcohol and tobacco) were considered to be the underlying cause of death:

- F11 to F16 — deaths due to opioid, cannabis, sedative/hypnotic, cocaine, methamphetamine or hallucinogen use disorders;
- F19 — deaths due to multiple drug use disorder;
- F55 — deaths due to harmful use of non-dependence producing substances (such as laxatives, steroids or antacids);
- X40 to X44 — deaths due to accidental poisoning by and exposure to noxious substances including nonopioid analgesics, antipyretics, sedative/hypnotics, narcotics and psychodyleptics, drugs acting on the autonomic nervous system, and medicaments and biological substances not specified elsewhere;
- X60 to X64 — deaths due to intentional poisoning by and exposure to noxious substances including nonopioid analgesics, antipyretics, sedative/hypnotics, narcotics and psychodyleptics, drugs acting on the autonomic nervous system, and medicaments and biological substances not specified elsewhere;
- X85 — deaths due to assault by drugs, biological substances and medicaments; and
- Y10 to Y14 — deaths where intent was not determined for poisoning by and exposure to noxious substances including nonopioid analgesics, antipyretics, sedative/hypnotics, narcotics and psychodyleptics, drugs acting on the autonomic nervous system, and medicaments and biological substances not specified elsewhere.

The following ICD-10 codes have been used for deaths where opioids were considered to be the underlying cause of death:

- F11 — Accidental deaths due to opioid use disorder (including opioid dependence);
- F19 with F11 — Accidental deaths due to multiple drug use disorder which included an opioid use disorder;
- X42 with T40.0-T40.4, T40.6 — Accidental deaths due to poisoning which included opioid poisoning;
- X44 with T40.0-T40.4, T40.6 — Accidental deaths due to multiple drug poisoning which included opioid poisoning; and
- F19 with T40.0-T40.4, T40.6 — Accidental deaths due to multiple drug use disorder which included opioid poisoning.

The following ICD-10 codes have been used to examine deaths where amphetamine and cocaine were considered to be the underlying cause of death:

- F14 — Accidental deaths due to cocaine use disorder (including cocaine dependence)
- F15 — Accidental deaths due to methamphetamine use disorder (including methamphetamine dependence)
- X42 with T40.5 — Accidental deaths due to poisoning cross-classified with cocaine poisoning (but excluding any other drug from the X42 category)
- X41 with T43.6 — Accidental deaths due to poisoning cross-classified with methamphetamine poisoning (but excluding any other drug from the X41 category)

The following codes have also been examined to investigate deaths in which cocaine or amphetamines were mentioned as a contributing cause of an accidental drug-induced death, but in which they may not have been the primary cause of death:

- Accidental deaths due to other drug use disorder (F11-F16, F19, F55) cross-classified with cocaine (T40.5 and F14) or methamphetamine (T43.6 and F15); and
- Accidental deaths due to poisoning by another drug (X40-X44) cross-classified with cocaine (T40.5 and F14) or methamphetamine (T43.6 and F15).



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THE NATIONAL DRUG AND ALCOHOL RESEARCH CENTRE

University of New South Wales, Sydney NSW 2052 Phone: +61 2 9385 0333 Fax: +61 2 9385 0222

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