

Cocaine and methamphetamine induced deaths in Australia 2012

Prepared by Amanda Roxburgh and Courtney Breen, National Drug and Alcohol Research Centre, UNSW
Funded by the Australian Government Department of Health
Product of the National Illicit Drug Indicators Project
Recommended citation Roxburgh, A. and Breen, C (2016). Cocaine and methamphetamine related drug-induced deaths in Australia, 2012. Sydney: National Drug and Alcohol Research Centre, UNSW

Background

- This bulletin provides interpretation of (1) final data on accidental drug-induced deaths in which methamphetamine¹ and cocaine were mentioned in Australia in 2012, and (2) estimated data for 2013 and 2014.
- The data for 2013 and 2014 are not final and are likely to change. We have estimated figures for 2013 and 2014 based on changes that occurred in the 2011 and 2012 revisions. We have not interpreted these figures in any detail. This will be the subject of later bulletins.
- The data in this bulletin refer to deaths where methamphetamine or cocaine were (1) determined to be the underlying cause of death – that is, that they were the primary factor responsible for the person's death; or (2) noted, but another drug was thought to be primarily responsible for death. Deaths are coded according to the World Health Organization's (WHO) International Statistical Classification of Diseases and Related Problems, 10th revision (ICD-10).
- The data presented here refer to deaths that were attributed to the following²:
 - Accidental deaths due to poisoning by cocaine or methamphetamine (and no other drug from same category was mentioned);
 - Accidental deaths due to cocaine or methamphetamine use (usually dependence); and
 - Accidental drug-induced deaths where cocaine or methamphetamine was mentioned.

Methamphetamine related drug induced deaths

- In 2012 there were a total of 136 accidental "drug induced" deaths in which methamphetamine was mentioned among those aged 15 to 54 years (the ages when most drug related deaths occur) (Table 1), and 139 deaths across all ages.
- The rate of accidental methamphetamine related deaths among those aged 15 to 54 years in 2012 was 10.7 per million persons (8.1 in 2011) (Figure 2).
- Methamphetamine was determined to be the underlying cause of death in just under one quarter (22%, n = 30) of the accidental methamphetamine related deaths in 2012 among Australians aged 15 to 54, and 22% (n=31) across all ages.

Cocaine related drug induced deaths

- In 2012 there were 19 accidental "drug induced" deaths in which cocaine was mentioned among those aged 15-54 years of age and across all ages.
- The rate of accidental cocaine related deaths among persons aged 15-54 years was 1.5 per million persons (0.9 in 2011; Figure 2).
- Cocaine was determined to be the underlying cause of death in 42% (n=8) of the accidental cocaine related deaths in 2012 among Australians aged 15 to 54.

¹ ICD-10 uses the terminology "amphetamine" to refer to the drug class that includes "methamphetamine". Since the vast majority of "amphetamine" in Australia is actually methamphetamine this is the term that will be used in this report.

² See Appendix for details of codes used.



Notes on methods and findings

- 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.
- For the first time in 2006, the ABS relied solely on the data contained on the NCIS, and ceased manually processing the deaths data.
- Since 2007, the causes of death data have been subject to a revisions process. The preliminary data is released, and two successive revisions are released 12 months apart from the date of the release of preliminary data.
- The 2006 data in this bulletin were not subject to this revision process, and are therefore likely to be incomplete. This is likely to result in an underestimate of the number of methamphetamine and cocaine related deaths recorded in 2006. We have attempted to offset this underestimate by analyzing the changes between preliminary and final findings for both 2007 and 2008. We have averaged the changes across both years, and applied it to the 2006 figures. This data should be interpreted with caution.
- Data for 2007 through 2012 in this bulletin represent the 2nd and final revision of each dataset, and are therefore methodologically comparable.
- Data for 2013 and 2014 are projected estimates, based on the changes that occurred in 2011 and 2012 data. These data should be interpreted with caution as figures may change.
- The result of the revisions process is a longer time from the reporting of a death to finalization by the coroner. These revisions will lead to an increase in the number of deaths between revisions. This is particularly true for deaths that are drug-related, as coronial investigations can be complex and lengthy in nature.
- In addition to the revisions process, the ABS undertook two further processing improvements from 2008 onwards; 1) For both open (where a coroner has not yet handed down a finding on cause of death) and closed (where a coroner's decision has been made) cases on the NCIS, the ABS now spend more time investigating the Medical Certificate of Cause of Death to more consistently apply the appropriate ICD10 code for cause of death; 2) For both open and closed cases, the ABS also increasingly uses additional information on the NCIS (e.g. autopsy, police and toxicology reports), where available, to apply more specific cause of death codes.
- Both of these processing improvements are likely to have an impact on the number of methamphetamine and cocaine related deaths reported from 2008 onwards.
- It should also be noted that availability of additional information on the NCIS varies by jurisdiction and means that improvements are likely to be applied differentially across jurisdictions.
- These findings should be interpreted in conjunction with the ABS Technical Note 2 Causes of Death Revisions 2012, available on the ABS website:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/3303.0Explanatory%20Notes32014?opendocument&tabname=Notes&prodno=3303.0&issue=2014&num=&view>

Implications

- Deaths where methamphetamine is recorded as the underlying cause of death have trended upward in 2012. However, they still remain relatively low in comparison to opioid overdose deaths.
- Projected estimates for 2013 and 2014 for accidental methamphetamine deaths suggest a continued upward trend. These figures are not final, and should be interpreted with caution.
- Continued monitoring of methamphetamine-related harms in Australia remains important. Many indicators suggest an increasing trend in methamphetamine *availability* in Australia, with steady increases in the number of detections of clandestine laboratories in Australia involving the production of methamphetamine (Australian Crime Commission, 2015), and record numbers of methamphetamine seizures detected at the border (Australian Customs and Border Protection Service, 2015).
- Increased *harms* associated with methamphetamine use have been recorded, with an upward trend in amphetamine-related hospital presentations occurring over the past 3 years (Roxburgh and Breen, 2016), and increasing numbers of treatment episodes for amphetamine use (Australian Institute of Health and Welfare, 2015).
- Increased prevalence of dependent methamphetamine use has also been documented in Australia, with estimates of the number of dependent methamphetamine users suggesting the increase in dependent use has been most marked among Australians aged 15 to 34 years (Degenhardt et al, 2016).
- Continued development of effective treatment for methamphetamine dependence, as well as enhancing engagement of those having problems with their methamphetamine use in treatment, is crucial to reduce methamphetamine-related harms including deaths.
- Accidental cocaine-related deaths are very low in Australia, and the prevalence of mortality remains relatively unchanged over the past ten years.
- Projected estimates for 2013 and 2014 for cocaine-related deaths suggest a stable trend.

Table 1: Number of accidental drug-induced deaths mentioning cocaine or methamphetamine among 15-54 year olds, 1997-2012

	Cocaine underlying cause of death	*Cocaine total mentions	Methamphetamine underlying cause of death	*Methamphetamine total mentions
1997	0	20	4	25
1998	3	36	6	48
1999	4	33	15	79
2000	3	27	15	99
2001	2	28	13	51
2002	1	15	1	55
2003	5	15	17	50
2004	5	20	17	75
2005	10	15	26	68
2006	6	18	23	99
2007	7	15	27	74
2008	2	16	16	82
2009	5	23	20	86
2010	np**	15	18	88
2011	9	12	21	101
2012	8	19	30	136

* Refers to deaths where methamphetamine/cocaine is either the underlying or a contributory cause of death

** np – not published to protect confidentiality

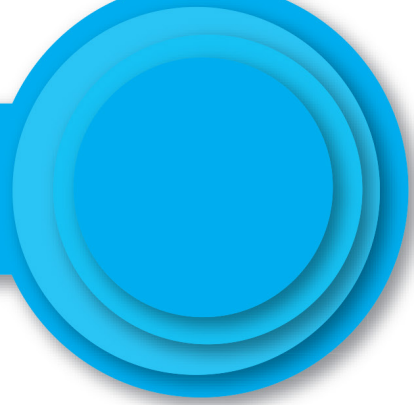


Figure 1: Number of accidental drug-induced deaths mentioning cocaine or methamphetamine among those aged 15-54 years in Australia, 1997-2012

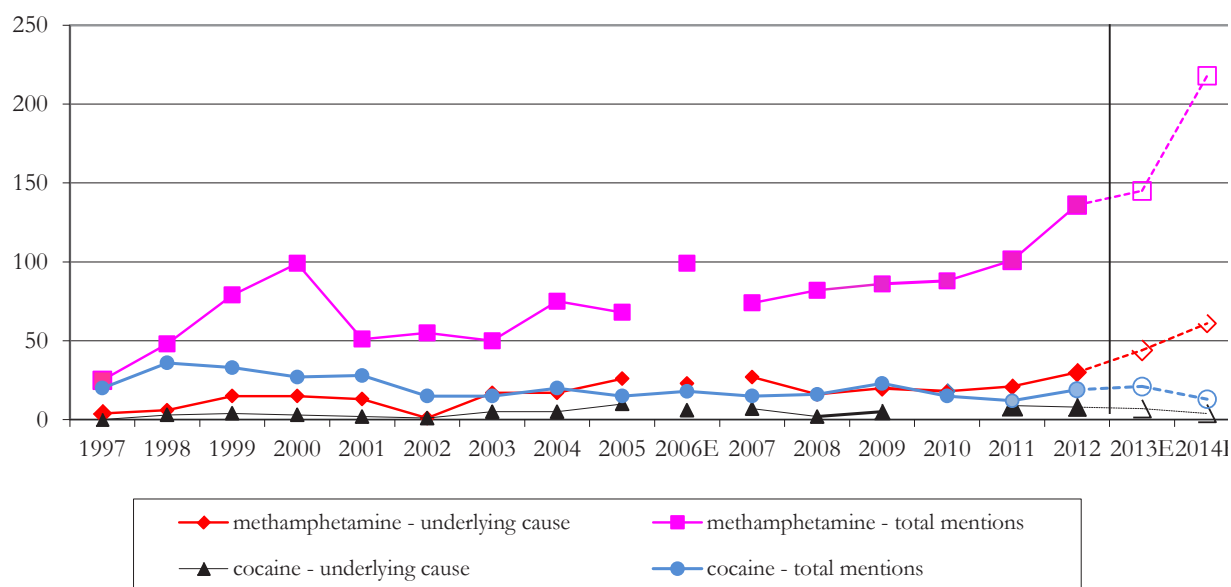
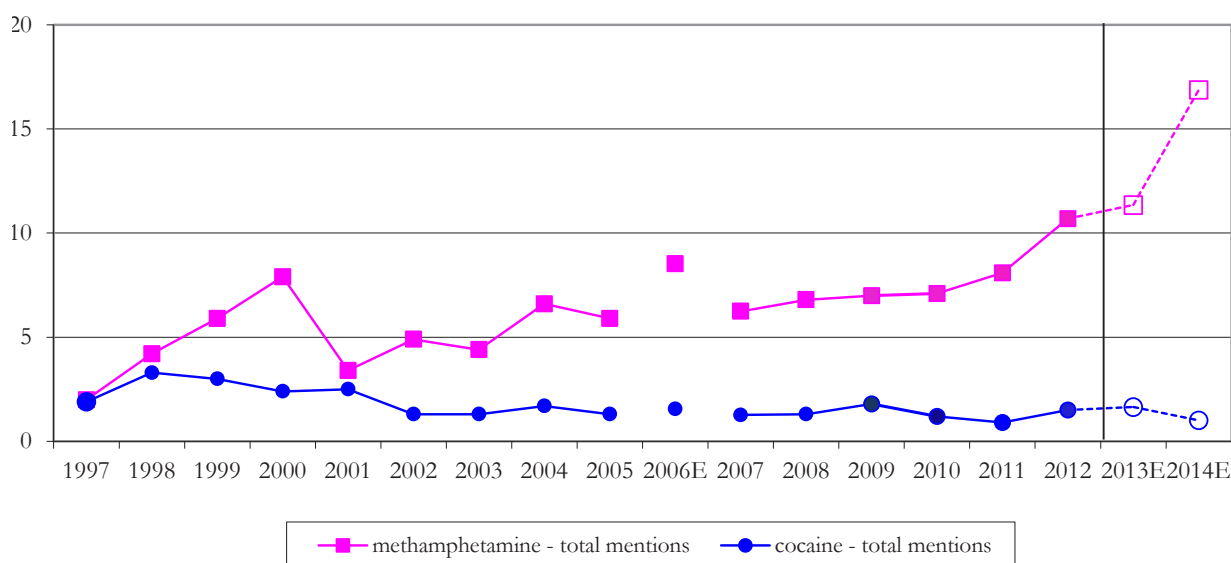


Figure 2: Rate of accidental drug-induced deaths with cocaine or methamphetamine mentions per million population aged 15-54 years, Australia 1997-2012



Appendix: ABS data on cocaine and methamphetamine mentions in accidental drug-induced deaths in Australia

The Australian Bureau of Statistics (ABS) is responsible for collecting data every year on persons who have died across Australia. Data on accidental deaths are collected from the Medical Certificates of Cause of Death submitted to each State or Territory's Registrar of Births, Deaths and Marriages and from the National Coroners Information System.

Death certificates typically state the sequence of events that led to a person's death. The ABS then uses its coding rules to establish the *underlying* cause of death, that is, "the disease or injury that initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury". The ABS also lists the diseases, injuries and health-related factors that *contributed* to the death but which were not the main cause of death.

The ABS uses an international classification system for classifying deaths, developed by the World Health Organization (WHO). This is called the International Statistical Classification of Diseases and Related Problems (ICD). The ICD edition currently used is the 10th edition (ICD-10). This edition of the classification system has been used since 1997 and provides more detailed information on accidental drug-induced deaths than previous versions.

All data on in this report refer to accidental drug-induced deaths where the underlying cause of death is drug-related and accidental. There are more deaths each year in which drugs are considered to have *contributed* to a person's death (e.g. general medical conditions, suicides, traffic accidents, drownings), but these deaths are not included.

In this report, 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).

RELATED LINKS:

For more information on NDARC research, go to <http://ndarc.med.unsw.edu.au/>

For more information about the ABS, go to www.abs.gov.au

For more information on ICD-10, go to www.who.int/whosis/icd10/



References

Australian Crime Commission (2015). Illicit Drug Data Report 2013/14. Canberra: Commonwealth of Australia

Australian Customs and Border Protection Service (2015). Annual Report 2014-15. Canberra, Australian Customs and Border Protection Service.

Australian Institute of Health and Welfare (2015). Alcohol and other drug treatment services in Australia 2013-14: report on the National Minimum Data Set. Drug Treatment Series no. 5. AIHW cat. no. HSE 43. Canberra, AIHW.

Degenhardt, L., Sara, G., Roxburgh, A., Dobbins, T., McKetin, R., Farrell, M., Burns, L. and Hall, W.D. (2016) Estimating the number of regular and dependent methamphetamine users in Australia, 2002-2014. *Medical Journal of Australia*, 204 (4): 153.

Roxburgh, A., and Breen, C. (2016). Drug-related hospital stays in Australia 1993-2014. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Acknowledgements

Acknowledgements: Thanks to Dimity Stephen of the ABS for her assistance with the data provided for this bulletin. Thanks to Louisa Degenhardt for assistance and advice regarding estimation of data points.

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

www.ndarc.med.unsw.edu.au

ISSN 1449 2245