

OPIOID OVERDOSE DEATHS IN AUSTRALIA

2004 Edition

ACCIDENTAL DRUG-INDUCED DEATHS DUE TO OPIOIDS IN AUSTRALIA, 2004

- This bulletin provides data from the Australian Bureau of Statistics on accidental opioid induced deaths in Australia among those aged 15 to 54 years.
- Opioids in this instance primarily include deaths due to heroin, but may also include overdoses due to other opioids such as opium and morphine.
- These data refer to accidental deaths in which opioids were determined to be the underlying cause of death – that is, that they were the primary factor responsible for the person's death. They 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 among those aged 15 to 54 years in 2004 which were attributed to the following:
 - **X42 and X44 - Accidental deaths due to poisoning by opioids;**
 - **F11 and F19 - Accidental deaths due to opioid use (usually opioid dependence).**
- There were a total of 357 deaths attributed to opioids in 2004 among those aged 15 to 54 years.
- The rate of accidental deaths due to opioids in Australia was 31.3 per million persons aged 15 to 54 years. This rate was effectively unchanged compared to 2003 (where the rate was 31.5 per million persons).
- Forty percent of these deaths (40%) occurred in New South Wales (n=144). Examination of jurisdictional trends revealed that the number of opioid induced deaths remained stable in most jurisdictions except for SA (where they increased from 14 in 2003 to 25 in 2004) and the ACT (where they declined dramatically from 17 in 2003 to 2 in 2004).
- Males comprised just over three quarters (78%) of the deaths among the 15 to 54 year age group.
- Ten-year breakdowns of deaths attributed to opioids in 2004 showed that the largest proportion of deaths continued to be among the 25-34 year age group (43%), followed by the 35-44 age group (28%), 45-54 (18%) and 15-24 age groups (10%).
- There have been differences in the trends over time among different age groups since 2001. In 2001, all age groups had significantly reduced rates in overdose mortality (Figure 1, Table 4). The mortality rate among the oldest age group (45-54 years) has increased since 2001. In contrast, the rate among the youngest age group (15-24 years) has continued to decrease.

Recommended citation: Degenhardt, L., Roxburgh, A. Black, E. & Dunn, M. (2006). Accidental drug-induced deaths due opioids in Australia, 2004. Sydney: National Drug and Alcohol Research Centre.

IMPLICATIONS

- Both the number and the rate of opioid induced deaths in Australia in 2004 remain lower than figures recorded in the mid 1990s, when heroin use and harm were increasing.
- The trend is entirely consistent with observed trends in ambulance calls to opioid overdoses, and other indicators of heroin-related harms such as arrests. The reduction in deaths in 2001 occurred following a dramatic reduction in heroin supply. It appears that the overall reduction in deaths has been maintained.
- Heroin supply reduction appears to have had different effect on different groups of heroin users. Younger (and possibly less entrenched) heroin users appeared to be particularly affected by the reduction in heroin supply, with indicators suggesting that they might have reduced or perhaps ceased heroin use (Degenhardt, Day, Conroy, et al., 2005). They did not cease all drug use, and there is evidence of increases in psychostimulant use among young adults in Australia (McKetin & McLaren, 2004; Stafford, Degenhardt, Black et al., 2006; Stafford, Degenhardt, Dunn et al., 2006).
- The reduction in heroin supply did not seem to affect older heroin users in the same way. Although there was a small reduction in the number of opioid induced deaths in 2001, it was much smaller than for the younger age groups, and since that time there has been an increase in the number and rate of deaths among the oldest age group. This is consistent with the ageing of a cohort of IDU who have continued to obtain and use heroin.
- More entrenched, older users also seemed to shift to other risky forms of drug use, which particularly included the injection of pharmaceuticals such as benzodiazepines (Degenhardt, Day & Hall., 2004). Because high quality harm reduction initiatives were already in place, the harms associated with these risky forms of drug use may have been reduced. If the heroin shortage had occurred in countries where harm reduction and treatment services were not in place, it is highly likely that these risk behaviours would have resulted in significant increases in drug related harm.
- These findings suggest that reducing drug supply does not affect older users as it does younger users. Reducing drug supply was clearly not sufficient; a broad range of efforts is clearly required.
- Treatment is one method of reducing overdose risk. Opioid replacement treatments (such as methadone and buprenorphine) have been found to reduce the risk of overdosing by a factor of four. Other treatment modalities such as counselling and residential treatment may also assist in reducing the extent of harm. It is important to maintain treatment opportunities for opioid dependent persons in Australia.
- Not all users are interested in receiving treatment for their opioid use. It remains crucial that effective harm reduction interventions are delivered to current users of these drugs. This includes evidence-based advice on methods to reduce risk of overdose, and information about how to respond if an overdose occurs. Encouraging users to request medical assistance if another user overdoses is very important.
- Maintaining reductions in opioid induced deaths through the integrated use of demand, supply and harm reduction strategies should be a continued aim. This approach to illicit drug policy has been successful for a number of years across Australia.

Figure 1: Rate of accidental deaths due to opioids per million persons among those aged 15-54 years by age group, Australia 1988-2004

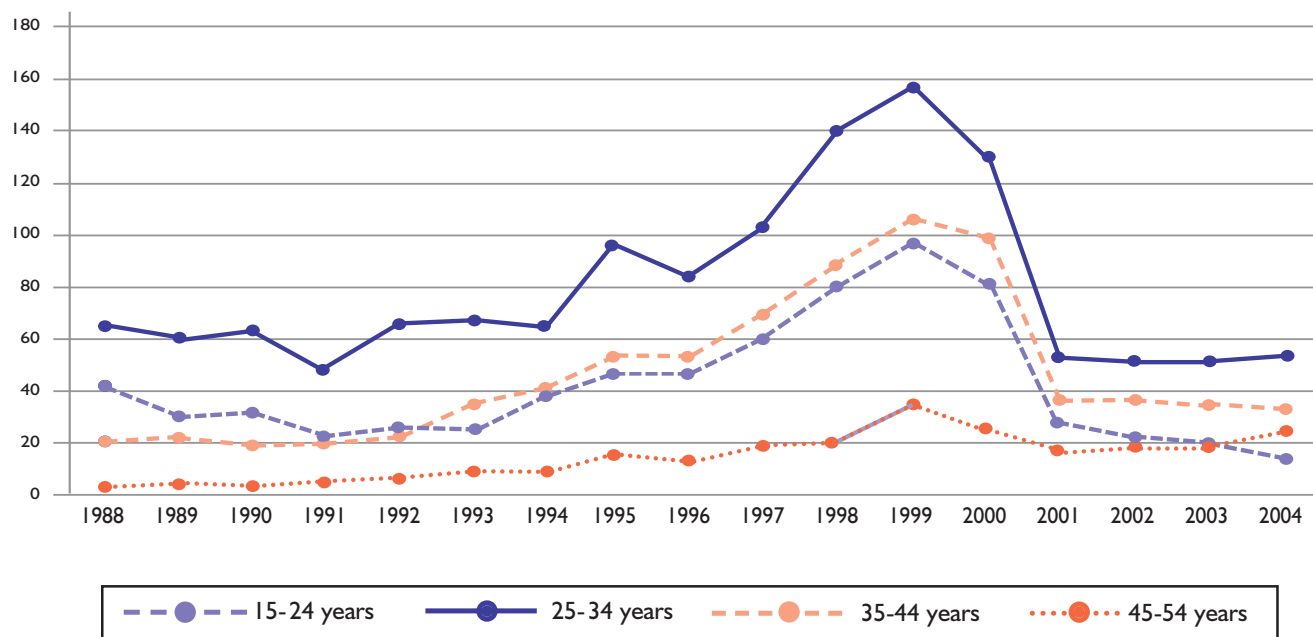


Table 1: Number of accidental deaths due to opioids among those aged 15-54 years by jurisdiction, 1988-2004

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	MISSING STATE	AUST
1988	204	99	16	12	18	0	0	2	-	351
1989	158	99	19	8	18	1	2	2	-	307
1990	196	79	8	19	14	5	0	0	-	321
1991	146	64	9	13	13	3	0	2	-	250
1992	182	79	18	30	22	0	1	4	-	336
1993	188	86	23	41	24	5	2	5	-	374
1994	209	97	37	32	38	4	5	3	-	425
1995	273	140	42	38	70	6	0	13	-	582
1996	260	145	32	32	64	5	2	17	-	557
1997	333	203	36	52	76	2	2	9	-	713
1998	452	243	64	53	78	10	13	14	-	927
1999	481	376	79	64	92	5	8	11	-	1116
2000	349	323	124	50	72	8	2	10	-	938
2001	177	73	58	18	35	8	5	12	-	386
2002	158	93	40	21	28	9	6	8	1	364
2003	143	129	32	14	16	4	2	17	-	357
2004	144	126	34	25	19	6	1	2	-	357

Table 2: Number of accidental deaths due to opioids among those aged 15- 54 years by gender and jurisdiction, 2004.

New South Wales	Males	115	Females	29
Victoria	Males	97	Females	29
Queensland	Males	23	Females	11
South Australia	Males	22	Females	3
Western Australia	Males	17	Females	2
Tasmania	Males	3	Females	3
Northern Territory	Males	1	Females	0
ACT	Males	1	Females	1
Missing	Males	-	Females	-
TOTAL AUSTRALIA	Males	279	Females	78

Table 3: Rate of accidental deaths due to opioids per million persons among those aged 15-54 years by jurisdiction, 1988-2004

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
1988	62.5	39.9	10.1	14.9	19.7	-	-	11.4	36.6
1989	47.5	39.3	11.6	9.8	19.2	6.4	19.2	11.4	31.4
1990	58.2	30.8	4.7	23.1	14.6	19.1	0	0	32.3
1991	42.8	24.7	5.2	15.7	13.4	11.4	0	10.8	24.8
1992	52.9	30.3	10.1	35.9	22.4	0	9.2	21.1	32.9
1993	54.3	33.0	12.6	48.9	24.1	18.8	18.3	25.9	36.3
1994	59.9	37.1	19.7	38.1	37.7	15.0	45.5	15.4	40.9
1995	76.9	53.4	21.8	45.1	68.1	22.5	0	66.2	55.3
1996	72.7	54.8	16.2	37.9	61.2	18.7	17.7	85.6	52.2
1997	92.2	76.1	18.1	61.8	71.3	7.5	16.5	45.8	66.3
1998	124.1	90.4	31.7	62.7	72.1	37.8	106.1	71.3	85.4
1999	130.9	138.8	38.7	75.5	84.1	19.0	64.4	55.9	101.9
2000	94.1	118.1	60.1	58.9	65.2	30.6	15.9	50.5	84.9
2001	47.2	26.4	27.8	21.2	31.3	30.8	39.6	60.2	34.6
2002	41.9	33.2	18.8	24.7	24.8	34.9	47.8	40.1	32.3
2003	37.8	45.9	14.7	16.5	14.1	15.4	15.9	85.3	31.5
2004	38.0	44.6	15.4	29.5	16.6	23.0	8.0	10.1	31.3

Figure 2: Number of accidental deaths due to opioids among those aged 15-54 years, Australia 1988-2004

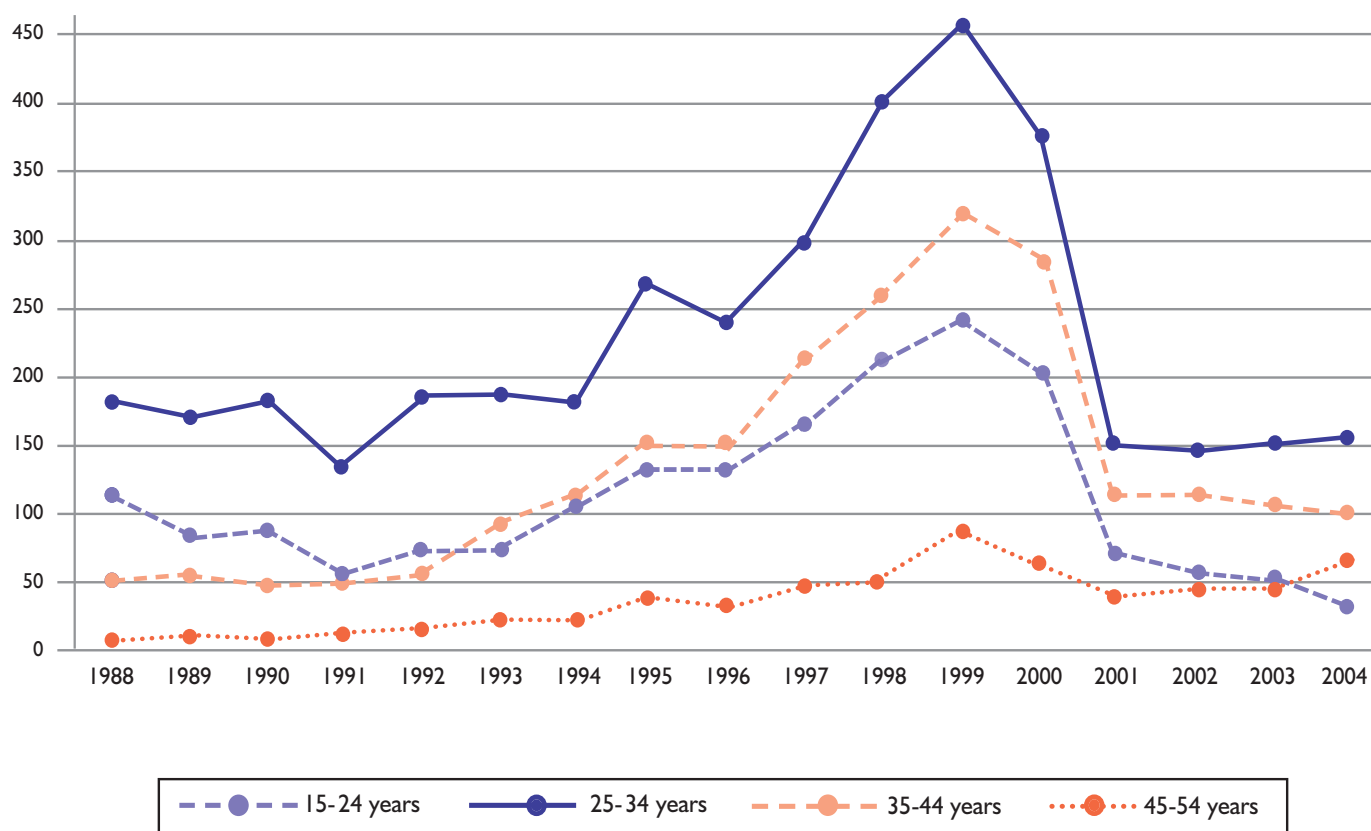


Table 4: Rate of accidental deaths due to opioids per million persons by age group, 1988-2004.

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
15-24 years	42.8	29.5	30.8	21	27.6	27.3	39.5	47.9	49	61.1	82	96.8	80.6	29.4	20.9	19.8	13.03
25-34 years	66.3	59.7	64.6	47.8	67.1	67.3	65.5	96.5	84.6	103.5	139.7	158.9	129.3	53.6	52.1	52.4	53.88
35-44 years	20	21.9	19.1	19.1	23	34.5	41.9	53.3	54.4	73.1	90.8	108.6	97.8	38	36.9	35.2	33.62
45-54 years	2.4	2.9	2.8	3.7	4.6	8.3	8.9	13.9	13.4	18.8	19.4	35	25.4	15.4	17.6	17.5	23.58

APPENDIX: ABS DATA ON ACCIDENTAL DRUG INDUCED DEATHS DUE TO OPIOIDS 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. It is important to note that the introduction of ICD-10 has resulted in a break in time series. Prior to 1997, the COD data were coded according to ICD-9, and opioid deaths were based on the following codes: 3040 (opioid dependence), 3070 (opioid dependence in combination with another drug), E8500 (accidental poisoning by heroin) and E8501 (accidental poisoning by methadone).

All data on accidental opioid deaths used in this report refer to deaths in which opioids were considered to be the underlying cause of death. This means that the deaths recorded here only include those in which it was considered that opioids such as heroin, morphine, pethidine, methadone and codeine were primarily responsible for the person's death. There are more deaths each year in which opioids are considered to have contributed to a person's death (e.g. general medical conditions, suicides, other accidental deaths), however these deaths are not presented.

In this report, the following ICD-10 codes have been used:

- 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.

Related links:

For more information on NDARC research, go to: <http://ndarc.med.unsw.edu.au>
For more information about the ABS, go to: <http://www.abs.gov.au>
For more information on ICD-10, go to: <http://www.who.int/whosis/icd10/>

References:

Degenhardt, L., Day, C., Conroy, E., Gilmour, S., & Hall, W. (2005). *Age differentials in the impacts of reduced heroin supply: Effects of a "heroin shortage" in NSW, Australia*. *Drug and Alcohol Dependence*, 79(3), 397-404.

Degenhardt, L., Day, C., & Hall, W. (Eds.). (2004). *The causes, course and consequences of the heroin shortage in Australia*. NDLERF Monograph No. 3. Adelaide: Australasian Centre for Policing Research.

McKetin, R., & McLaren, J. (2004). *The Methamphetamine situation in Australia: A review of routine data sources* (NDARC Technical Report No. 172). Sydney: National Drug and Alcohol Research Centre, UNSW.

Stafford, J., Degenhardt, L., Black, E., Bruno, R., Buckingham, K., Fetherston, J., Jenkinson, R., Kinner, S., Newman, J., & Weekley, J. (2006). *Australian Drug Trends 2005: Findings from the Illicit Drug Reporting System (IDRS)* (NDARC Monograph). Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Stafford, J., Degenhardt, L., Dunn, M., Fischer, J., George, J., Johnston, J., Matthews, A., Newman, J., Proudfoot, P., & Weekley, J. (2006). *Australian Trends in Ecstasy and Related Drug Markets 2005: Findings from the Party Drugs Initiative (PDI)* (NDARC Monograph). Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

ISSN: 14459833

Acknowledgements:

Thanks to Peter Burke and Shell McConville of the ABS for their assistance with this bulletin.

National Drug and Alcohol Research Centre University of New South Wales Sydney NSW 2052
Ph: (02) 9385 0333 Fax: (02) 9385 0222 <http://ndarc.med.unsw.edu.au>