Part A—Background

2 Suicide statistics in Australia

Official statistics on suicide (or deaths as a result of intentional self-harm, ISH) are produced and published by the ABS annually. A report on causes of death, which is published every year, includes some data on suicides (ABS 2008b). A report specifically on suicide mortality is published in some years (ABS 2003, 2004, 2006b, 2007c). Each report normally focuses on deaths registered in a particular calendar year, and is released about a year after the end of the reference year (longer in recent years).

The latest publication of summary statistics on deaths registered in Australia where the underlying cause of death was recorded as ISH was published by the ABS in March 2008 and covers the years 1997–2006 (ABS 2008b). The notes section of the previous edition, *Causes of death, Australia, 2005* (ABS 2007a), cautions readers about the quality of the data in the report:

> The quality of cause of death coding is affected by a range of factors including delays in finalising coronial processes. The level of recorded deaths attributed to suicide, and observed changes over time are likely to have been affected by delays in finalising a cause (p. 2).

This caution, or a similar one, has appeared in all recent ABS publications in which suicide statistics are presented. The issue of the potential under-enumeration of suicide deaths was also a focus of an information paper released by the ABS in 2007 on the quality of external cause coding of deaths in Australia (ABS 2007b).

This section of the report presents information from the ABS causes of death reports for the period 1997–2006. The aim is to present the data which are the subject of the rest of the report.

The contents of this section are largely limited to the information contained in the ABS publication *Causes of death, Australia, 2006* (ABS 2008b) and available data cubes. Some use has also been made of the unit record mortality data file. Note that the ABS can provide a more detailed breakdown of suicide data on request.

2.1 Number of suicide deaths recorded by year

According to the ABS, the annual number of suicide deaths registered in Australia decreased from 2,722 in 1997 to 1,799 in 2006. A decline was evident for both males and females (Table 2.1).

Table 2.1: Number of suicide deaths in Australia according to ABS causes of death data by sex and year of death registration, 1997–2006

Year	Males	Females	Persons
1997	2,145	577	2,722
1998	2,150	533	2,683
1999	2,002	490	2,492
2000	1,864	503	2,367
2001	1,936	521	2,457
2002	1,817	503	2,320
2003	1,737	477	2,214
2004	1,661	437	2,098
2005	1,658	444	2,102
2006	1,398	401	1,799

Note: The suicide data published in the 2006 causes of death report (ABS 2008b) differ slightly from the data published in the 2005 suicide report (ABS 2007c). The differences are a small increase in the total number of suicide cases for 5 of the 10 years described. The differences are small; for example, the causes of death publication reports 2,722 suicide deaths occurring in 1997 whereas the 2005 suicide publication reports 2,720 suicide deaths occurring in 1997.

Source: ABS 2008b:Table 4.1.

The median age at death for suicide in 2006 was 43.7 years for males and 45.1 years for females. Age-specific annual counts of deaths registered as suicide are shown in Table 2.2. Large decreases can be seen in the age categories younger than 45 years and (though less markedly) older than 64 years. Suicide counts more than halved in the 10-year period for 15–24 year olds and 25–34 year olds.

Table 2.2: Number of suicide deaths registered in Australia by selected age groups and year of death registration, 1997–2006

Year	15–24	25–34	35–44	45–54	55–64	65+	Total
1997	510	655	553	390	234	365	2,722
1998	446	700	614	386	216	313	2,683
1999	380	623	531	409	218	313	2,492
2000	339	582	576	359	197	305	2,367
2001	339	594	567	417	224	305	2,457
2002	317	546	553	396	214	286	2,320
2003	300	518	484	392	213	293	2,214
2004	265	471	473	346	208	326	2,098
2005	290	442	465	400	211	283	2,102
2006	244	292	393	363	236	263	1,799

Source: ABS 2008b:Table 4.1.

Trends in the annual number of suicide deaths registered have differed across the Australian jurisdictions (Table 2.3). The annual count for New South Wales declined greatly, from more than 900 to about 500, whereas that for Tasmania tended to increase (with fluctuations), and other patterns are seen for the remaining jurisdictions.

Table 2.3: Deaths coded as suicide by jurisdiction and year of registration, 1997–2006

Year	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
1997	935	670	535	196	255	51	38	42	2,722
1998	862	579	579	244	287	59	42	31	2,683
1999	869	552	480	200	236	78	32	45	2,492
2000	733	512	541	199	261	50	42	29	2,367
2001	785	541	500	208	270	64	43	46	2,457
2002	692	528	537	170	242	70	55	26	2,320
2003	640	540	466	193	227	69	44	35	2,214
2004	587	521	453	178	194	88	51	26	2,098
2005	549	506	459	231	203	74	45	35	2,102
2006	504	444	340	170	207	73	29	32	1,799

Source: ABS 2008B:Table 4.5.

In the same period, the number of deaths coded to ill-defined and unspecified causes of mortality (R99) rose substantially, especially after 2002 (Table 2.4), when the number more than doubled. The ABS has attributed this to its increased reliance on the NCIS (ABS 2008b, Explanatory note 68). Cases coded as unattended deaths (R98) also rose until 2005. As noted by the ABS (ABS 2008b, Explanatory note 67), the decline of R98 cases in 2006 and the further increase of R99 cases reflect correction of an error in coding software that had assigned 'natural causes' deaths with no further information to R98 until 2006. A dip in the number of injury and poisoning deaths coded to undetermined intent was noticeable in the middle of the period, but by 2006 the number registered was similar to that in 1997. The number of deaths coded as accidental threats to breathing (W75–W84) also rose after 2002. These are categories to which ISH deaths by hanging are likely to be coded if information available to the coder is incomplete.

Table 2.4: Accidental threats to breathing, undetermined intent, unattended and ill-defined deaths by year of death registration, Australia, 1997–2006

Year	Unattended death (R98)	Other ill-defined and unspecified causes of mortality (R99)	Other accidental threats to breathing (W75–W84)	Events of undetermined intent (Y10–Y34)
1997	79	87	171	131
1998	4	329	231	135
1999	72	221	210	86
2000	140	221	212	51
2001	128	120	217	72
2002	177	206	222	65
2003	150	456	275	67
2004	277	430	342	81
2005	231	495	260	105
2006	57	1,131	409	135

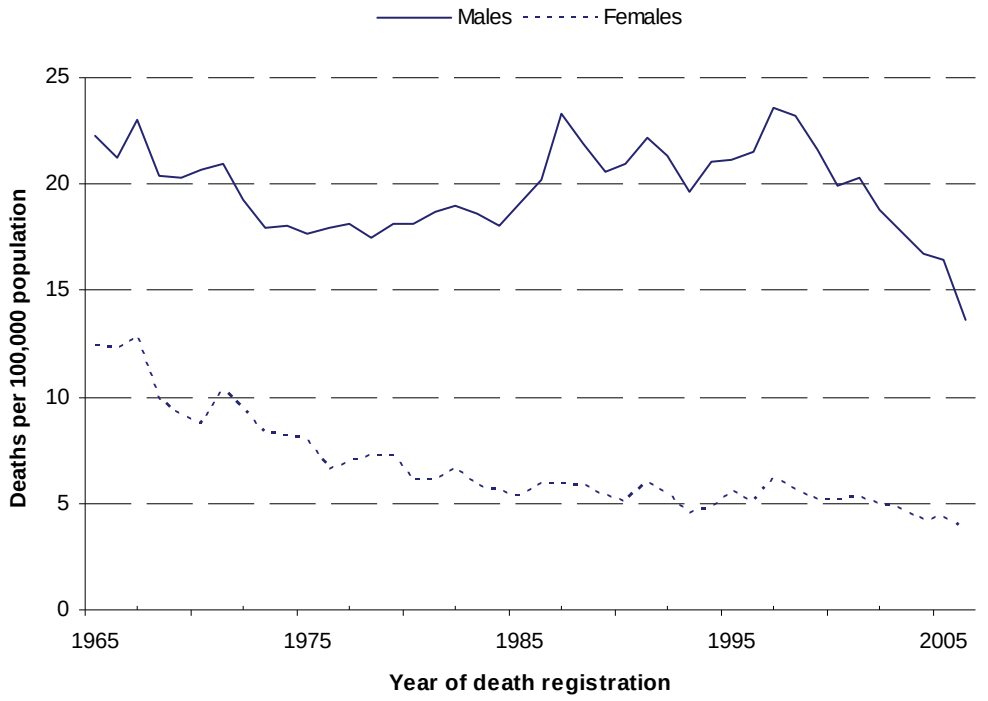
Source: National Injury Surveillance Unit, using ABS mortality data.

2.2 Trends in suicide rates

During most of the 20th century, age-adjusted suicide rates in Australia, calculated on the basis of mortality data, fluctuated around 20 deaths per 100,000 population for males, and 5 deaths per 100,000 population for females (Steenkamp & Harrison 2000).

Age-adjusted rates based on ABS data for the period since the mid-1960s are shown in Figure 2.1, and the charted rates are presented in Table A.1 (in the Appendix). Male and female suicide rates peaked in the mid-1960s because of an epidemic of barbiturate poisoning, which declined during the next decade (Steenkamp & Harrison 2000). Rates for males rose again in the late 1980s (largely due to a rise in rates among young men) then remained at a higher but fluctuating level until a peak in 1997 and 1998, since when rates have fallen (Kreisfeld et al. 2004). Male and female rates have declined by about the same proportion since the peak in the late 1990s.

If these data are reliable, then the rates in the most recent 2 or 3 years charted were at historically low levels. The rate of suicide in males in 1997 was 29.8 per 100,000 and 17.0 per 100,000 in 2006. Equivalent rates for females were 7.8 and 4.8 per 100,000.



Source: National Injury Surveillance Unit, based on ABS mortality data. Age adjustment is by the direct method, using Australia 2001 as the reference.

Figure 2.1: All ages age-adjusted rates of suicide by sex, deaths registered in Australia 1965–2006

2.3 Methods of suicide

The most frequently used method of suicide in all years since 1997 was hanging (Table 2.5). Poisoning by other methods (which includes carbon monoxide poisoning) was the next most frequent, followed by poisoning by drugs, and firearms. The largest decreases over the period were seen in suicide by firearms (329 cases in 1997 down to 155 cases in 2006), poisoning by other methods (671 cases in 1997 down to 249 cases in 2006) and drowning (73 cases in 1997 down to 41 cases in 2006). Suicide by hanging, the most frequently used method, has shown large fluctuations from year to year, being highest in 1998 and lowest in 2006.

Table 2.5: Number of suicide deaths by selected external cause groups and year of death registration, Australia, 1997–2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Poisoning by drugs	309	310	278	273	285	287	278	229	247	185
Poisoning by other[(a)]	671	586	595	574	513	439	415	402	337	249
Hanging[(b)]	987	1,217	1,028	989	1,050	1,045	996	998	1,068	940
Drowning and submersion	73	50	36	47	52	40	46	55	40	41
Firearms	329	235	269	222	261	217	193	167	147	155
Contact with sharp object	53	48	43	36	49	55	47	51	45	38
Falls	116	97	99	72	99	106	82	95	92	73
Other[(c)]	184	140	144	154	148	131	157	101	126	118

(a) Includes poisoning by other gases and vapours (including motor vehicle exhaust).

(b) Includes strangulation and suffocation.

(c) Includes explosives, smoke/fire/flames, blunt object, jumping or lying before moving object, crashing of motor vehicle, other and unspecified means. Also includes sequelae of intentional self-harm.

Source: ABS 2008b:Table 4.4.

Changes over time in the number of recorded suicide deaths by method might reflect changes in suicidal behaviour in the Australian population, perhaps because of specific influences. For example, it has been suggested that decreases in suicide using firearms could be the result of the stricter gun laws introduced in 1996 (Ozanne-Smith et al. 2004). However, part of the observed change could be due to changes in case ascertainment or coding of the data.

Under-enumeration of suicide cases could have more effect in some external cause groups than in others; for example, suicide deaths from drowning can be difficult to distinguish from unintentional deaths by the same mechanism.

2.4 Summary

In conclusion, there has been a downward trend in deaths registered as being due to suicide since about 1998. How much of this trend is due to a real decline in the number of suicide deaths and how much can be attributed to under-enumeration or misclassification is not obvious. Trends in the opposite direction for certain other ICD-10 code ranges raise the possibility of increased misclassification, especially after 2002.

The data presented in this chapter are broadly consistent with the occurrence of a recent increase in under-enumeration of ISH deaths. If a change occurred in national information systems at a specific time, with the effect that suicide deaths were, after that time, less likely to be recorded as such, then one would expect to see a consistent pattern of reducing counts overall and for subsets of cases (e.g. by sex, age or state). However, although national counts have certainly declined, examination of the patterns by age group, jurisdiction and mechanism of ISH reveals continued complexity, with some categories showing decline and others not. It is possible that a change has occurred but that its effects differ, for example, by jurisdiction.