

# 13 Suicide

## Characteristics

In 1998, suicide was the cause of 2,682 deaths (2,150 males and 532 females). By comparison, about 75% more males and 5% more females suicided than were killed in motor vehicle accidents. Suicide is much more common among males than females. Suicide and self-inflicted injury is the leading contributor to the burden of injury for males, contributing about 30%, while for females the leading contributor is road traffic accidents (26%) (Mathers et al. 1999).

People with a mental disorder are ten times more at risk of dying from suicide than is the general population (DHAC & AIHW 1998b).

Risk factors include:

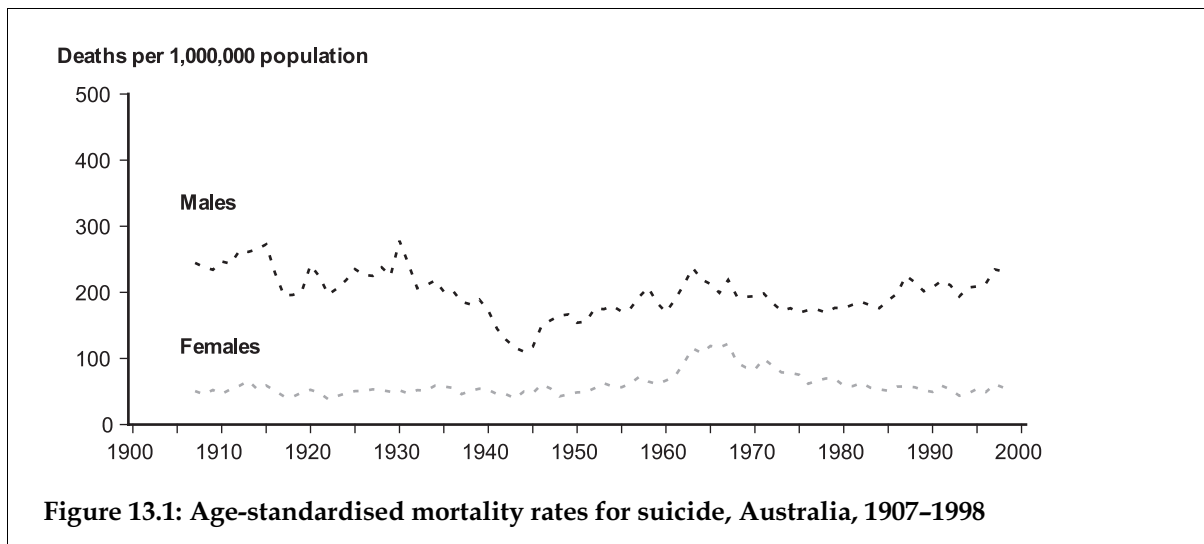
- being a young man;
- psychiatric difficulties (including depression, substance abuse, conduct problems, psychosis, past or present suicidal thoughts, threats or attempts of suicide);
- poor social adjustment (including academic failure, social isolation, legal problems, interpersonal conflict);
- previous attempted suicide;
- family or environmental problems (interpersonal loss, abuse or neglect, family history of psychiatric disorder or suicide, cultural conflict, unemployment or financial problems, exposure to suicide);
- poorer physical health (decline in health status) (NHMRC 1997; Gunnell & Frankel 1994).

In 1998, 44% (1,184 deaths) of suicides were by hanging, 20% (528 deaths) were poisoning by motor vehicle exhaust gas, 13% (336 deaths) were poisoning by solid and liquid substances (including drugs and medicaments), and 9% (234 deaths) were by firearms.

It is estimated for the past 5 years there have been about 92,000 PYLL before the age of 75 each year (ranked first for males and fourth for females on this measure). This makes suicide one of the most serious causes of premature death in Australia.

## Historic view

The collection of suicide statistics began in 1907 when the rates were 244 and 50 deaths per million population for males and females respectively. The numbers of deaths were 385 and 76 respectively. Overall, the rates of suicide have been remarkably constant over the 20th century, with some fluctuations, notably a peak during the 1930 depression and a marked decrease in male suicides during the World Wars (Figure 13.1).



## Age–sex distribution

In 1998, 2% of all deaths were due to suicide. Of these 2,682 deaths, 2,150 were male and 532 were female. The age distribution for suicide rates has been relatively consistent over the 1987–1998 period (Table 13.1; Figure 13.3).

- In 1998, the rate for males (231 deaths per million population) was about four times as high as that for females (56).
- Risk of suicide begins from age 10–14, increasing significantly from the age of 15.
- Mortality rates were highest between the ages 20–44, with 75% of male suicides and 68% of female suicides in 1998 committed by people younger than 50 years of age.
- Six per cent of male suicides occurred in those aged less than 20 (almost all of these occurred between ages 15–19), and 61% occurred between ages 20–45. This compares to 14% of male suicides in ages 60 and older, and 5% in ages 75 and older.
- For females, 7% of suicides occurred before age 20 (almost all of these occurred between ages 15–19), and 55% between ages 20 to 45, compared to 19% of suicides in ages 60 and older, and 7% in ages 75 and older.

## Twelve-year trends 1987–1998

The number of male suicides consistently outnumbered female suicides by four to one for the whole period. Changes in suicide rates have been marginal, although statistically significant for males. For males there has been a slight increase of about 0.5% per year (Figure 13.2). The increase in mortality rate is due in part to significant increases in suicide rates for males aged between 20–39 years. The increase was countered to some extent by significant decreases between the ages 55–59 and 70–79. Although there has been no significant trend for total females over the period, there was a significant increase in rates for females aged 35–39 and a significant decrease for females aged 60–69 (Table 13.1).

## Geographic differences in mortality

As discussed in Chapter 4, geographic differences are a complex interplay of many factors including socioeconomic status, occupational and environmental risk, migrant population, Aboriginal and Torres Strait Islander population, and proportion of the population living in rural and remote areas. Areas with a higher proportion of Aboriginal and Torres Strait Islander people will have higher mortality rates because of the higher mortality rates experienced by the Aboriginal and Torres Strait Islander population. Some of these factors are discussed separately below.

### State and Territory comparison

The national suicide rate increased for males and decreased for females between the periods 1987–1991 and 1994–1998 (Table 10.2). The suicide rates also showed some variation among the States and Territories. During the 1987–1991 period, compared with the national suicide rate:

- Suicide rates for males in Queensland, Western Australia, Tasmania and the Northern Territory were significantly higher.
- The suicide rate for males in New South Wales was significantly lower.
- The suicide rate for females in the Northern Territory was significantly lower.

During the 1994–1998 period:

- Suicide rates for males in Queensland, Western Australia and the Northern Territory were significantly higher.
- Suicide rates for males in Victoria and South Australia were significantly lower.
- The suicide rate for females in South Australia was significantly lower.

### Geographic category (by metropolitan, rural and remote area)

In the 3-year period 1995–1997, suicide rates were significantly different between geographic regions, with rates 46% higher for males in remote areas (298 deaths per million population) and 24% higher for males living in rural areas (253), compared to the mortality rate for males in metropolitan areas (204).

There were no significant differences by region for females. It is interesting that while males were most at risk of suicide if living in remote areas, females were least at risk (Table 13.3).

### Country of birth

For the period 1992–1994, the world-standardised suicide rate for Australian males and females born in Australia was 393 deaths per million population for males and 59 deaths per million population for females (Table 13.5).

- Of the 25 countries of birth analysed for Australian males and females, none had significantly higher suicide rates than Australian males and females born in Australia.

### International comparisons

- The world-standardised rate for Australian males was about mid-range and similar to Poland, New Zealand, Canada, Mauritius, Germany, Japan and the USA.

- The rate for Australian females was mid- to low-range and similar to Canada and Poland.
  - Rates for males were among the highest in Hungary and Finland (about twice the Australian rate).
  - Greek and Italian rates for males were among the lowest (about half the Australian rate).
  - Suicide rates for females were highest in China, Hungary and Finland (two to four times the Australian rate).
  - Suicide rates for females were lowest in Italy and Greece (about half the Australian rate).
- See Tables C.2 & C.3 in Appendix C.

## **Socioeconomic status**

In the 3-year period 1995–1997, there was a general inverse trend for mortality rates by socioeconomic status for males, using the SEIFA Index of Relative Socioeconomic Disadvantage (Table 13.4) (see Appendix D). The suicide rate was significantly higher (52% higher) for males in the lowest socioeconomic group (260 deaths per million population) compared with males in the highest socioeconomic group (171).

For females there were no significant differences between the five socioeconomic groups.

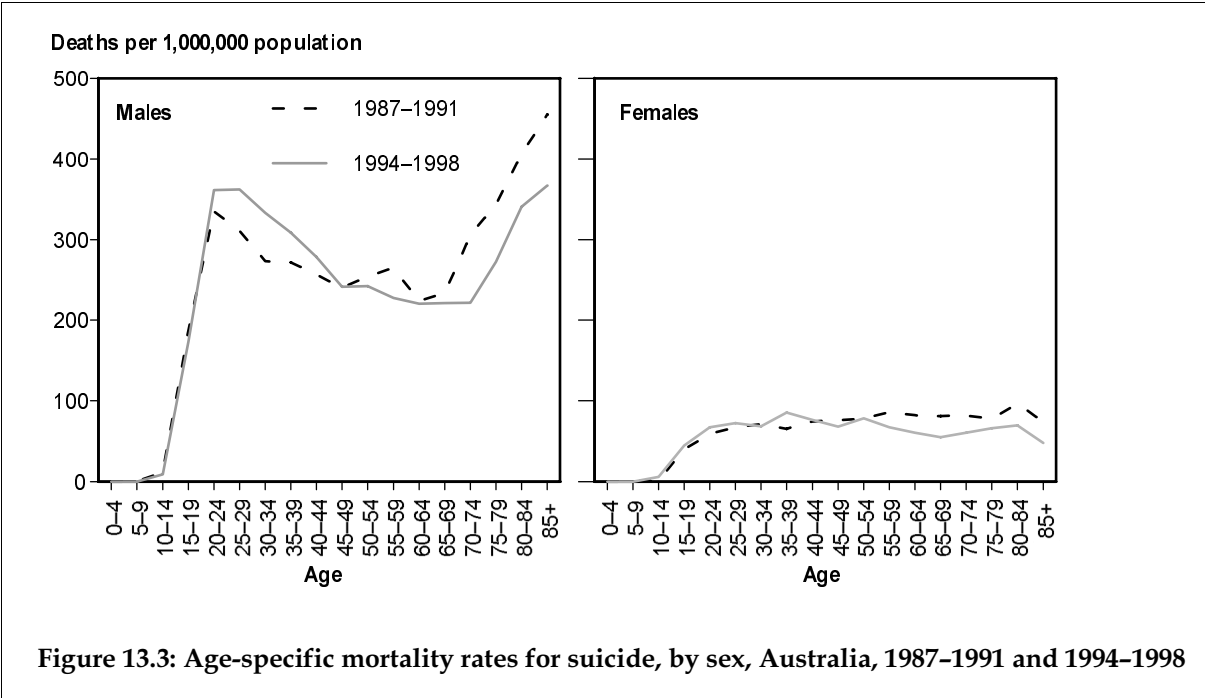
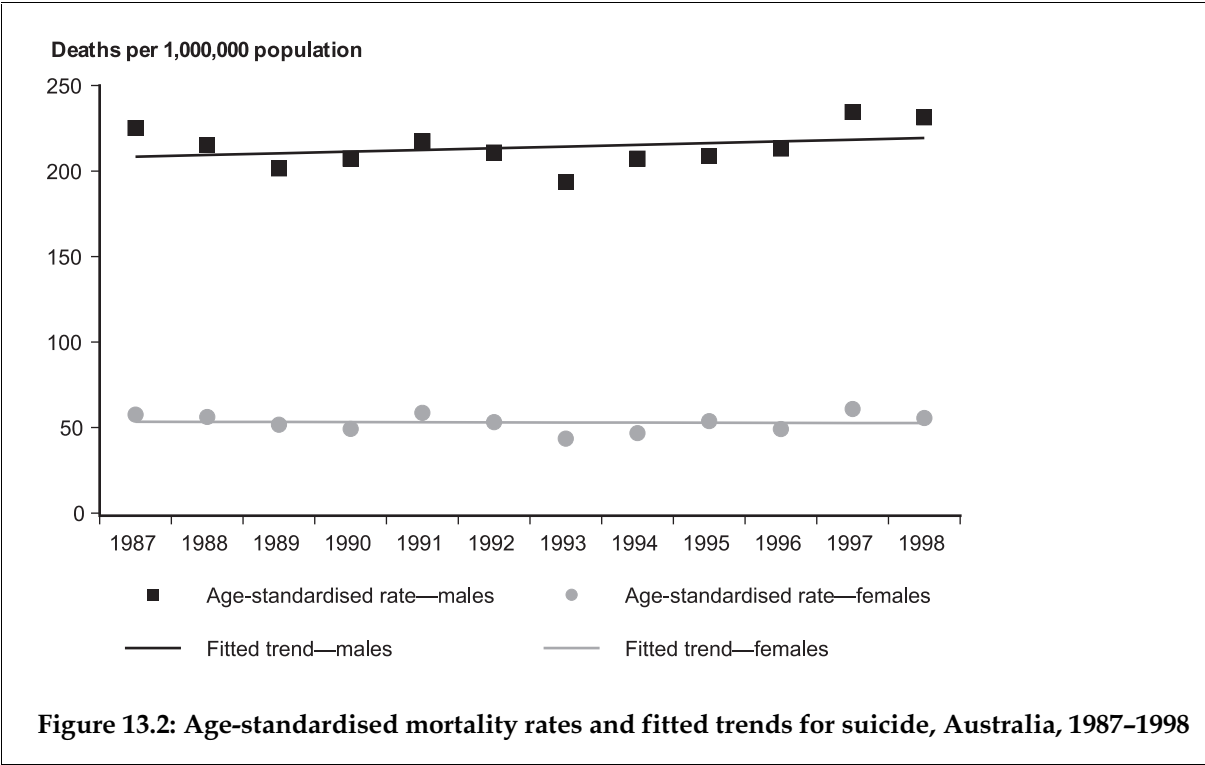


Table 13.1: Age-specific and age-standardised mortality rates for suicide per million population, Australia, 1987–1998

Year	Age																Crude rate	ASMR Aust 1991		
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79			80-84	85+
	<b>Males</b>																			
1987	0	0	18	172	319	310	265	269	292	246	312	344	245	233	357	392	568	469	218	225
1988	0	0	9	210	352	298	267	239	283	254	234	224	252	243	324	412	312	528	210	215
1989	0	0	13	184	297	323	276	247	200	243	234	259	197	231	325	347	298	425	198	202
1990	0	0	9	178	365	328	253	261	248	209	221	267	228	252	275	252	359	505	204	207
1991	0	0	9	190	344	293	304	342	264	251	274	229	196	212	249	327	498	362	214	217
1992	0	0	8	184	349	326	282	268	230	278	233	214	248	255	297	290	283	401	209	211
1993	0	0	6	167	320	292	282	222	205	259	204	219	240	224	243	233	365	437	192	193
1994	0	0	5	186	345	300	284	250	273	243	253	231	231	229	246	276	335	413	206	207
1995	0	0	8	151	348	341	327	309	243	242	234	266	195	188	200	230	331	405	208	209
1996	0	0	10	174	334	332	318	322	265	231	222	222	249	202	246	290	397	299	212	213
1997	0	0	12	184	423	404	346	292	314	236	253	226	225	229	245	358	341	406	233	235
1998	0	0	9	172	359	426	394	366	295	255	249	197	203	260	171	209	300	322	231	231
	<b>Females</b>																			
1987	0	0	2	62	58	64	57	74	77	85	87	101	73	98	90	91	81	31	57	58
1988	0	0	2	38	52	62	82	79	70	83	82	72	103	70	78	73	147	100	56	56
1989	0	0	2	19	50	69	68	54	81	61	82	80	89	105	83	70	67	87	52	52
1990	0	0	0	50	39	59	81	53	65	71	65	67	57	77	81	77	100	76	50	49
1991	0	0	3	32	94	80	67	68	80	80	75	112	89	57	78	80	89	73	59	59
1992	0	0	3	48	65	61	80	66	78	61	68	76	66	68	72	100	53	78	54	53
1993	0	0	2	30	51	56	55	77	42	75	65	51	50	56	63	70	88	25	44	44
1994	0	0	5	27	56	63	57	79	67	64	66	60	67	39	57	70	72	71	48	47
1995	0	0	0	47	78	71	68	70	81	78	86	78	53	65	43	56	87	30	55	54
1996	0	0	11	42	44	69	65	89	66	78	76	52	53	42	70	57	45	35	50	49
1997	0	0	11	52	89	81	78	86	84	70	95	76	66	71	67	82	61	60	62	61
1998	0	0	2	55	71	76	75	103	83	51	68	70	62	57	64	63	83	45	57	56

Note: ASMR = age-standardised mortality rate.

**Table 13.2: Number of deaths and age-standardised mortality rates for suicide per million population, States and Territories, 1987–1991 and 1994–1998**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Males</b>									
	<b>Deaths</b>								
1987–1991	2,774	2,173	1,669	830	781	276	136	104	8,742
1994–1998	3,300	2,203	2,100	978	815	257	140	136	9,928
	<b>Deaths per million population</b>								
1987–1991	197	210	244	235	205	252	208	276	213
1994–1998	216	196	255	271	185	226	188	285	219
	<b>Confidence intervals (95%)</b>								
1987–1991	189–204	201–219	232–256	219–251	191–220	223–282	169–246	210–343	209–218
1994–1998	208–223	187–204	244–266	254–288	172–198	198–254	156–221	232–338	215–223
<b>Females</b>									
	<b>Deaths</b>								
1987–1991	728	624	416	193	238	60	39	13	2,311
1994–1998	858	623	503	217	180	53	40	21	2,494
	<b>Deaths per million population</b>								
1987–1991	49	57	60	54	62	52	58	31	55
1994–1998	53	53	60	59	40	43	50	61	53
	<b>Confidence intervals (95%)</b>								
1987–1991	46–53	53–62	54–66	46–61	54–70	39–65	39–77	14–48	52–57
1994–1998	50–57	49–57	55–65	51–66	34–46	31–54	34–66	28–94	51–55

**Table 13.3: Age-standardised mortality rates for suicide per million population, by geographic areas, 1995–1997**

Geographic area	Males		Females	
	ASMR	95% confidence interval	ASMR	95% confidence interval
Metropolitan	204	198–211	56	53–59
Rural	253	241–265	53	47–58
Remote	298	259–337	44	29–60

Note: ASMR = age-standardised mortality rate.

Source: AIHW Mortality Database, based on *Statistical Local Area* resident population estimates compiled by the ABS.

**Table 13.4: Age-standardised mortality rates for suicide per million population, by socioeconomic status, 1995–1997**

SEIFA quintile	Males		Females	
	ASMR	95% confidence interval	ASMR	95% confidence interval
1 High SES	171	160–182	52	46–58
2	216	203–228	57	51–63
3	221	209–234	58	52–64
4	225	212–237	50	44–56
5 Low SES	260	246–273	56	50–63

Notes

1. ASMR = age-standardised mortality rate; SES = socioeconomic status.

2. A description of the SEIFA Index of Relative Socioeconomic Disadvantage may be found in Appendix D.

Source: AIHW Mortality Database, based on *Statistical Local Area* resident population estimates compiled by the ABS.

**Table 13.5: Age-standardised mortality rates per million population for suicide, Australians by birthplace, 1992–1994**

Males			Females		
Country of birth	ASMR (world)	95% CI	Country of birth	ASMR (world)	95% CI
Poland	427	265–589	France	144	18–271
Finland	417	0–979	Israel	120	0–354
Austria	409	115–703	Austria	100	0–203
<b>Australia</b>	<b>393</b>	<b>385–402</b>	Poland	93	33–153
France	291	125–457	Canada	93	6–179
Germany	284	201–366	Korea	85	10–160
USA	227	134–321	Malta	80	0–217
Portugal	219	37–400	Japan	63	1–126
New Zealand	218	177–259	Hungary	60	8–112
Canada	203	64–342	Mauritius	60	0–129
Netherlands	181	93–270	<b>Australia</b>	<b>59</b>	<b>56–62</b>
United Kingdom and Ireland	178	157–199	Portugal	58	0–124
Hungary	170	88–252	Germany	55	21–88
Mauritius	165	15–316	New Zealand	53	32–75
Switzerland	99	0–237	United Kingdom and Ireland	51	40–62
Greece	97	28–165	Netherlands	50	14–87
Italy	88	48–129	China	47	18–77
China	86	48–124	USA	40	0–81
Singapore	77	0–155	Finland	33	0–98
Malta	76	35–118	Greece	26	11–41
Japan	67	0–144	Italy	22	10–33
Chile	64	0–127	Hong Kong and Macau	14	0–30
Hong Kong and Macau	63	18–108	Singapore	13	0–38
Korea	15	0–43	Chile	—	—
Israel	—	—	Switzerland	—	—

*Notes*

1. ASMR = age-standardised mortality rate; CI = confidence interval.
2. Age-standardised mortality rates have been standardised to the World Standard Population.