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Suicide and hospitalised self-harm in Australia

Malinda Steenkamp, James Harrison

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Note: Table 2.1 of the printed version of this report contains errors, which have been corrected in this version.

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Summary

Suicide deaths in 1998

Suicide is a prominent public health problem in Australia. Currently, more than 2,500 people die by suicide each year.

A total of 2,683 suicides were registered in 1998. Of these, 80.1% were males. The age-standardised rate for males of all ages was 23.1 per 100,000 population and 5.6 per 100,000 for females of all ages. Rates were highest for males aged 20-39 years and for males aged 80 years and older. Female rates were on average about four times less than the rates for males.

Overall, hanging was the most common method of suicide for both males and females in 1998. For males, motor vehicle exhaust gassing was the second most common method, but suicide by firearm formed only 10.1% of cases. For females, poisoning by solid or liquid substances was the second most common method used to commit suicide and firearms were used in less than 5% of suicide deaths.

The proportion of hanging in males increased from 1997 to 1998 (i.e. up from 35.9% to 47.1%), whereas the proportion for male suicides by firearm decreased from 14.4% in 1997 to 10.1% in 1998.

During 1998, the largest number of suicides was registered in New South Wales (865 cases) and the smallest number in Australian Capital Territory (30 cases). Victoria and Australian Capital Territory had suicide rates significantly lower than the national average, whereas Queensland's rate was significantly higher. However, the differences between jurisdictions are fairly small and in some other years, the rates do not vary significantly from the national average.

The highest rate for males was observed in the Northern Territory (NT) and the lowest in Victoria and Australian Capital Territory (ACT). Except for Victoria, these rates did not differ significantly from the national average rate. For females, the highest suicide rate was observed in Queensland and the lowest in ACT.

The profiles for age-specific suicide rates for males and females were fairly similar to the distribution for the whole of the country, but the profiles for Tasmania, NT and ACT were difficult to interpret because of the effect of small case counts.

In all States and Territories, except Tasmania, hanging had the highest rates of all methods used for suicide. In Tasmania, gassing by motor vehicle exhaust fumes was the most common method. Motor vehicle exhaust gassing was the second most common method for suicide in New South Wales (NSW), Victoria, Queensland, Western Australia, South Australia and ACT, while in Tasmania and NT it was firearms.

Trends in suicide deaths

Suicide is becoming relatively more prominent as a cause of 'external cause' deaths. This is especially true for male suicide deaths and is mainly because deaths from motor vehicle crashes and other 'external causes are declining and because the all-ages suicide rate for males of all ages have tended to increase slightly in recent years. This phenomenon seems to be fairly similar for females, though it is happening on a much lesser scale.

Suicide occurrences and rates rose by about 9% from 1996 to 1997, a large increase but less than the 14% increase in the number of suicide registrations. A further rise in case numbers of about 1% is likely to have occurred from 1997 to 1998.

The rise in suicide rates is largely an increase for males aged 20 to 39 years - rates for this age group have continued to increase since the late 1970s and since the early 1990s the suicide rate for this age group has been the highest for all male age groups.

Rates for men aged 40 to 59 years have remained fairly stable over time, while the rates for men aged 60 years or more have shown a steady decline.

Youth suicide has received much attention. However, rates for males aged 15-19 years have always been lower than the rates for other groups. Also, although there was a rapid rise in rates at ages 15 to 19 years in the 1980s, the rates for this age group has been fairly stable over recent years.

There seems to be a birth cohort effect for male suicide rates. When comparing rates for various age-groups of men born in particular five-year periods (e.g. 1932-1935, 1936-1940), we see that these birth cohorts all have low rates in childhood whereafter the rates rise. A disturbing phenomenon seems to be that the rise in suicide rates with maturity has been larger and steeper for the younger cohorts. It also appears as if the suicide rates reached by birth cohorts in early adulthood persists for a specific cohort.

For females, peaks in suicide rates are obvious during the 1960s. These were associated with the wide availability and use of barbiturates, other toxic sedatives and tranquillisers. These peaks were followed by decreases in rates. Recent suicide rates have shown less variation, especially between female age groups.

Hanging has become the dominant means for suicide, especially for males. Moreover, use of this means is accelerating - between 1979 and 1998 the rate of male suicide by hanging has tripled and the increase is most marked at ages 20-39 years. There has also been a strong age-cohort component to this rise.

The rate of suicide by means of a firearm has decreased, roughly in parallel with an increase in motor vehicle exhaust gassing (which became the second most common method for males in 1995).

Up to 1996, poisoning by solid or liquid substances has been the most common method of suicide for females. This suicide rate has continued to decline, showing the tail end of the epidemic of suicide by means of medications that peaked in the 1960s. However, the rate of female suicide by hanging has increased (although much less than for males) and in 1997 and 1998 hanging was a more common method than poisoning by solids or liquids for females.

Age-standardised suicide rates and trends have generally been similar for Australia's States and Territories in the period 1979-1998. The largest divergence from national rates were seen in the jurisdictions with the smallest populations, the ACT (rates tended to be relatively low) and the NT (where rates tended to be relatively high in comparison with the national average.)

All States and Territories, apart from Tasmania, showed a slight increase in age standardised suicide rates for all persons and a larger increase for males during the period 1979 until 1998. Female rates of suicide have remained stable since 1979.

On average for both males and females, the highest suicide rates were seen in the NT, followed by Queensland. The ACT had the lowest rates, while the remainder of the States had rates similar to the national average.

As for Australia overall, the highest rates of suicide in recent years for all jurisdictions occurred in males aged 20-39 years. Queensland and the NT exhibited the highest rates for this age group, whereas Victoria and ACT showed the lowest rates. The rates for females aged 20 to 39 years have shown marked fluctuations, but small numbers complicate interpretation.

Since 1979, there has been an overall increase in the rate of suicide by hanging for both males and females, in all States and Territories. This trend has been particularly marked since 1995, and has been most notable in the NT. The smallest change in rates has occurred in Tasmania.

Nationally there has been a slight trend towards increased rates of suicide by motor vehicle exhaust gassing. All States and Territories display this trend apart from Western Australia, where the rate remained fairly stable between 1979 and 1998.

Most states had similar rates for suicide by firearm to the national average, except for Queensland, the NT and Tasmania which had slightly higher rates. All States and Territories showed a decrease between 1979 and 1998.

For poisoning by solid or liquid substances, Queensland has shown higher rates than the national average, but the rates for this State are decreasing.

Issues in reporting suicide deaths

Suicide deaths may be susceptible to misclassification because the intention of the deceased is not always clear, or because social disapproval might prompt some cases to recorded as 'accidental' or 'undetermined'. Little empirical information is, however, available on the reliability of data on suicide deaths.

It is often assumed that the number of death registrations in a particular period provides a good estimate of the number of death occurrences. Recent trends in suicide registrations have indicated that this assumption needs to be investigated from time to time. The data for 1997 were a case in point.

In 1997, the number of suicide registrations was inflated by an administrative practice which had the effect of registering some deaths late in 1997. These deaths would have been registered in 1998, if previous practice had prevailed. Thus, the 14% rise in suicide registrations from 1996 to 1997 overestimated the rise in suicide occurrences, which was about 9%. The same event will probably have the opposite effect in 1998, causing registrations to underestimate case numbers. It is difficult to estimate the size of the effect, but the observed 1.5% drop in registrations could certainly be found to correspond to a small rise in cases.

It seems that registrations to the end of a calendar year are likely to include nearly all cases that occurred to the end of the month September for that particular year. Therefore, the occurrence estimate for the previous 12-month period to September should be about 99% complete and it may be worthwhile to report suicide occurrences for the time period between October of one year and September of the next.

Suicide deaths in Indigenous Australians

Particular attention should be paid to suicide deaths among Indigenous people. However, as for many other health issues, data on suicide by Indigenous Australians have special limitations. These mostly relate to the reliability of the Indigenous indicator (which almost certainly results in underestimation of the number of Indigenous deaths), as well as concerns about population estimates for Indigenous Australians.

Identification of Indigenous status is considered to be more reliable for South Australia, Western Australia and the NT. Queensland only started identification of Indigenous status for deaths registered from the beginning of 1996, although the quality of identification has been sufficient to allow publication of Indigenous deaths in 1998.

A total of 109 suicides among Aboriginal and Torres Strait Islanders were registered in 1998.

Age-standardised rates based on data from South Australia, Western Australia and the NT do not show a strong trend in the period for which data are available, but rates have increased somewhat for 1997 and 1998. The number of cases in Queensland has also shown an increase from 1996 to 1998.

These increases in numbers and rates should be treated with caution. There seems to be improvements in identifying Indigenous status among deaths. These may account (at least partly) for the rise in case numbers.

Indigenous suicide is sharply concentrated in the younger age groups for both males and females, but the male to female ratio is 6.7:1.

When compared to non-Indigenous Australians, rates for ATSI people were higher for age groups up to 45-49 years.

Hanging was the most common means of suicide for Indigenous males and females in the period reviewed. For males, the second most common method was firearms, whereas it was poisoning by solid or liquid substances for females.

The data on suicide deaths among Indigenous Australians presented in this report have several limitations, we urge that rates and trends be interpreted with caution and that frequent examination of these be done.

Hospitalised self-harm

Completed suicide is only one outcome of intentionally self-harming behaviours. One other outcome of these behaviours is hospitalisation. It is not accurate to regard hospitalised self-harm as equivalent to 'attempted suicide' for comparison with 'completed suicide'.

Also note that this source provides information on episodes of hospital in-patient care, not incident cases.

Data on hospitalised self-harm indicated that there was a total of 25,120 episodes of hospital care concluded during the financial year 1997/98. This yielded an age-standardised rate of 137.5 per 100,000 population. Of the total number of episodes, 43% were males. The age-standardised rate for males was 116.9 per 100,000, whereas the equivalent rate for females was higher (159.0 per 100,000 population). Moreover, rates for females were significantly higher than rates for males for all age groups from 10 to 14 years to 50 to 54 years, except for the age group 30 to 34 years. Overall, the male to female ratio was 0:74.

Poisoning by solid or liquid substances was by far the most common method used among self-harm hospital separations for both males (70%) and females (85%). Poisoning by tranquillisers accounted for 37% of all male separations and 47% of all female separations due to intentional self-harm by poisoning. Poisoning by aromatic analgesics (the category which includes paracetamol) was the most common means for females aged 10-19 years.

Abbreviations used

ABS	Australian Bureau of Statistics
AIHW	Australian Institute for Health and Welfare
ATSI	Aboriginal and/or Torres Strait Islander
E-code	ICD External cause code
ERP	Estimated Resident Population
ICD	International Classification of Diseases
ICD-9	International Classification of Diseases, 9th Revision
ICD NOI code	ICD Nature of Injury code
MV	Motor vehicle
n.a.	Not available
nec	Not elsewhere classified
NISU	National Injury Surveillance Unit
RCIS	Research Centre for Injury Studies
..	Not applicable

Please note:

All rates are age-standardised and per 100,000 population, unless otherwise specified.

Rates were adjusted by direct standardisation taking the Australian population in 1991 as the standard.

1 Introduction

Suicide is a prominent public health problem in Australia. Between 1979 and 1998, more than 41,000 Australians have died because of suicide and currently more than 2,500 people die by suicide each year. One particular concern is that rates for males aged 20-39 years continue to increase.

Suicide is becoming more important in relation to other causes of death. This is largely because the numbers of deaths due to other causes are decreasing, while the number of suicides overall remains fairly stable.

Hanging has become the dominant means for suicide and the use of this means is accelerating. Rates of suicide by hanging remain much higher for males than females, but are increasing for both sexes.

This Thematic Report addresses the problem of suicide in Australia and aims to:

- describe occurences of death due to suicide on the most recent data available;
- show trends in suicide deaths over time;
- profile self-harm in hospital separations;
- describe suicide deaths in Indigenous Australians; and
- highlight problems and issues in regard to current national data sources on suicide deaths and hospitalised self-harm.

The Research Centre for Injury Studies (RCIS) analysed national mortality and morbidity data in order to meet these objectives. While we have referred to other literature where it relates closely to the data we are reporting, we have not undertaken a wider review of the literature for the purposes of this report. At the time of writing, documents surveying three aspects of the literature on suicide in depth had recently been published (Commonwealth Department of Health and Aged Care and Strategy 2000).

The structure of this Thematic Report is as follows:

Section 2 presents data on suicide deaths for 1998, while the next section describes trends in suicide deaths over time. Section 4 deals with issues relating to national suicide deaths data. This is followed by a section on suicide deaths in Indigenous Australians. Section 6 discusses self-harm behaviour in national hospital separations. The References can be found in Section 7. Section 8 (i.e. the Appendices) comprises several tables with various case counts and rates.

2 Suicide deaths; 1998

(See Appendix 8.1, Tables 8.1-8.6)

Suicides in Australia are generally reported in terms of the number of cases registered by Registrars of Births, Deaths and Marriages during each calendar year. This section summarises all suicide deaths registered in Australia during 1998. It shows general age and sex distribution, goes on to discuss other issues of interest, including method of suicide, and presents data for the different States and Territories.

2.1 Age and sex distribution

In 1998 there were 2,683 suicide deaths registered in Australia. This yielded a crude annual suicide rate of 14.3 per 100,000 population and an all-ages standardised rate of 14.3 per 100,000 population. Overall, suicide made up 33.8% of injury deaths and 2% of all deaths in 1998.

Of the total number of suicides, 80.1% were males. These 2,150 suicide cases comprised 38.3% of male injury deaths and accounted for a crude annual rate of 23.1 per 100,000 population. The all-ages standardised rate for males was also 23.1 per 100,000 population.

The 533 female deaths formed 22.9% of all female injury deaths. The crude suicide rate for females in 1998 was 5.7 per 100,000 population, while the all-ages standardised rate was 5.6 per 100,000 population.

Figure 2.1 shows the age-specific rates for males and females for 1998. The highest rates were for males aged 20 to 39 years and for males aged 80 years and older. Male rates in early adulthood were significantly higher than rates for middle aged men.

A peak can be seen in the 65 to 69 year male age group (Figure 2.1). This profile was different from the pattern in 1997 and is mainly due to a large increase in suicide deaths registered in South Australia. That is, for South Australia during 1997, there were 2 suicide deaths registered in the 65 to 69 year age group, but in 1998 there were 14 deaths in this age group. Occasional variations of this size may occur by chance.[1]

For females, the rates did not vary significantly between adult age groups, even though there were two small peaks in the rates for 35-39 year and 80-84 year olds.

[1] This large increase is not a unique phenomenon: although the mean number of cases between 1979 and 1998 was 6.75, in 1981 there were 10 cases registered in this age category and in 1990 there were 14 cases.

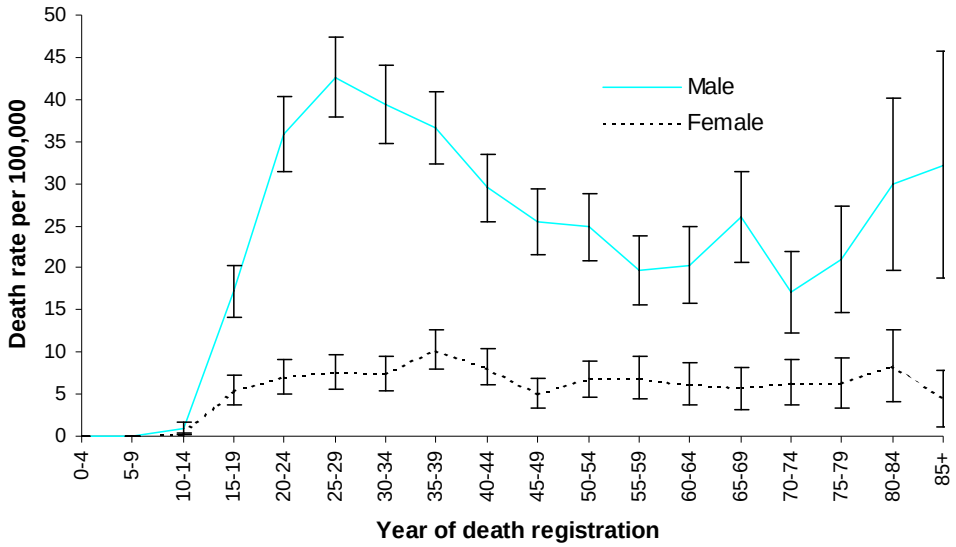


Figure 2.1 : Age-specific rates of suicide registrations for males and females by age group; Australia, 1998

Error bars indicate 95% confidence intervals for rates.

In coding causes of death for the purposes of national statistics, the ABS assumes that children under the age of 10 years are not capable of forming the intent to commit suicide.

Overall, the male to female rate ratio for registered suicide deaths was 4:1. This varied across different age groups, but Figure 2.2 shows that the rate ratio seemed to decrease up to around the early fifties. Thereafter the ratio increases and from about 74 years of age, the rise is quite steep and at 80 to 84 years the rate exceeds the rate for young person between 20 and 34 years.

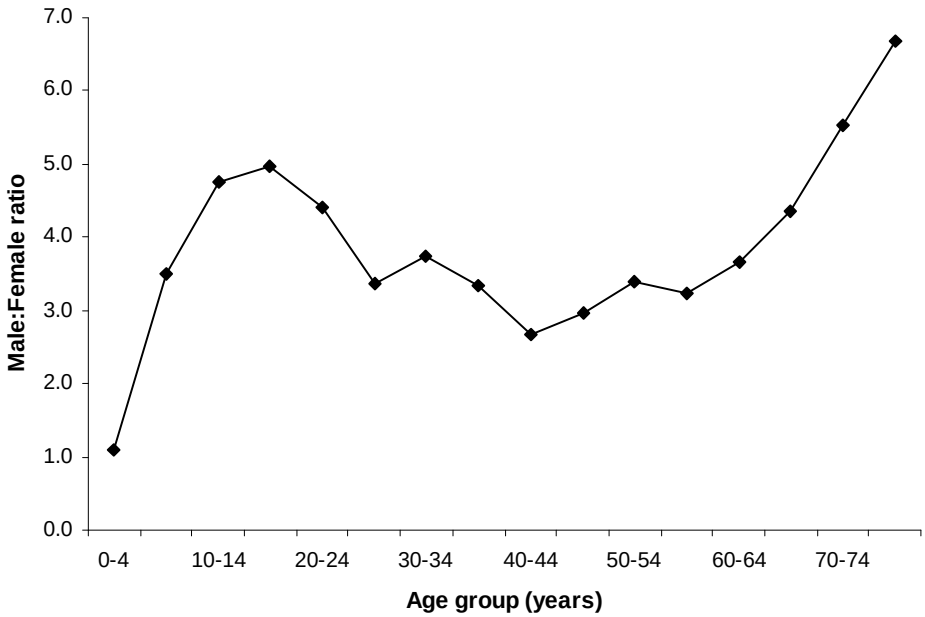


Figure 2.2 : Male to female rate ratio for registered suicide deaths; Australia, 1998

In coding causes of death for the purposes of national statistics, the ABS assumes that children under the age of 10 years are not capable of forming the intent to commit suicide.

Marital status

Table 2.1 shows that for males, close to half of registered male suicides were to unmarried males. For females, the proportion of those who were married and those who were never married were similar.

Table 2.1 : Marital status by sex; Australia 1998

Marital status	Males	Per cent	Crude rates	Females	Per cent	Crude rates
Never married	1007	47%	39.3	193	36%	9.2
Married	734	34%	17.8	191	36%	4.6
Divorced	237	11%	51.5	83	16%	14.5
Widowed	60	3%	34.0	48	9%	6.4
De facto or tribally married [(a)]	60	3%	-	9	2%	
Unknown/not stated	52	2%	-	9	2%	
Total	**2,150**	**100%**		**533**	**100%**	

Sections shaded in blue indicate the most common category or highest rate. Those shaded in grey indicate the second most common.

(a) The categories 'De facto' and 'Tribally married' were combined. The category 'de facto' was only used in NSW and NT. In 1998 there were 59 male and 9 female suicide cases which were classified as 'de facto'. One male was categorised as tribally married.

Crude rates were calculated using estimates of the Australian resident population of males and females aged 15 years and older at 30 June 1998, by marital status (ABS 3310.0 1999 ed). Suicide cases aged less than 15 years were omitted from the numerator (n=7).

In 1998, divorced males had the highest suicide rate, followed by males who were never married (Table 2.1). Widowed men had the lowest crude suicide rate. For females, the rates were much lower than the rates for males and the highest suicide rate was in the divorced group, followed by those who were never married, and those who were widowed. Married women had the lowest suicide rate.

Immigrant status

Of the 2,683 deaths due to suicides, 547 (21%) occurred in persons who were not born in Australia. For males of all ages, 20% of the registered suicide cases were born outside Australia, whereas the proportion females was 25% in 1998.

The crude suicide rate for males not born in Australia (19.0 per 100,000 population) was slightly lower than the rate for Australian-born males (23.5 per 100,000)[2], whereas the comparable rates for females were very similar, i.e. 6.0 for those born outside Australian and 5.3 for Australian-born females.

The mean number of years residing in Australia was 25.3 years (±13.7 years) for males committing suicide, with the range from less than one year to 71 years. For female suicides, the average duration of residency was 24.0 years (± 14.9) with a range of a few months to 56 years.

[2] There were 61 male cases and 18 female cases where immigrant status was unknown.

2.2 Method of suicide

Overall, hanging was the most common method of suicide for both males and females in 1998 (Table 2.2).

Table 2.2 : Method of suicide, by sex, Australia 1998

Method [(a)]	Males counts	Per cent	Females counts	per cent
Hanging	1,012	47.1%	172	32.3%
Motor vehicle (MV) exhaust gassing	451	21.0%	77	14.4%
Firearm	217	10.1%	17	3.2%
Poisoning (solids & liquids)	178	8.3%	158	29.6%
Cutting/piercing	38	1.8%	10	1.9%
Other/unspecified	254	11.8%	99	18.6%
Total	**2,150**	**100%**	**533**	**100%**

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

(a) Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0; Firearm: 955.0-.4; Poisoning (solids or liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

Figure 2.3 shows the suicide rates for various methods for different age groups. Hanging was the leading method of suicide in males aged 10 to 84 years. For males aged between 20 and 65 years, motor vehicle exhaust was the second most common method used to commit suicide, whereas firearms were more prominent as a means of suicide in the older male age groups.

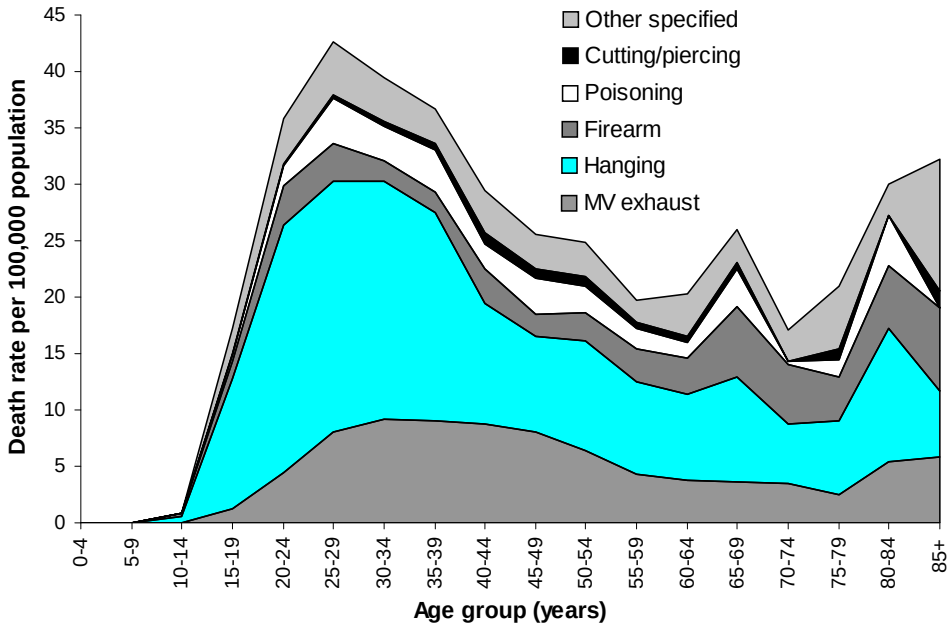


Figure 2.3 : Methods of suicide - male rates by age group; Australia, 1998

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0; Firearm: 955.0-.4; Poisoning (solid, liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

Hanging was the most common method of suicide for young females and poisoning by solid and liquid substances was the most common method for middle-aged and older women (Figure 2.4).

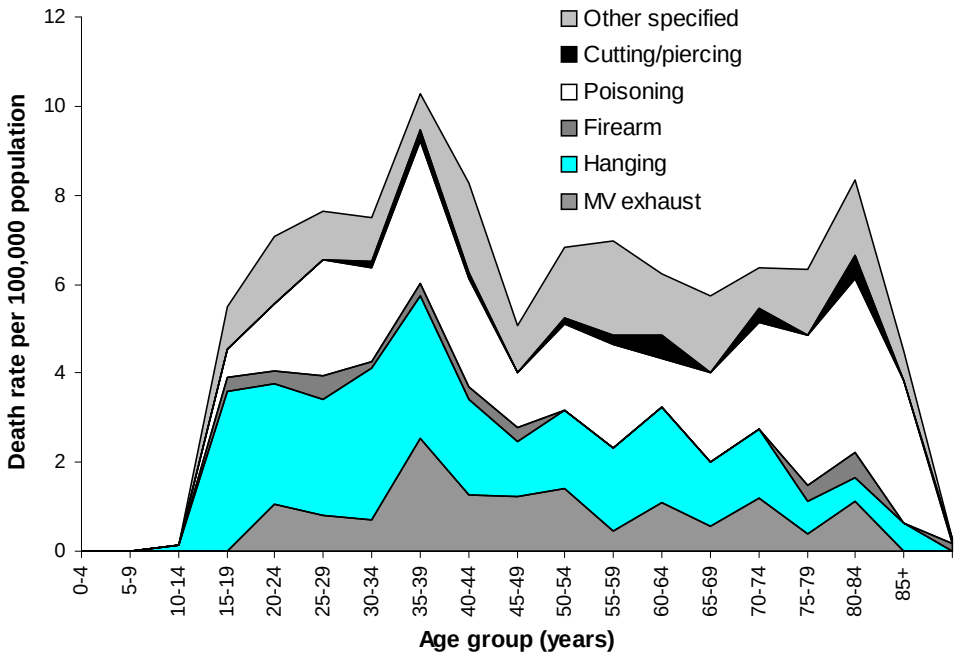


Figure 2.4 : Methods of suicide - female rates by age group; Australia, 1998

In one case, the age was unknown.

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0; Firearm: 955.0-.4; Poisoning (solid, liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

Hanging

Over all ages hanging is becoming a very common method of committing suicide.

Of male suicides, about two-thirds of young males aged between 10 and 24 years old hanged themselves, whereas the proportion for men aged 25 to 39 years was lower – about half of these males chose hanging as method of suicide. For males between 40 and 84 years, hanging made up at least one-third of the suicide cases.

The proportion of suicide deaths by hanging increased between 1997 and 1998: in 1997 hanging formed 35.9% of registered suicide deaths in males, but in 1998 it comprised 47.1%.

Motor vehicle exhaust

Suicide by motor vehicle exhaust gassing was the second most common method for males aged 20 to 65 years, but it did not feature prominently as a cause of suicide for females during 1998.

Firearm

Male suicides by firearms declined from 1997 to 1998. In 1997 firearms comprised 14.4% of suicide deaths and in 1998 the proportion was 10.1%.

For males the most common gun used in suicide was a hunting rifle (Table 2.3). For females, hunting rifles were also the most common type of gun used, but handguns and shotguns made up larger proportions than for males. It is unknown whether this reflects the type of gun owned/available or whether it signifies a different preference for males and females, or even a combination of both.

Table 2.3 : Type of gun used in suicide by sex; Australia, 1998

Type of gun	Males	per cent	Females	Per cent
Hunting rifle	122	55.9%	7	41.2%
Shotgun	42	19.3%	5	29.4%
Handgun	18	8.3%	3	17.6%
Other and unspecified firearm	35	16.5%	2	11.8%
Total	**217**	**100%**	**17**	**100%**

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

Poisoning by solid or liquid substances

Poisonings (solid or liquid substances) had different rank orders for males and females (Table 2.2). Yet, when age-specific rates for 1998 are analysed, the profiles for males and females were similar (Figure 2.5).

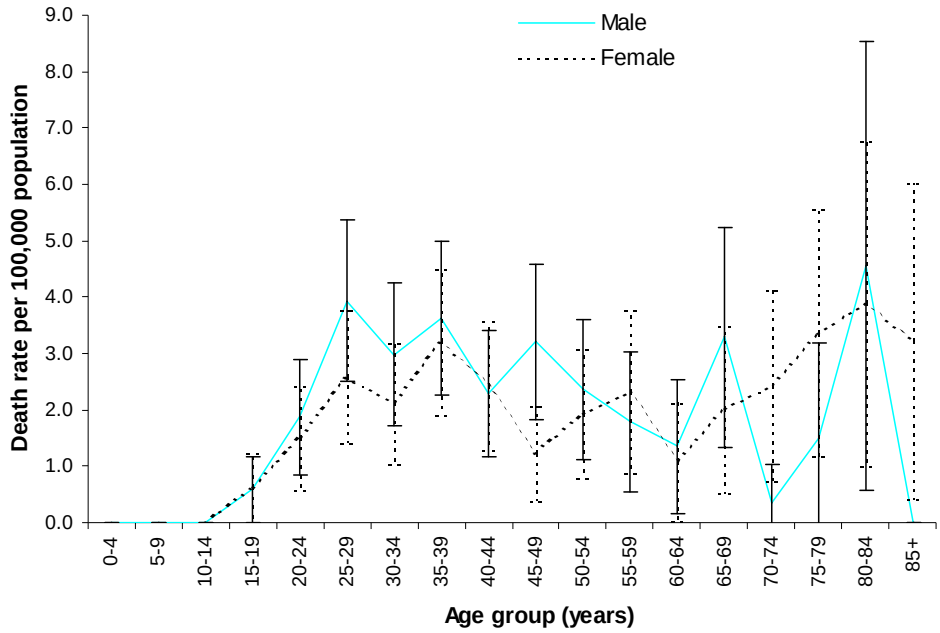


Figure 2.5 : Suicide rate of poisoning by solid and liquid substances, by sex and age group; Australia, 1998

Error bars indicate 95% confidence intervals for rates.

Table 2.4 gives the different types of substances used in poisoning suicides registered in 1998. The categorisation is limited by the codes provided in the ninth revision of the International Classification of Diseases (ICD-9).

Table 2.4 : Type of solid or liquid substances used in poisoning suicides; Australia, 1998

Type of substance according to ICD-9 E-codes	Males	Per cent	Females	Per cent
Other specified drugs and medicinal substances (E950.4)	70	39.3%	69	43.7%
Analgesics, antipyretics, and antirheumatics (E950.0)	37	20.8%	20	12.7%
Tranquillisers and other psychotropic agents (E950.3)	30	16.9%	49	31.0%
Unspecified drug or medicinal substance (E950.5)	16	9.0%	11	7.0%
Agricultural and horticultural chemical and pharmaceutical preparations other than plant food and fertilisers (E950.6)	9	5.1%	1	0.6%
Barbiturates (E950.1)	3	1.7%	4	2.5%
Corrosive and caustic substances (E950.7)	3	1.7%	1	0.6%
Arsenic and its compounds (E950.8)	2	1.1%	0	-
Other sedatives and hypnotics (E950.2)	1	0.6%	0	-
Other and unspecified solid and liquid substances (E950.9)	7	3.9%	3	1.9%
Total	**178**	**100%**	**158**	**100%**

Sections shaded in blue indicate most common method and those shaded in grey the second most common method.

For both males and females 'other specified drugs and medicinal substances' were the most common cause of solid or liquid poisoning. For females the second most common cause of poisoning by solid or liquid substances was tranquillisers and other psychotropic agents, but for males it was analgesics, antipyretics and antirheumatics.

Since 1997 multi-cause coding of deaths has been initiated by the Australian Bureau of Statistics (ABS). These data provide ICD nature of injury codes in addition to the ICD External cause code (which was the only code available before 1997). These nature of injury codes were analysed for cases where the three digit E-code was E950 (i.e. cases of intentional self-poisoning by solid or liquid substances). Four groups of substances received particular attention. These were chosen because they were particularly common among cases of hospitalised self-harm (see Section 6.2.3) or deaths.

The analysis of ICD nature of injury (NOI) codes showed that among self-poisoning cases due to solids and liquids, 29.2% of the cases had opiates and related narcotics (ICD NOI-code 965.0) as at least one of the drugs taken (Table 2.5). The proportion for antidepressants (ICD NOI-code 696.0) was 28.3%, and for aromatic analgesics (ICD NOI-code 965.4) was 10.7%.

There were differences in proportions for males and females (Table 2.5). For men, opiates were more commonly present, whereas antidepressants were more often among the drugs present for females.

Table 2.5 : Suicide by poisoning (solids & liquids) - selected drug types that were at least one of the substances mentioned in the multi-cause nature of injury codes; Australia 1998

Sex	Age group (years)	Opiates and other related narcotics (NOI code 965.0)		Aromatic analgesics nec (NOI code 965.4)		Andidepressants (NOI code 969.0)		Benzodiazepine-based tranquillisers (NOI code 969.4)		Total no. of cases	
		Counts	*Per cent*	*Counts*	*Per cent*	*Counts*	*Per cent*	*Counts*	*Per cent*	*Counts*	*Per cent*
Male	10-19	1	1.8%	1	7.1%	0	0.0%	1	2.9%	4	2.2%
	20-29	25	44.6%	4	28.6%	8	20.0%	9	26.5%	42	23.6%
	30-39	19	33.9%	6	42.9%	8	20.0%	11	32.4%	48	27.0%
	40-49	3	5.4%	1	7.1%	12	30.0%	5	14.7%	37	20.8%
	50-59	5	8.9%	1	7.1%	8	20.0%	3	8.8%	22	12.4%
	60-69	2	3.6%	1	7.1%	4	10.0%	3	8.8%	16	9.0%
	70-79	0	0.0%	0	0.0%	0	0.0%	1	2.9%	4	2.2%
	80+	1	1.8%	0	0.0%	0	0.0%	1	2.9%	5	2.8%
	Total males	*56*	*100.0%*	*14*	*100.0%*	*40*	*100.0%*	*34*	*100.0%*	*178*	*100.0%*
Female	10-19	2	4.8%	0	0.0%	1	1.8%	0	0.0%	4	2.5%
	20-29	10	23.8%	4	18.2%	11	20.0%	5	11.1%	29	18.4%
	30-39	12	28.6%	7	31.8%	14	25.5%	9	20.0%	39	24.7%
	40-49	5	11.9%	4	18.2%	14	25.5%	8	17.8%	25	15.8%
	50-59	7	16.7%	2	9.1%	8	14.5%	7	15.6%	21	13.3%
	60-69	0	0.0%	1	4.5%	2	3.6%	2	4.4%	11	7.0%
	70-79	3	7.1%	2	9.1%	4	7.3%	7	15.6%	17	10.8%
	80+	3	7.1%	2	9.1%	1	1.8%	7	15.6%	12	7.6%
	Total females	*42*	*100.0%*	*22*	*100.0%*	*55*	*100.0%*	*45*	*100.0%*	*158*	*100.0%*
	Total persons	**98**	**29.2%**	**36**	**10.7%**	**95**	**28.3%**	**79**	**23.5%**	**336**	**100.0%**

Sections shaded in blue indicate highest case counts and per cent, while those shaded in grey indicate the second highest.

Other methods used

'Other/unspecified' method was often a second most common cause of suicide in females. These cases mostly comprised jumping from heights (26 out of 99 cases), jumping in front of moving vehicles (22 cases), drowning (20 cases), as well as immolation and strangulation/suffocation by means other than hanging (10 cases each).

For males of all ages, jumping from heights made up 71 out of the total 254 cases, followed by jumping in front of moving vehicles (54 cases), drowning (30 cases) and gassing other than motor vehicle exhaust gassing (27 cases). In males aged 85 years or more, 'other specified' methods were the most common method used to commit suicide. These were mostly due to drowning - six out of the eight cases registered.

2.3 Data for States and Territories

Age and sex distribution

During 1998, the largest number of suicides was registered in NSW (865), followed by Victoria (584). The least number of suicides (30) was registered in the ACT.

Age-standardised rates of suicide varied between States and Territories in 1998. Victoria and ACT (12.4 and 9.9 per 100,000 population, respectively) had suicide rates significantly lower than the national average (14.3 per 100,000), whereas Queensland had a rate that was significantly higher (16.6). Hence the differences between jurisdictions are not very large and do not reach significance (on this criterion) in some other recent years.

Figures 2.6 and 2.7 show the age-standardised rates for males and females for the various States and Territories.

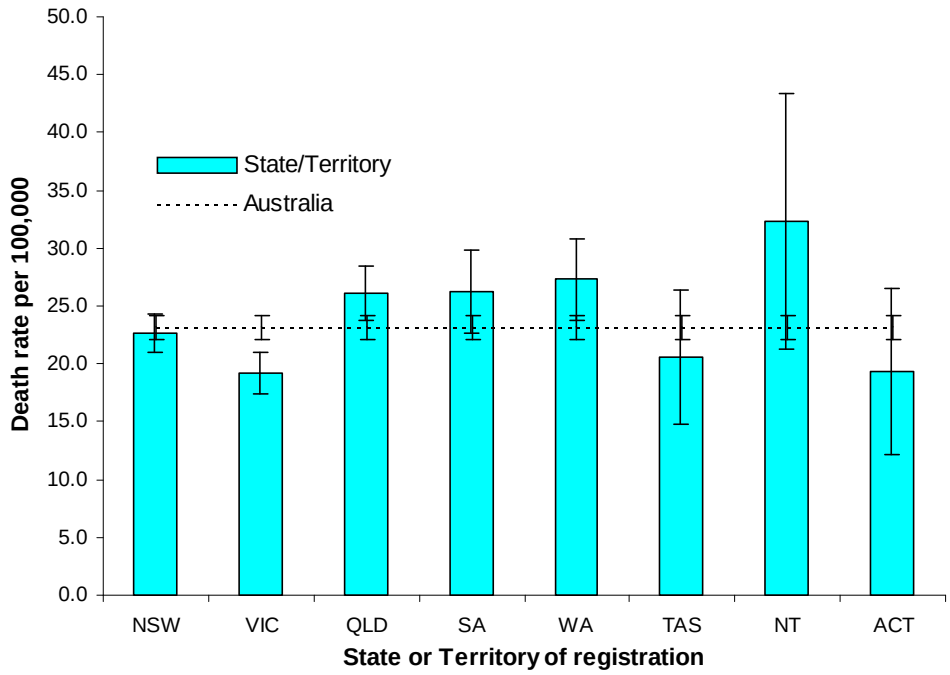


Figure 2.6 : Age-standardised suicide rates by State or Territory for males; Australia, 1998

Error bars indicate 95% confidence intervals for rates.

The highest suicide rate among males was seen in Northern Territory at 32.3 per 100,000 population. The lowest rates occurred in Victoria and ACT (19.2 and 19.3 per 100,000 population, respectively). The male suicide rate for Victoria was significantly lower than the national average, but the rate for ACT was not. Northern Territory, Western Australia, South Australia and Queensland had male rates that were higher than the national average, but none of these differed significantly from the national average rate in 1998.

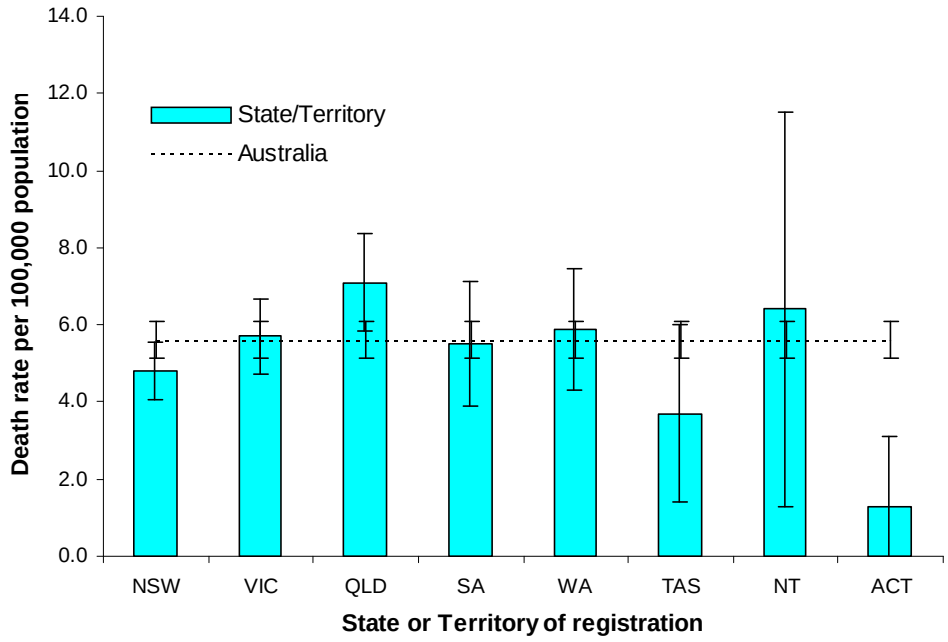


Figure 2.7 : Age-standardised rates by State or Territory for females; Australia, 1998

Error bars indicate 95% confidence intervals for rates.

The scale for the y-axis is different from the one used in Figure 2.6.

The highest rate of suicide amongst females was seen in Queensland at 7.1 per 100,000 population, followed by Northern Territory and Western Australia at 6.4 and 5.9, respectively. The lowest rate occurred in ACT (1.3 per 100,000 population). This was also the only rate that differed significantly from the national average rate for females. (Please note that the female rates are affected small numbers, e.g. there were only two cases of female suicide in ACT in 1998.)

For NSW, Victoria, Queensland, South Australia and Western Australia, the profiles for age-specific male and female suicide rates were fairly similar to the distribution for the whole of the country, i.e.

- rates were highest for young males aged 20 to 39 years and for older males;
- rates for females were lower than the male rates.

NSW, Western Australia and Victoria showed small peaks in the 65-69 year age group, while South Australia showed a very large peak in this age group (also see Figure 2.1).

The age-specific profiles for Tasmania, NT and ACT were difficult to interpret because of the distortion caused by small numbers.

The overall male to female ratios for the various states seemed to vary between 3:1 (in Victoria) to 5:1 (in NT). In ACT, the male to female ratio was 14:1, but this was constructed from small numbers, i.e. 28 males and 2 females.

Method

Table 2.6 presents the suicide rates for various methods of suicide by State and Territory.

Table 2.6 : Age-standardised suicide rates by method for States and Territories; Persons 1998

METHOD	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Hanging	6.5	5.3	7.5	7.5	7.0	2.5	9.6	4.3
MV exhaust	2.3	2.6	3.6	4.0	2.9	4.5	2.7	4.0
Firearm	0.9	1.1	1.8	2.0	0.7	2.5	3.2	0.3
Poisoning (solids&liquids)	1.8	1.4	1.9	1.8	1.0	1.5	0.5	0.3
Cutting/piercing	0.9	0.2	0.3	0.3	0.2	0.2	1.4	0.3
Other/unspecified	1.9	1.9	1.7	1.0	3.1	1.0	1.7	0.7

Sections shaded in blue indicate most common method and those shaded in grey the second most common method.

In 1998 in all States and Territories (except Tasmania), hanging had the highest rates of all methods used for suicide. In Tasmania, gassing by motor vehicle exhaust fumes was the most common method, followed by hanging and firearms (Table 2.6). Motor vehicle exhaust gassing had the second highest rates in NSW, Victoria, Queensland and ACT, while firearms was the second most common method in NT. Rates of suicide by firearm ranged from 0.3 per 100,000 population in the ACT to 3.2 per 100,000 in NT, i.e. the rate varied by a factor of 11. In Western Australia Other or unspecified methods were the second most common method.

The highest age-standardised rate for hanging was seen in Northern Territory at 9.6 per 100,000 (Figure 2.8), while the lowest rate was found in Tasmania at 2.5 per 100,000 population. Tasmania had a significantly lower rate of hanging than NSW, Victoria, Queensland, and South Australia (Figure 2.8).

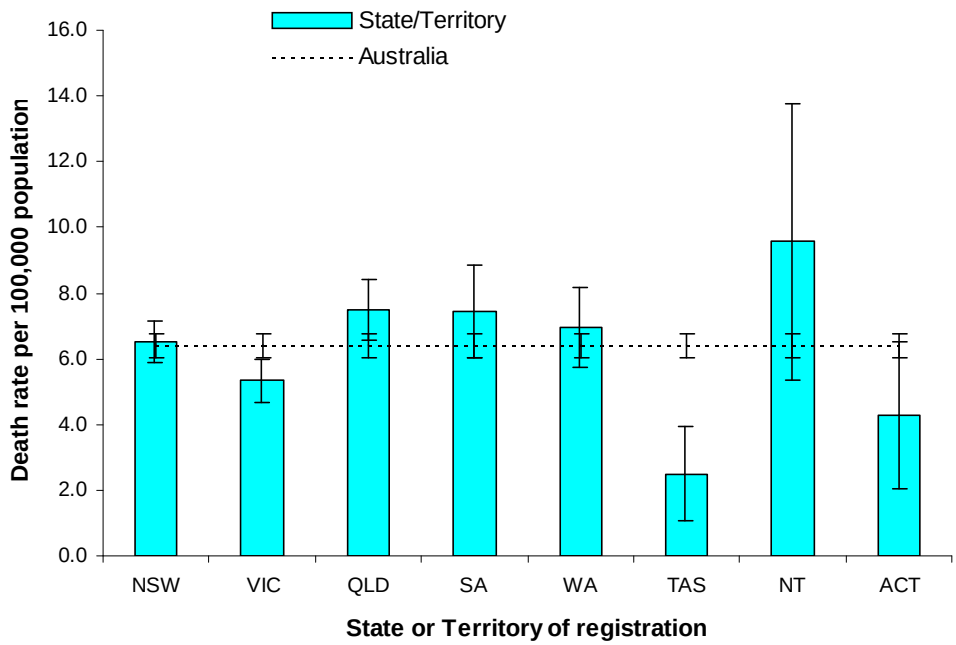


Figure 2.8 : Age-standardised rates for hanging for all persons by States and Territories; Australia, 1998

Please note that Tasmania, NT and ACT rates are influenced by small numbers.

Males of all ages showed a strong preference for hanging as a means of suicide in all states except Tasmania. In this State, there appeared to be a relatively strong preference for motor vehicle exhaust gassing, followed equally by hanging and firearms as a method of suicide.

In most States and Territories, hanging was used particularly among the age group 15 to 39 years but this trend was not seen in Tasmania or the ACT.

The preference for hanging as a means of suicide was also seen among the female population. Marked differences occurred between States and Territories with a much higher age standardised rate in NT. However, this rate was influenced by the small number of suicides registered there.

3 Trends in suicide deaths

(See appendix 8.1, Tables 8.7 - 8.19)

This section deals with trends in suicide deaths over time. We present data on suicide in relation to other causes of death, then look at suicide deaths in more detail. Data are presented by various age and gender groupings and we also describe trends in regard to methods used in committing suicide. The latter part of this section deals with trends for the various States and Territories. Where available, data going back to 1921 have been presented. Otherwise data from 1979 up to 1998 are shown.

3.1 General trends; 1921-1998

The trends for age-standardised all-ages rates for male deaths due to suicide, motor vehicle crashes, other 'external causes'[3] of death, as well as the rates for all causes of mortality can be seen in Figure 3.1.

All-ages rates of male suicide fluctuated during the twentieth Century. No strong long-term trend is obvious, but it does seem as if the all-ages suicide rate has been increasing slightly since the early 1990s (Figure 3.1).

Mortality from all causes has declined considerably, as did mortality due to road crashes (especially since about 1970) and deaths due to all other external causes (i.e. those other than suicide and road crashes). This resulted in suicide becoming relatively more prominent as a cause of death in the latter part of the Century.

This, together with the slight increase in male suicide rates during the last decade, were two factors prompting the recent increase in public health attention directed to suicide and its prevention.

[3] 'External causes' are factors that result in injury and poisoning.

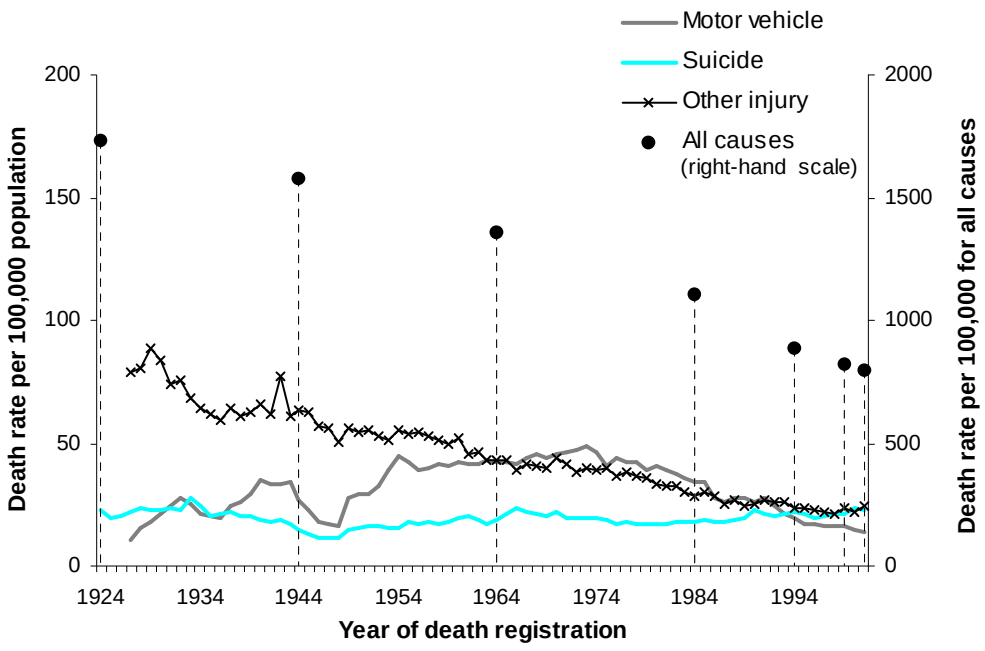


Figure 3.1 : Causes of deaths for males of all ages; Australia, 1921-1998

Categories are Motor vehicle: E810-E825; Suicide: E950-E959; and Other injury: remainder of E800-E999.

The apparent dip in the rates over the WWII period is at least partly an artefact due to non-adjustment of the population denominator for the significant number of males outside the country while on service. Corrected population estimates are not available.

The data points for the all causes mortality data were obtained from Australia's Health 1998 (AIHW, 1998). These reported rates reported were also standardised to the 1991 Australian population.

Since 1990, suicide has been a more common cause of male death than road crashes (Figure 3.1). In 1997 the male suicide rate also exceeded the rate of mortality due to all external causes other than road crashes.

Female suicide rates are much lower than those for males. Figure 3.2 shows the trends for age-standardised all-ages rates for female deaths due to suicide, motor vehicle crashes, other 'external causes'[4] of death, as well as the rates for all causes of mortality between 1921 and 1998.

The trends for females rates are less dramatic, but declines in rates of other injury deaths, as well as mortality due to road crashes can be seen (Figure 3.2). As for males, the all-ages suicide rate for females have remained fairly stable over time. This seems to have the same effect as for males, namely that suicide is also becoming a more prominent cause of death for females, although it is on a smaller scale than for males.

In 1997 and 1998 the female rate for suicides and deaths due to motor vehicle crashes were equal, whereas in previous years, the suicide rate was lower than the rate for motor vehicle crashes. The suicide rate was still lower than the mortality rate due to injuries resulting from causes other than road crashes and suicide (Figure 3.2).

[4] 'External causes' are factors that result in injury and poisoning.

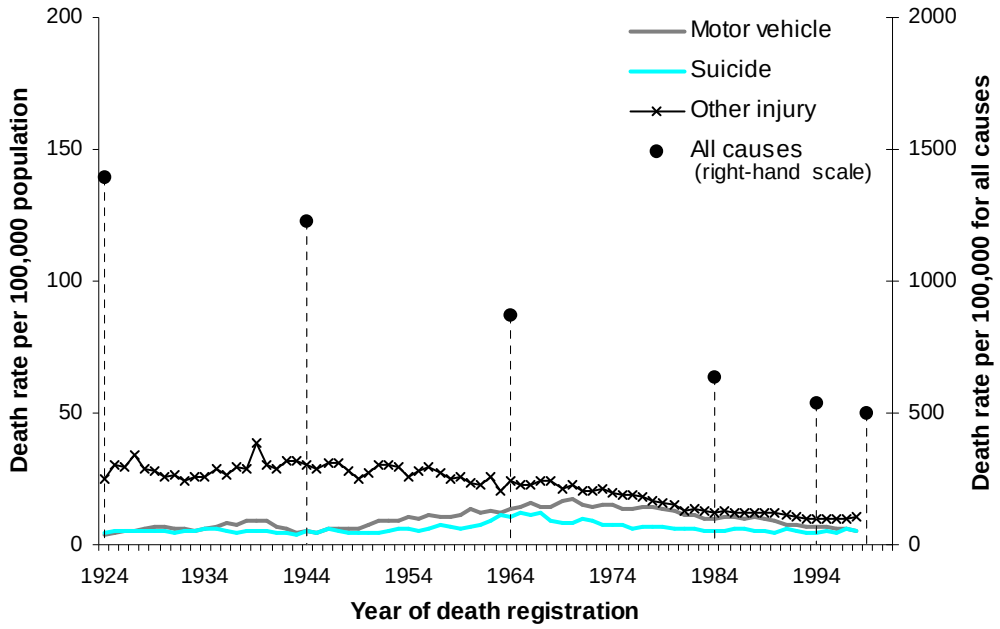


Figure 3.2 : Causes of deaths for females of all ages; Australia 1921-1998

Categories are Motor vehicle: E810-E825; Suicide: E950-E959; and Other injury: remainder of E800-E999.

The graph has been given the same vertical scale as Figure 3.1 to show the difference between male and female rates.

The data points for the all causes mortality data were obtained from Australia's Health 1998 (AIHW, 1998). The rates reported here were also standardised to the 1991 Australian population.

Figure 3.3 combines the male and female suicide rates and is presented on a different scale for its y-axis to show the trends in regard to suicide more clearly.

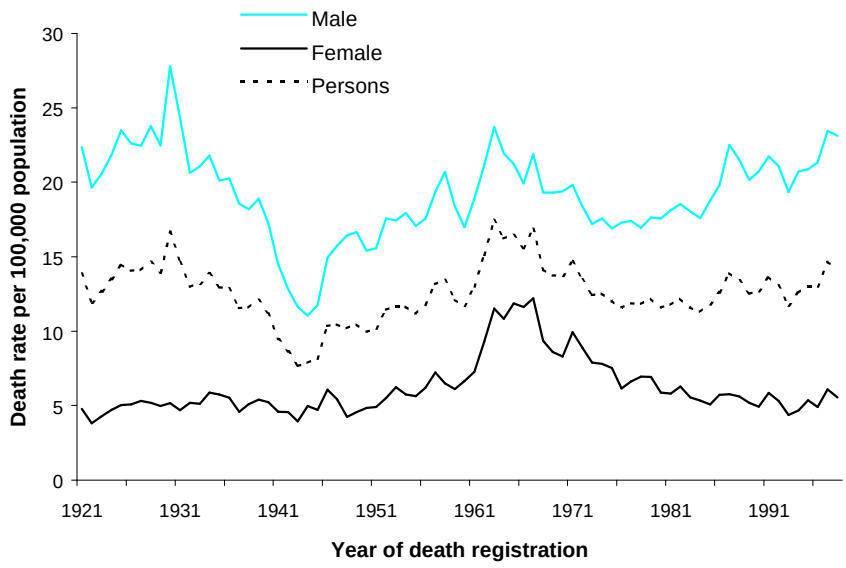


Figure 3.3 : Suicide rates for males, females, and persons; Australia 1921-1998

The apparent dip in the rates over the WWII period is at least partly an artefact due to non-adjustment of the population denominator for the significant number of males outside the country while on service. Corrected population estimates are not available.

Although the all-ages suicide rates between 1921 and 1998 remained fairly stable for both males and females, there was a notable increase for both sexes during the 1960s (Figure 3.3). This corresponded with an increase in suicide by poisoning by solid and liquid substances, at a time when barbiturates, as well as other toxic sedatives and tranquillisers were available and widely used (Harrison and Moller 1998).

These increases were followed by decreases in the all-ages rates for both sexes, but the all-ages suicide rate for males has tended to rise in recent years (Figure 3.3).

Moreover, there was a marked increase in suicide rates from 1996 to 1997, i.e. the overall rate of suicide for persons of all ages rose 14% from 1996 to 1997. This increase is based on the numbers of suicides registered in each year, but when data on the numbers of suicide occurrences are considered, it is clear that the true rise between 1996 and 1997 was 9% (see Section 3.1.3 for a more detailed discussion).

The all-ages suicide rate in 1998 was marginally below that in 1997. The all-ages standardised rates of male suicide registered in 1997 and 1998 were the highest since 1963 and, before that, 1931.

Figure 3.4 shows more clearly the divergence between male and female rates which emerged during the 1980s with male rates rising while female rates did not. The ratio of male to female suicide rates rose from 2:1 in the 1950s to about 4:1 in the 1990s.

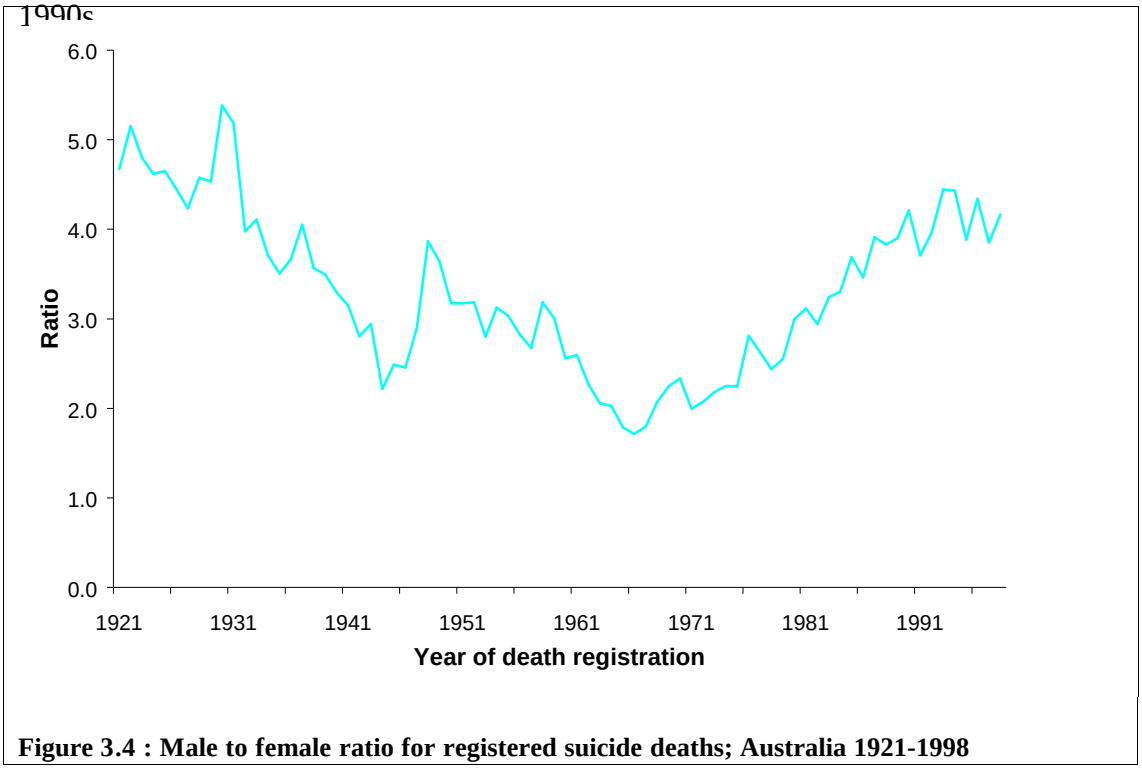


Figure 3.4 : Male to female ratio for registered suicide deaths; Australia 1921-1998

3.2 Age group and sex distribution; 1979-1998

As stated above, the all-ages suicide rates for males have been increasing over recent years. Figure 3.5 shows age-standardised male suicide rates for various age groups.

Much attention has been paid to youth suicide. The age ranges 15-24 years or 15-29 years are commonly chosen to represent 'youth'. However, rates of completed suicide show a medium to long-term change in patterns for various age groups. If recent profiles are used as the basis for selecting an age group on which to focus, then 20-29 or 20-34 or even 20-39 year age groups would be more suitable candidates.

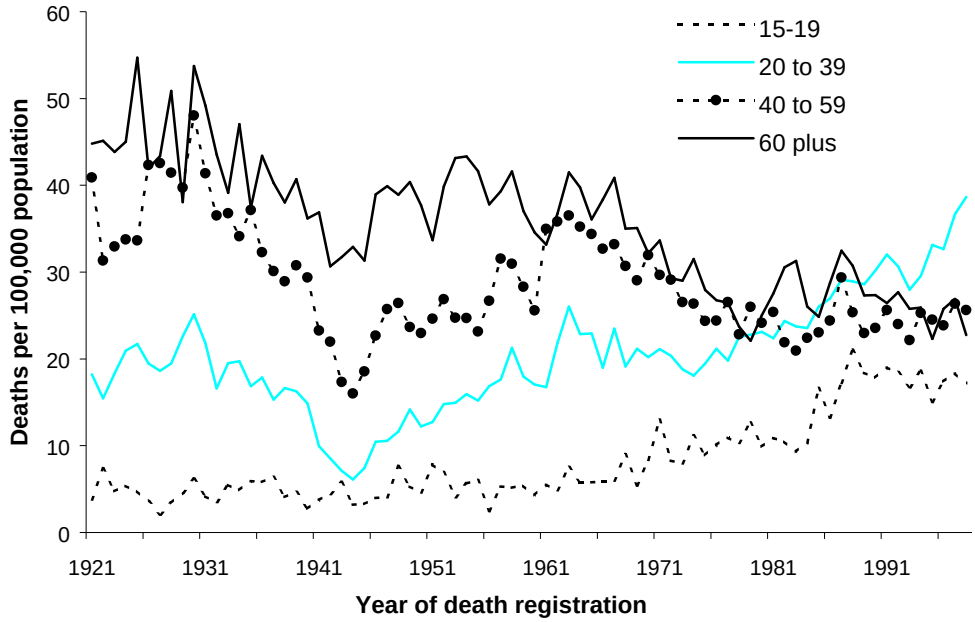


Figure 3.5 : Suicide rates for selected male age groups; Australia 1979-1998

Rates have been age-standardised, except for the 15 to 19 years age group.

Rates for males aged 20 to 39 years increased consistently since the late 1970s and continued to rise in 1998. Since the early 1990s the rates for this age group has been the highest for all male age groups.

Rates for younger males (i.e. 15 to 19 years) have been lower than the rates for other age groups. There was a rapid rise in rates at ages 15 to 19 years in the 1980s, but since the early 1990s, the rates for this age group has been fairly stable.

The rates for older males (i.e. those aged 40 to 59 years) in recent years do not show a strong trend, whereas the rates at older ages (i.e. those aged 60 years or more) showed a steady decline over time, especially in the 1970s. The rates for males aged 40 to 59 years and the rates for those older than 60 were very similar over recent years.

Figure 3.5 shows how suicide rates have varied by age-group and period for males in Australia. Another perspective is to consider rates by age-group for men born in a particular period (i.e. birth cohorts). Figure 3.6 shows suicide rates for cohorts of males born in five-year periods centred on the years shown in the legend. The chart shows rates for each of these birth cohorts by age at death.

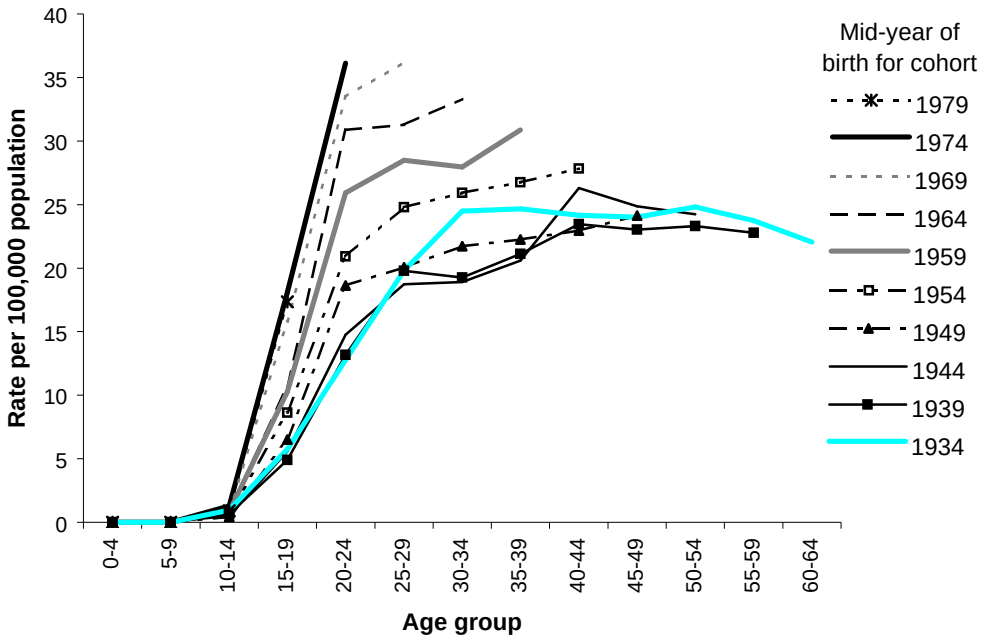


Figure 3.6 : Male suicide rates by age and selected years of birth; Australia

All cohorts share the pattern of having low rates in childhood, rising thereafter. They differ in that this rise has become larger and steeper for younger cohorts shown.

The chart also suggests that the suicide rates reached by birth cohorts of males in early adult ages persist as they grow older. It remains to be seen whether this occurs for the younger cohorts for whom rates reached at early adult ages are higher than for previous cohorts.

Suicide data for a number of countries have been studied for birth cohort effects, with variable findings. An early Australian study confirmed Canadian and American findings of rising rates at young ages, but did not find higher age-specific rates for younger cohorts (Goldney and Katsikitis 1983). The more recent data shown in Figure 3.6 suggest that this is now so for males.

For females, recent suicide rates show less variation with age (Figure 3.7), even though the peaks in the 1960s (associated with the wide availability and use of barbiturates, other toxic sedatives and tranquillisers) are apparent for females aged 20 years or more.

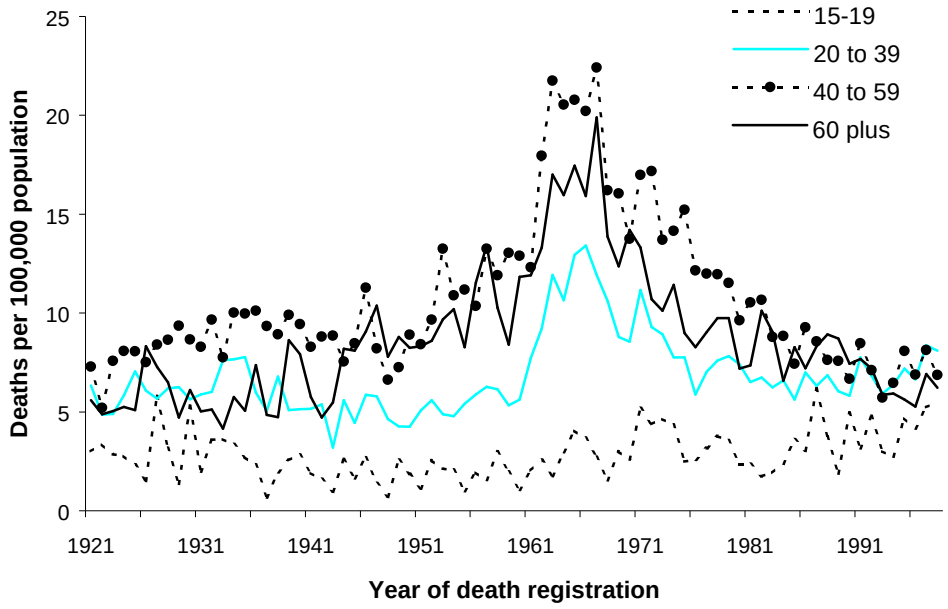


Figure 3.7 : Suicide rates for selected female age groups; Australia 1979-1998

In 1998, the rate for females aged 20 to 39 years were higher than any other age group. Also, the rate for this age group has shown an increase over the last few years (Figure 3.7). Further data points are, however, necessary to determine whether this is a true increase or just a chance fluctuation in this age-specific rate. This is also true for the 15 to 19 year age group.

3.3 Method of suicide; 1979-1998

Trends differ markedly between methods used in committing suicide, as well as between males and females (Figures 3.8 and 3.9).

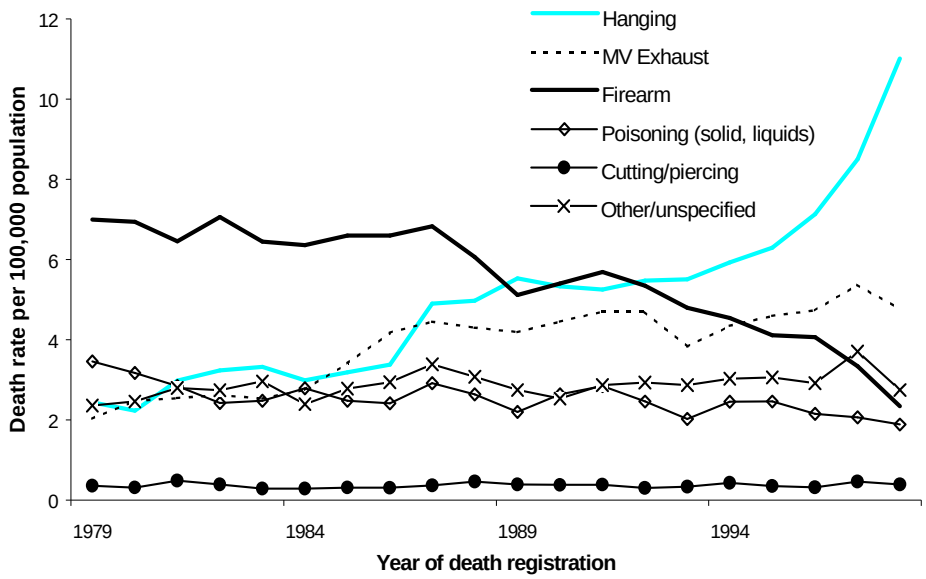


Figure 3.8 : Trends in methods used in male suicides at all ages; Australia 1979-1998

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0; Firearm: 955.0-.4; Poisoning (solid, liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

The largest recent change for males is the rise in suicide by hanging which has been the most common means of suicide by males since 1992. Moreover, the rate of male suicide by hanging more than quadrupled in the period shown (Figure 3.8).

The rate of suicide by means of a firearm decreased, especially after 1988. The annual rate varied from 6.1 to 7.1 per 100,000 males in the decade ending in 1988. The rate in 1998 (2.3 per 100,000) was about one-third the earlier rate.

Suicide by motor vehicle exhaust gas increased roughly in parallel with the decline in firearm cases. Motor vehicle exhaust gassings became the second commonest means of suicide by males in 1995.

The rise in the rate for the composite category for suicide by 'other and unspecified' means was mainly due to increases in falls and jumps (from high structures), threats to breathing (other than hanging) and being struck by moving objects (e.g. vehicles). Rates of suicide by other methods remained fairly stable over time (e.g. electricity, fire/flames, drowning).

The suicide rates for females are much lower than for males and smaller changes have occurred in the methods of suicide used by females in this period (Figure 3.9).

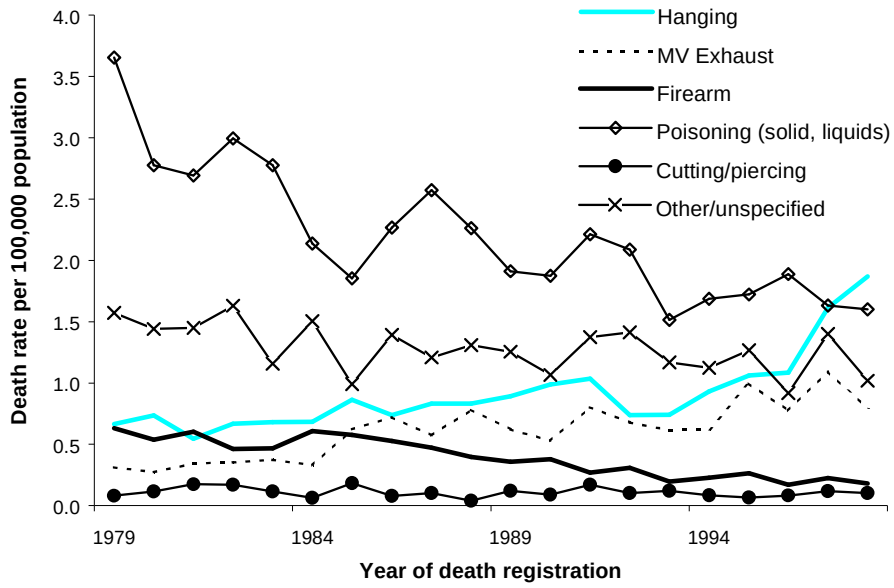


Figure 3.9 : Trends in methods used in female suicides at all ages; Australia, 1979-1998

The scale of the vertical axis differs from that in Figure 3.8.

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0; Firearm: 955.0-.4; Poisoning (solid, liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

Figure 3.9 shows the tail end of the epidemic of suicide by means of medications that peaked in the 1960s (also see Figure 3.3) - the rate for poisoning by solid or liquid substances in 1979 was 3.7 per 100,000 population, but in 1998 it was 1.6 per 100,000 population.

The rate of suicide by hanging rose for females, though much less than for males. Hanging comprised 10% of all female suicide in 1979, rising to 32% in 1998. Hanging became the second most common means of suicide by women in 1996, and in 1997 and 1998 it was more common than suicide by poisoning.

The rate of female suicide by motor vehicle exhaust fumes has also tended to rise in recent years, while the rate for firearms declined.

3.3.1 Hanging

Suicide by hanging has increased greatly, both in absolute terms and as a proportion of all suicides. While an increase has been noted previously, it warrants further attention because the latest mortality data show that the increase has continued and accelerated. Suicide by hanging [E953.0] rose from 13% of all suicides in 1979 to 47% in 1998.

For each cohort of males born since about 1950, hanging suicide rates have risen faster and faster and further than for earlier cohorts (Figure 3.10). The rate at ages 20 to 29 years was about twice as high for men born in the 1970s as for those born in the 1960s.

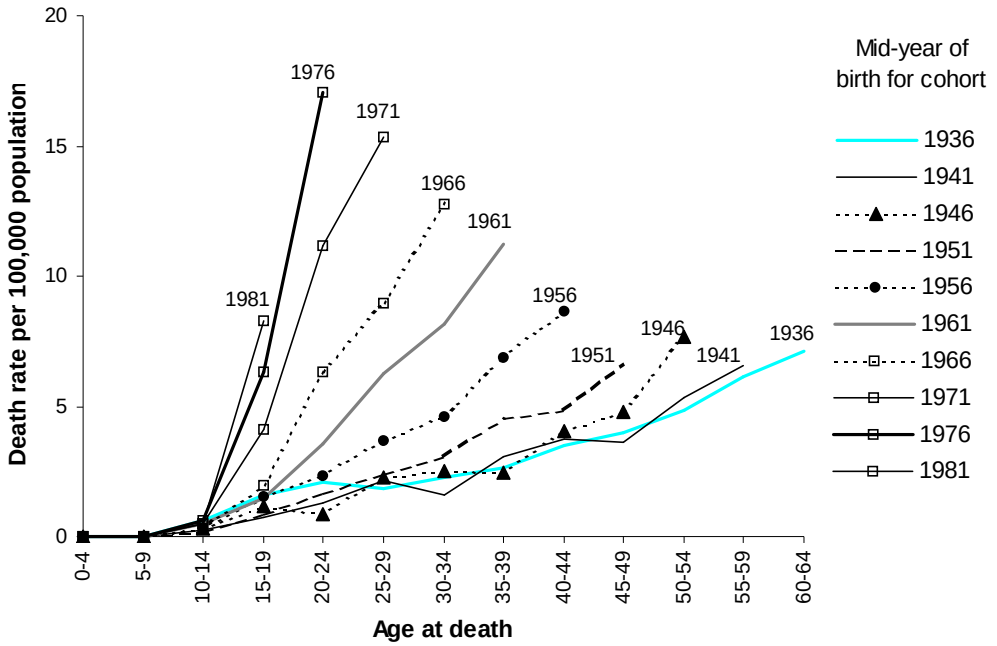


Figure 3.10 : Male suicide rates by hanging for various age groups; Australia 1979-1998

For males, the increase in hanging is most marked at ages 20 to 39 years (Figure 3.11), but it can also be seen for males aged 15 to 19 years, as well as for males aged 40 years or more. Overall rates of suicide by all methods other than hanging are declining for all three male age groups presented in Figure 3.11.

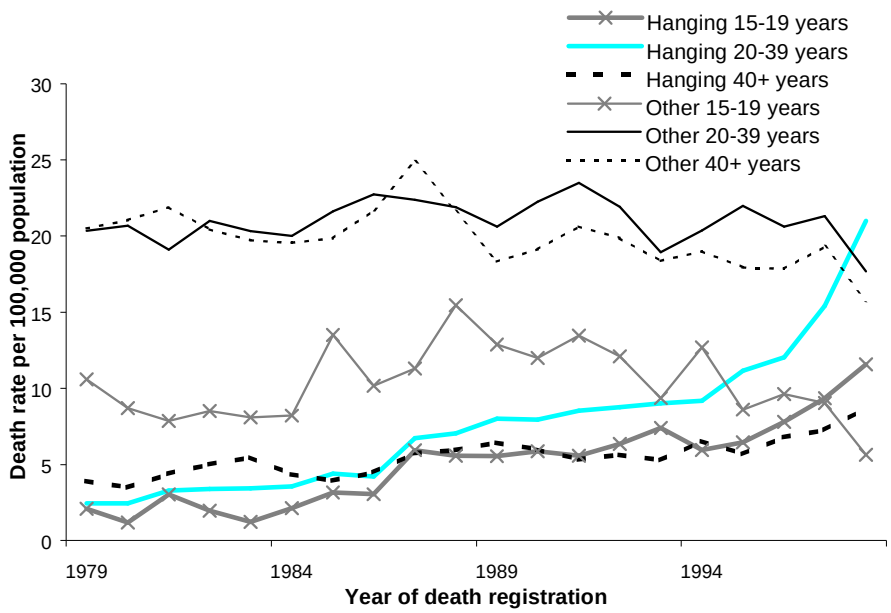


Figure 3.11 : Male suicide by hanging and all other means, by selected age groups; Australia 1979-1998

Categories: Hanging: E953.0; Other: remainder of E950-E959.

Hanging is much more common for males than females, but even for females there are modest increases in hanging suicides for those aged 20 years or more, as well as a steeper increase for young females aged 15 to 19 years. The overall rates for suicide by all methods other than hanging are static for females (Figure 3.12).

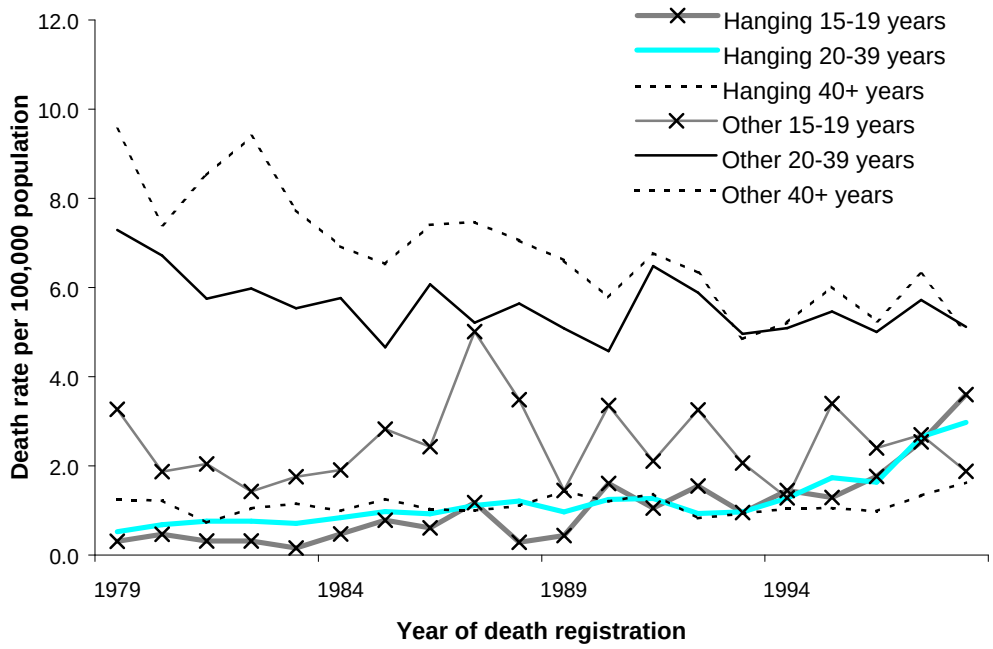


Figure 3.12 : Female suicide by hanging and all other means, by selected age groups; Australia 1979-1998

Categories: Hanging: E953.0; Other: remainder of E950-E959.

The scale of the vertical axis differs from that in Figure 3.8.

3.3.2 Motor vehicle exhaust

The rates of suicides by motor vehicle exhaust gassing have increased for males aged 20 years or more, whereas the rates for young males aged 15 to 19 years seemed to be fairly static over time (Figure 3.13). This may reflect less accessibility of motor vehicles for younger males than older males.

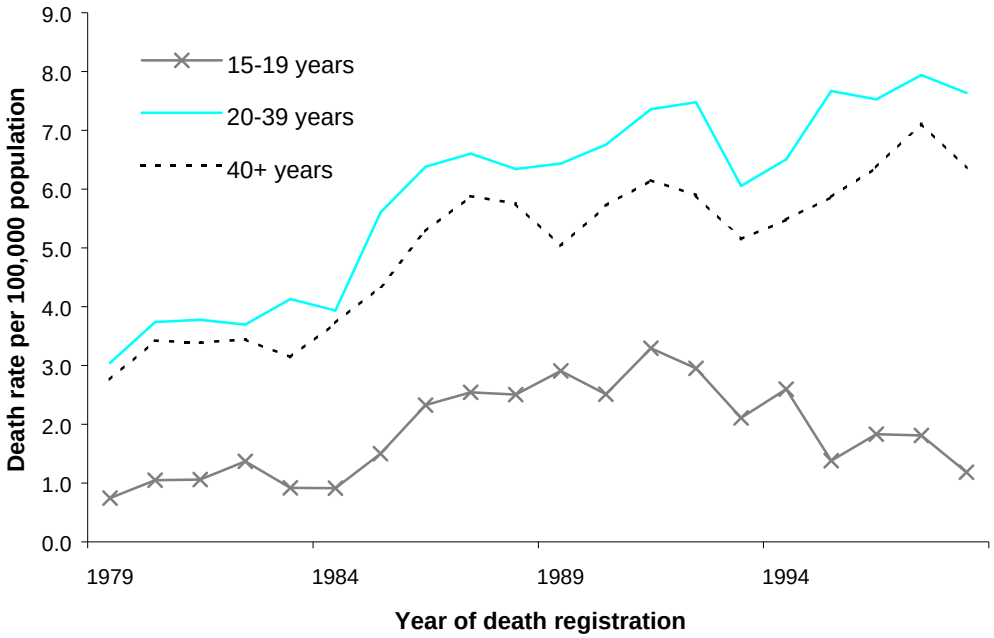


Figure 3.13 : Male suicide rates by motor vehicle exhaust for selected age groups; Australia, 1979-1998

For females there seems to be a modest increase in the suicide rate by motor vehicle exhaust gassing over time (see Figure 3.9). In 1979 there were 23 suicides in females of all ages due to motor vehicle exhaust gassings. The number in 1998 was 77, after a peak of 104 in 1997. Small numbers limit further analysis by age groups for females and no clear patterns could be discerned for female age groups.

3.3.3 Suicide by firearm

Figure 3.14 shows the age-standardised suicide rates for various male age groups for suicide deaths due to firearms.

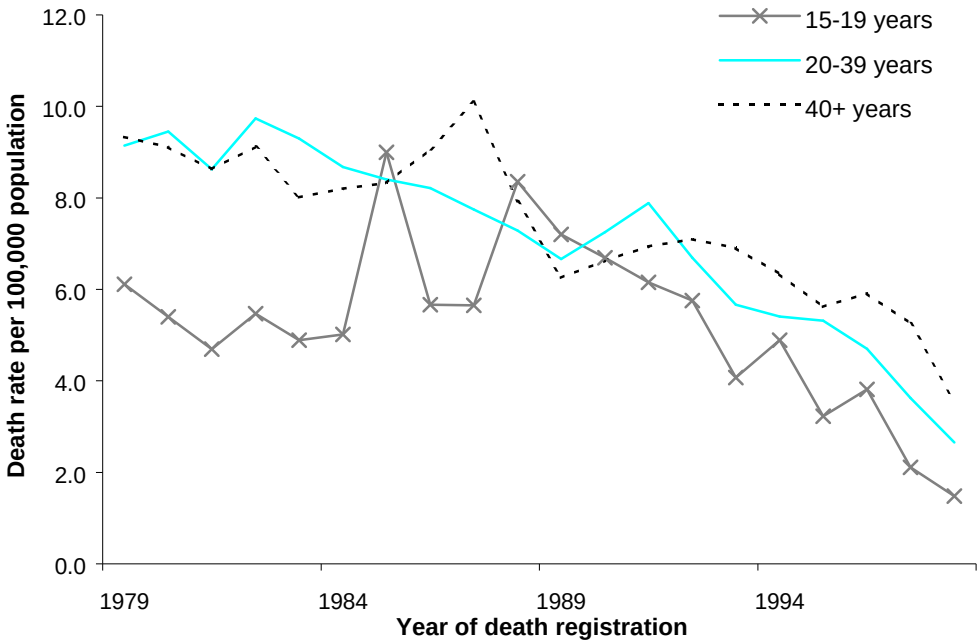


Figure 3.14 : Male suicide rates due to firearms; Australia, 1979-1998

Between 1979 and 1998, the suicide rates for males declined for various age groups (Figure 3.14). The decline was most apparent for men aged 20-39 years (-75%) and young males aged 15-19 years (-72%), but was also seen for older men (-37%).

Suicide rates for females also declined for the various age groups (not shown here). The decline was again most apparent at ages 20-39 years (-82%) and for those aged 15-19 years (-67%), but also declined at ages 40+ years (-44%).

It is problematic to interpret data on the types of guns used in firearm suicide (Figure 3.15). There appears to be a modest increase in the proportion of rifles used, as well as small increases in the proportion of shotguns and handguns used. It is uncertain whether these increases represent true changes or whether they reflect the decrease in cases where the gun type was unknown. When the number of 'unknown' guns are removed from the calculation, it is clear that the proportions of suicide where shotguns, hunting rifles, and military firearms were used, remained stable. Only the proportion of handguns used increased very slightly.

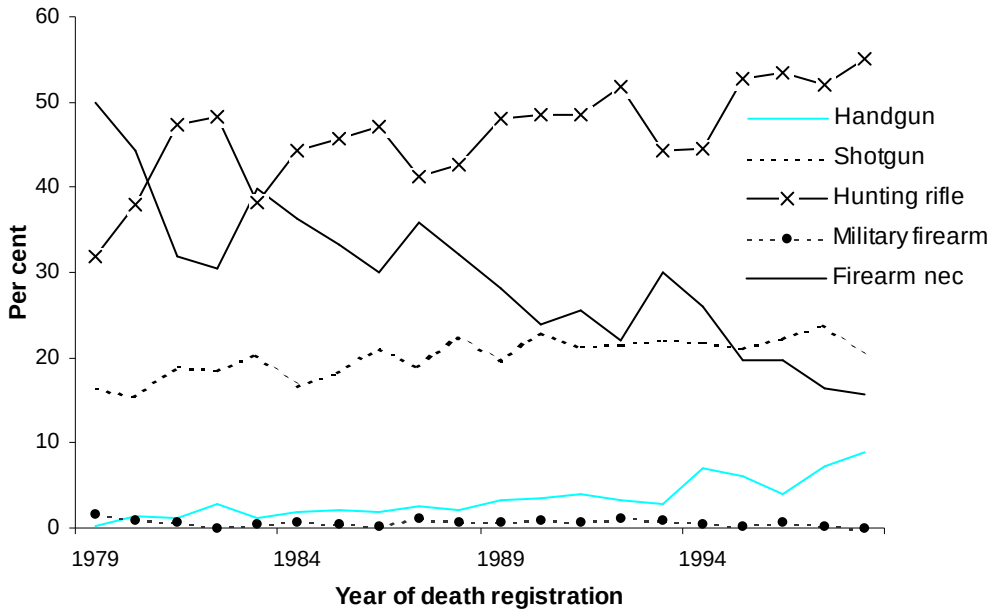


Figure 3.15 : Proportions of guns used in suicide; Australia, 1979-1998

Figure 3.16 shows age-standardised rates of suicide by firearms for males, females and persons from 1964 to 1998. The all-ages rates varied little until the late 1980s, since when they have declined substantially for both males and females. The rate of decline appears to have accelerated in the most recent years shown.

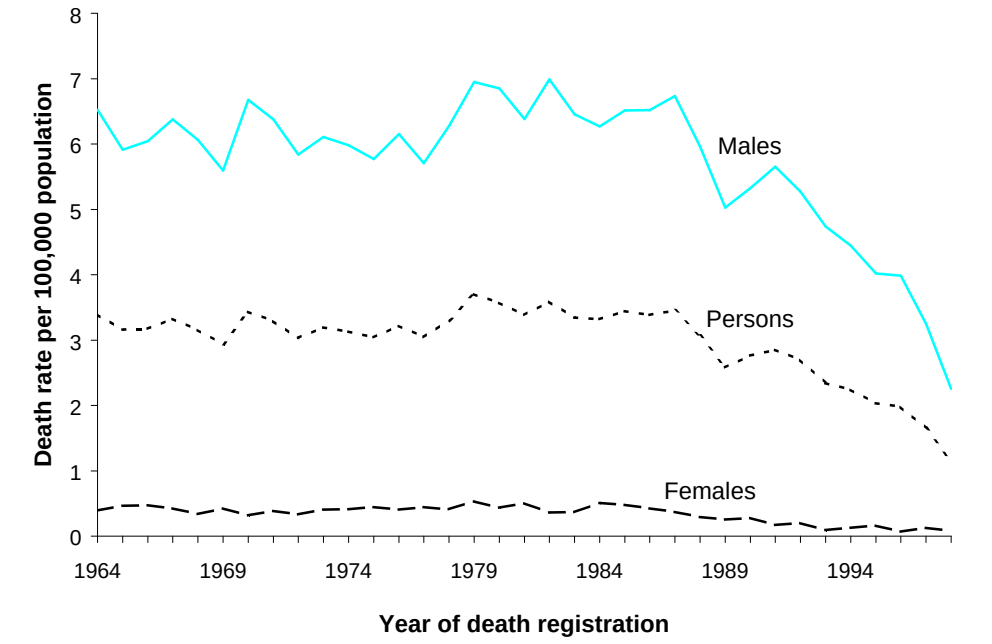


Figure 3.16 : Suicide by firearms* 1964 to 1998, males, females and persons; Australia

* Case inclusion: ICD-7: E976; ICD-8 and 9: E955.

The reasons for the decline in suicide by shooting are not known with any more certainty than the reasons for most other changes in the method-specific suicide rates (e.g. the even larger rise in rates of suicide by hanging). Obvious questions are whether the decline in suicide by firearms is due to measures to control firearms (or related events and publicity), and whether hanging and suicide by means of motor vehicle exhaust have substituted for suicide by firearms. These are complex questions to which only partial and tentative answers are available.

Mouzos (1999) sought to assess the impact of the Nationwide Agreement in Firearms that was introduced early in 1997 after the mass shooting at Port Arthur in 1996. Considering data to the end of 1997, she noted a decline in firearm-related suicides and in the percentage of robberies involving the use of a firearm. Mouzos concluded that "Explanations for these declines are not yet available, and it will be some time before the impact of the uniform legislation can be thoroughly assessed."

As shown by Figure 3.16, the decline in mortality due to suicide by firearms began well before the Port Arthur shootings and the subsequent regulatory response. The decline commenced at about the time of earlier mass shootings (notably Queen Street and Hoddle Street in 1987). The National Committee on Violence was established soon after these events, and recommended additional controls on firearms. However, few of these recommendations were adopted (Mouzos 1999). The rate of decline was rapid in the last two years charted, suggesting the possibility that events following the Port Arthur shootings might have accelerated the pre-existing downward trend. Other factors could have caused the change, and a causal connection has not been established.

If further evidence and analysis leads to a conclusion that these events have reduced suicide by firearms then it will not necessarily be clear how they did so. The events following the Port Arthur shootings were complex, including intense media coverage, community outrage, and a 'ten point package' of regulatory responses (Chapman 1998). Much attention was focused on automatic and semi-automatic weapons (e.g. bans and the 'buy-back' scheme), while non-automatic weapons are much more common and are the usual types used for suicide. Evaluating firearm controls introduced in Queensland in the early 1990s, Cantor and Slater found reductions in rates of firearm suicide in urban areas (not in rural areas), particularly for young men. They came to a tentative conclusion that "specific firearm control legislation, including a 28-day 'cooling-off' period before firearm purchase, may reduce suicide rates". (Cantor and Slater 1995)

Underlying and preceding the strong downward trend during the 1990s in the all-ages rate of male suicide by shooting in Australia were two marked changes in age-specific patterns of suicide by shooting.

The first was the decline of shooting as a means of suicide for older men. For almost all of the sixty years until the 1980s, shooting was the commonest means of suicide for men in Australia. Rates were generally above 8 per 100,000 per year at ages over 40 years, and higher rates were seen for older men. Rates of suicide by shooting dropped in the late 1980s and 1990s, particularly for middle-aged men. More recently rates have also dropped for older men.

The second change was the rise and fall of shooting as a means of suicide for young men. Rates for men aged in their 20s were generally below 8 per 100,000 per year for several decades until the 1970s. Rates in this age group, and especially rates at ages 20 to 24 years, then rose sharply until the early 1980s, before declining during the late 1980s and 1990s. In recent years, rates of suicide by shooting at these ages have been lower than before the rise began.

From the perspective of birth cohorts, three distinct phases can be distinguished. Men born from about 1930 to 1950 had fairly constant rates of shooting suicide at ages 20 to 24 years and older (about 6 to 8 per 100,000 population per year). Their rates have declined a little in recent years. Men born from about 1950 to 1970 had higher rates of suicide by shooting in early adulthood (up to 14 per 100,000 population per year at ages 20 to 24 years) which have dropped sharply as these cohorts have grown older. The youngest cohort to have reached their mid-20s did not have this peak in suicide by shooting.

'Substitution' refers to the possibility that if one means of suicide is made unavailable or becomes unappealing then another means will be found. The decline in the all-ages rate of suicide by firearms roughly coincided with the rise in suicide by hanging and the smaller rise in suicide by car exhaust poisoning. However, differences in size, timing and relationships to age and period of birth of the changes in rates for these methods suggest the involvement of more than one underlying process, and substitution does not readily explain all of the changes. Thus, for example, while part of the recent rise in suicide by hanging might in some sense be 'substituting' for the reduction in suicide by shooting, available data do not exclude the possibility that changes in rates of suicide by these methods are at least partly independent processes.

3.3.4 Suicide by other methods

Poisonings by solid or liquid substances

The time period between 1979 and 1998 represents the tail end of the epidemic of suicide by means of medications, specifically including barbiturates, that occurred in the 1960s. Suicide rates by poisonings due to solid or liquid substances continued to decline for various male and female age groups (Figures 3.17 and 3.18).

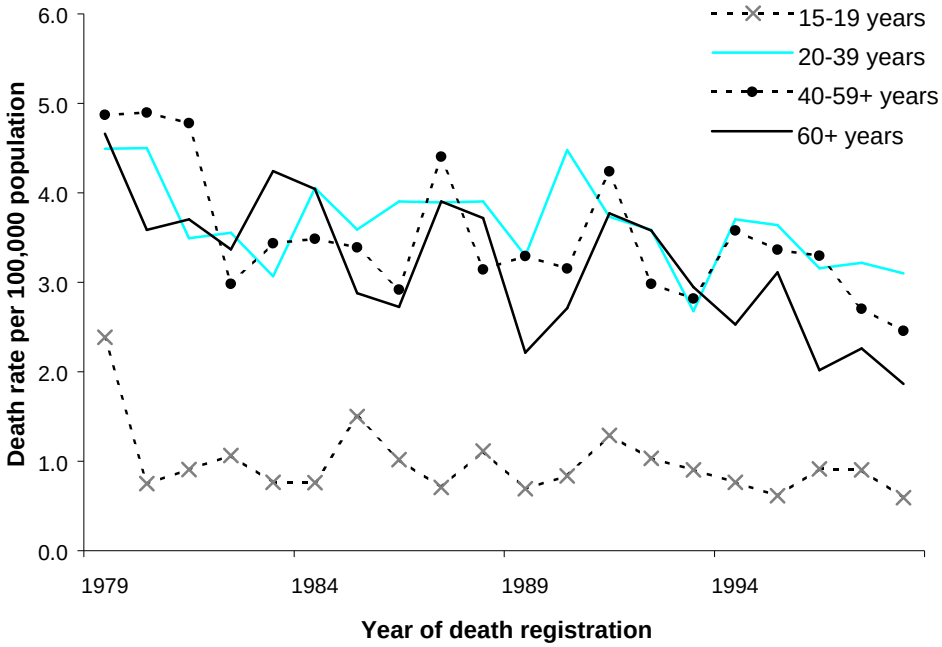


Figure 3.17 : Male suicide rates by poisoning (solids or liquids) by various age groups; Australia 1979-1998

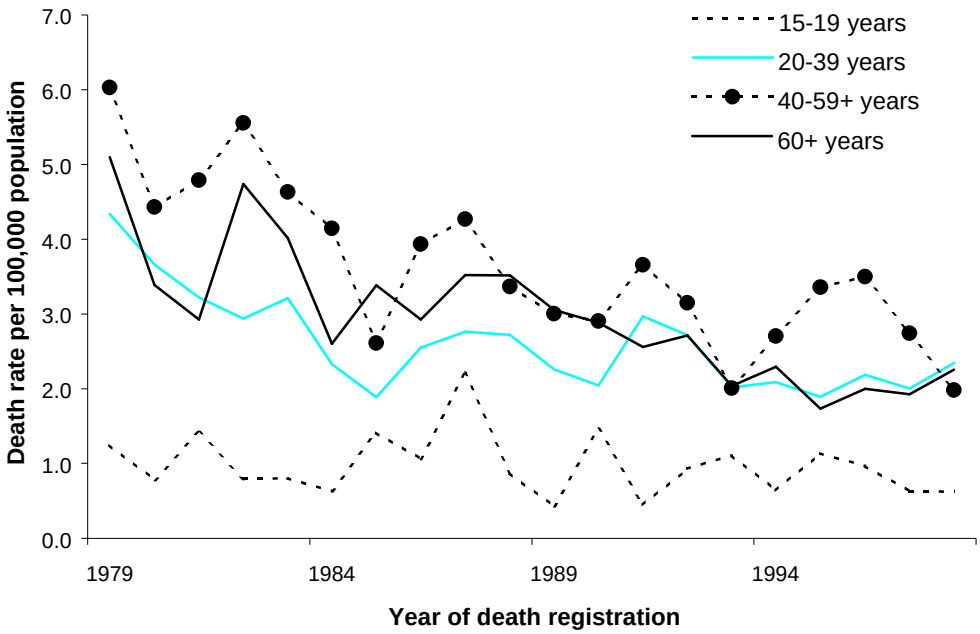


Figure 3.18 : Female suicide rates by poisoning (solids and liquids) by various age groups; Australia 1979-1998

Figure 3.19 further shows that the proportion of barbiturates used in suicide deaths also declined between 1979 and 1998, whereas the proportion of tranquillisers and other psychotropic agents increased. There also seems to be an increase in the use of analgesics and related drugs.

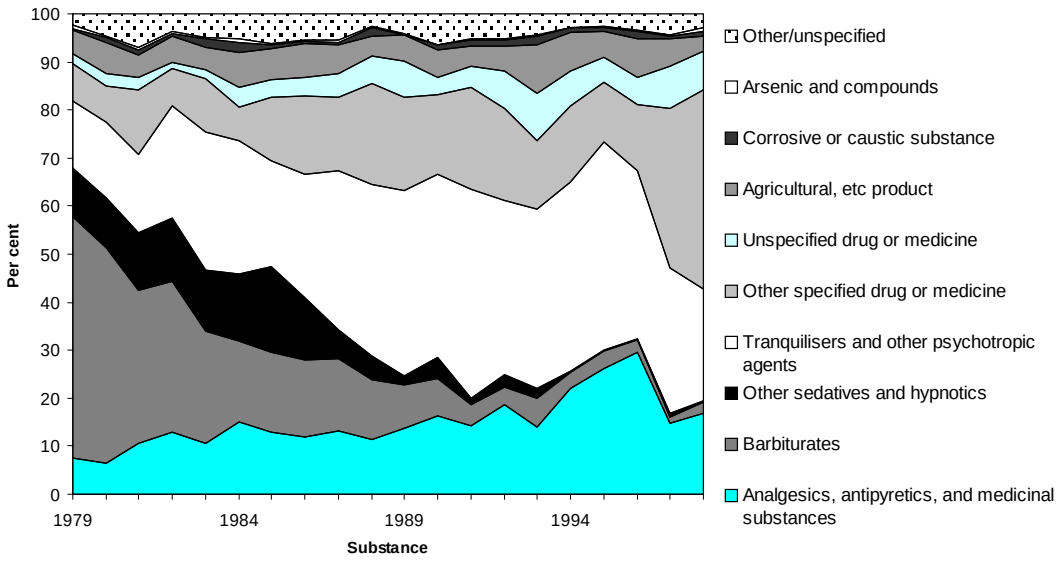


Figure 3.19 : Solid or liquid substances used by persons as method of suicide for persons; Australia, 1979-1998

Other/unspecified methods

Suicide rates by other/unspecified means remained fairly stable over time for both males and females. These methods included gassing by other means than motor vehicle exhaust gassing, strangulation or suffocation by means other than hanging, jumping from high structures, electrocution, self-immolation and drowning.

Small case numbers complicated interpretation of trends for these subcategories, but male case numbers for strangulation or suffocation by means other than hanging, jumping from heights, jumping in front moving objects, and suicide by motor vehicle crashes showed some increases (Figure 3.20).

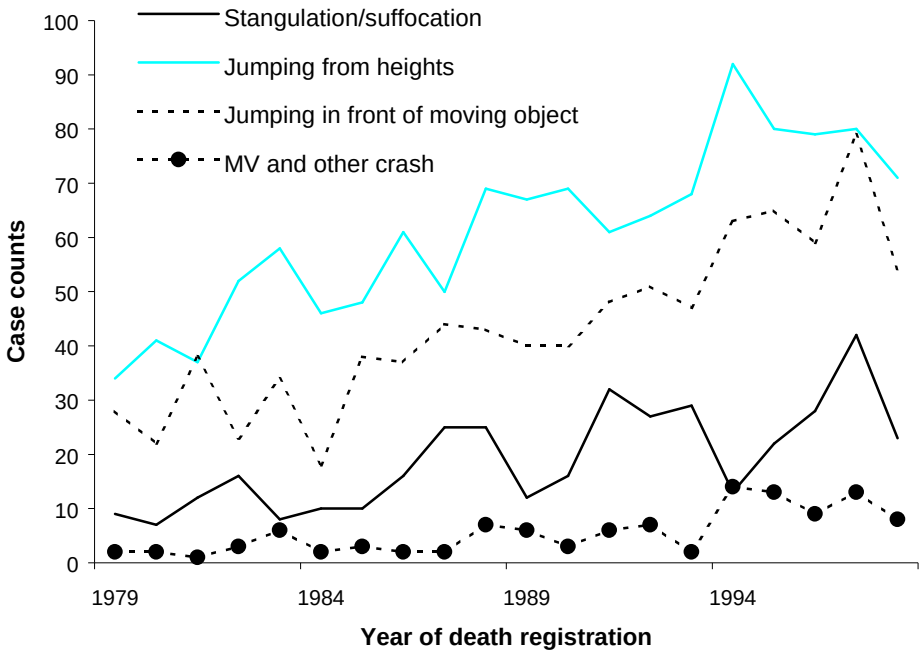


Figure 3.20 : Selected 'other' methods of suicide, case numbers for males; Australia, 1979-1998

The profiles for females were less clear and are not presented here.

3.4 Trends for States and Territories; 1979-1998

Data on suicide deaths for the Australian States and Territories have been examined over the 20-year period, 1979 to 1998 inclusive. It should be noted that the population sizes of the States and Territories differ, e.g. the population of NSW is more than thirty times larger than the population of the Northern Territory.

Annual suicide rates for the smaller population States and Territories show considerable year to year variation due to relatively small numbers. Longer-run trends are more likely to be meaningful than short-term fluctuations, especially for the smaller jurisdictions.

3.4.1 Age and sex distribution

Similarities are more striking than differences when comparing suicide rates and trends for the States and Territories of Australia. All States and Territories, apart from Tasmania, showed a small increase in age standardised suicide rates for all persons (Figure 3.21) and a slightly larger increase for males (Figure 3.22) during the period 1979 until 1998. Female suicide rates seemed to have declined slightly since 1979 (Figure 3.23).

Overall, the highest age-standardised rate for suicide was seen in the Northern Territory, followed by Queensland (Figure 3.21). The ACT had the lowest rates during the 20-year period, and the remainder of the States exhibited overall rates similar to the national average over time.

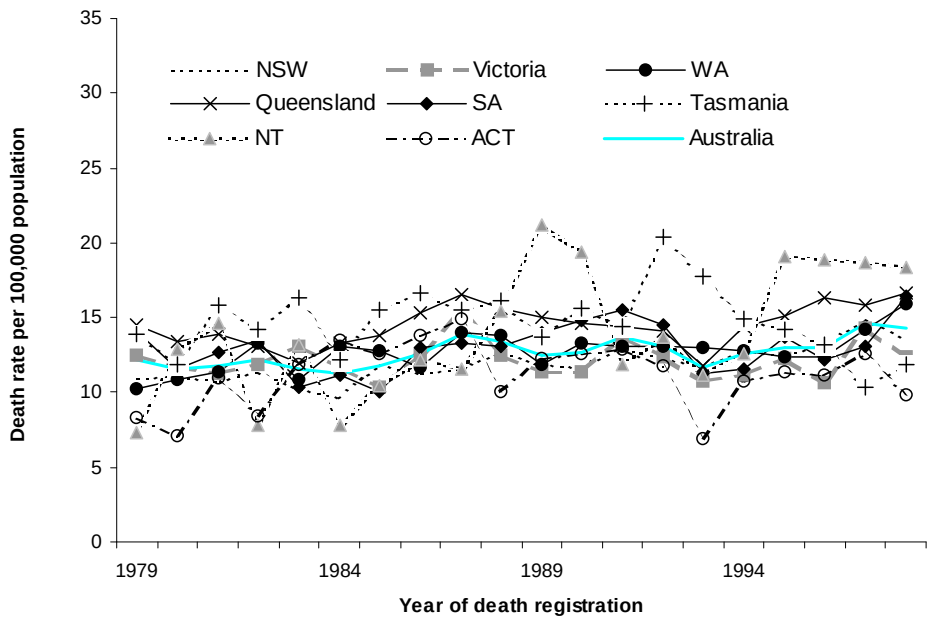


Figure 3.21 : Age-standardised suicide rates for persons by State or Territory, 1979-1998

In general, the highest rates of suicide among males were seen in the Northern Territory and Queensland, with comparatively low rates seen in the ACT (Figure 3.22). The remaining States show rates similar to the national average.

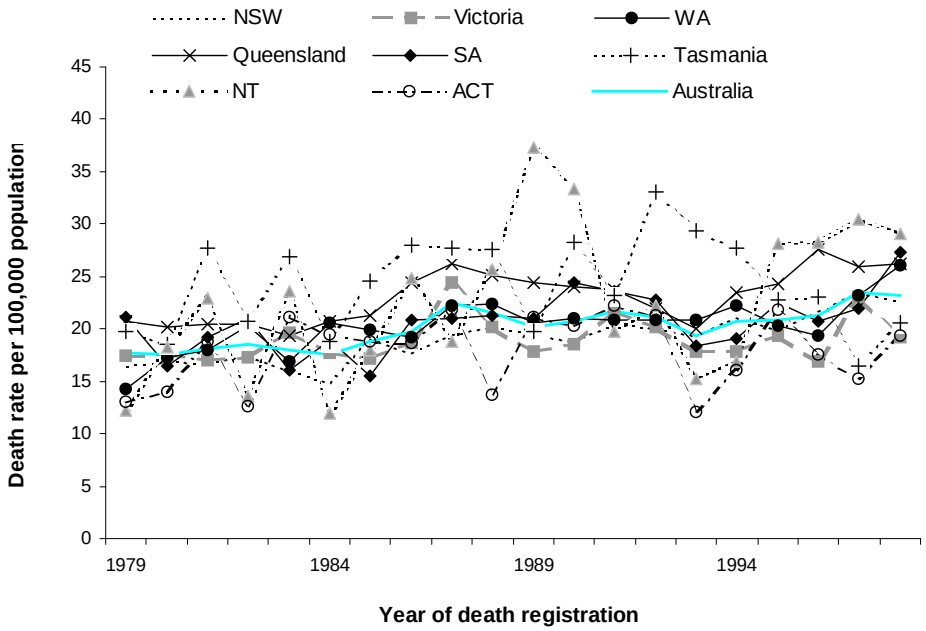


Figure 3.22 : Age-standardised suicide rates for males by State or Territory, 1979-1998

The all-ages age-standardised rates for females have increased in the Northern Territory, and have fluctuated markedly in the ACT (Figure 3.23). It should be noted that the Territories exhibit very low numbers for females.

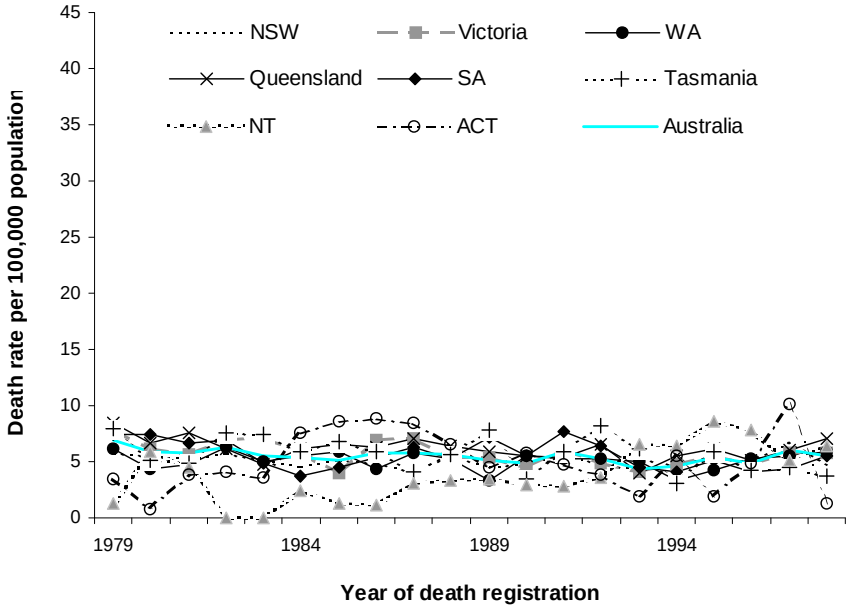


Figure 3.23 : Age-standardised suicide rates for females by State or Territory, 1979-1998

This graph has been given the same vertical scale as Figure 3.22 to show the difference between male and female rates.

The three previous graphs are cluttered due to the large amount of information displayed. Subsequent graphs incorporate only selected States. Territories are therefore often excluded from some charts because of the distortion by small numbers. (Please refer to Appendices for data on States and Territories.)

For Australia overall the highest suicide rates in recent years occurred in males aged 20-39 years. Comparison of States and Territories reveals that the rates for men aged 20-39 rose in all States and Territories.

The rise was steepest for Queensland and the Northern Territory, followed by Western Australia. These three jurisdictions have exhibited the highest rates of suicide in males aged 20-39 since 1995 (Figure 3.24).

Victoria and ACT showed the least steep rise in rates for males aged 20-39 years. On average, these two jurisdictions exhibited the lowest suicide rates for males between 1979 and 1998. Rates in NSW and South Australia have been similar to the national average rate. Tasmania showed an increase in this rate in the early 1990s, but it has declined since 1994.

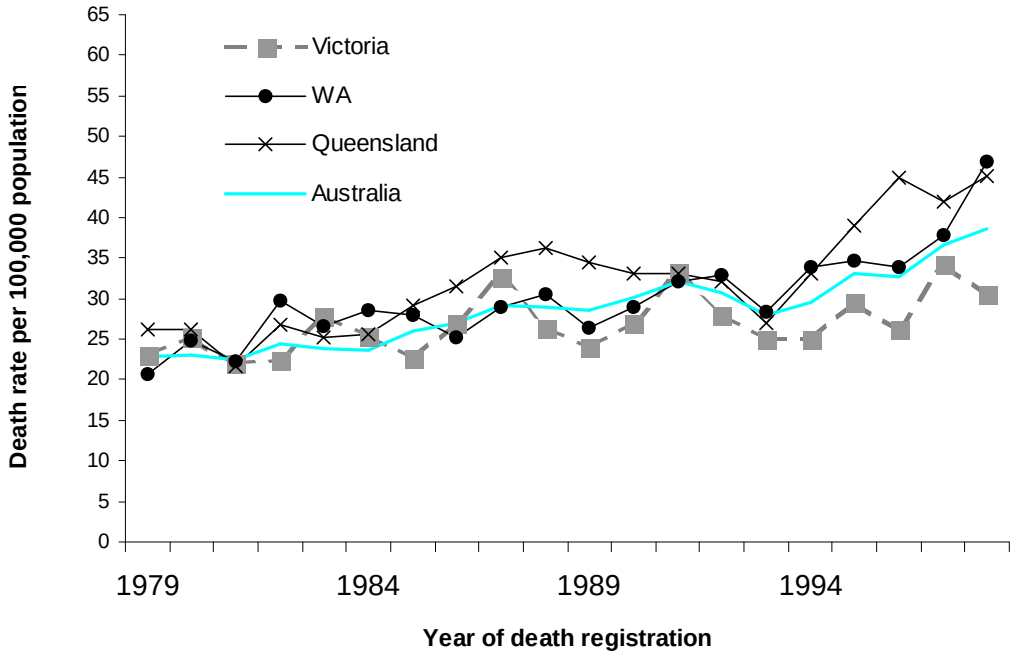


Figure 3.24 : Age-standardised suicide rates for males aged 20 to 39 years by selected State or Territory, 1979-1998

The rates for females aged 20-39 years have shown marked fluctuations. However, small numbers complicate interpretation and the data are not shown here. It does not appear as if the increase among males aged 20 to 39 years applies to females in this age group.

3.4.2 Method

The methods used to commit suicide have been examined for differences between the States and Territories, with a focus upon the most commonly used methods, in particular suicide by hanging, gassing by motor vehicle exhaust, firearms and poisoning by solids or liquids.

Hanging

Since 1979, there has been an overall increase in the rate of suicide by hanging for males in all States and Territories (Figure 3.25). This trend has been particularly marked since 1995, and has been most notable in the Northern Territory, followed by South Australia and Queensland. The smallest change in rates has occurred in Tasmania. The rates for other jurisdictions exhibited profiles very similar to the national average.

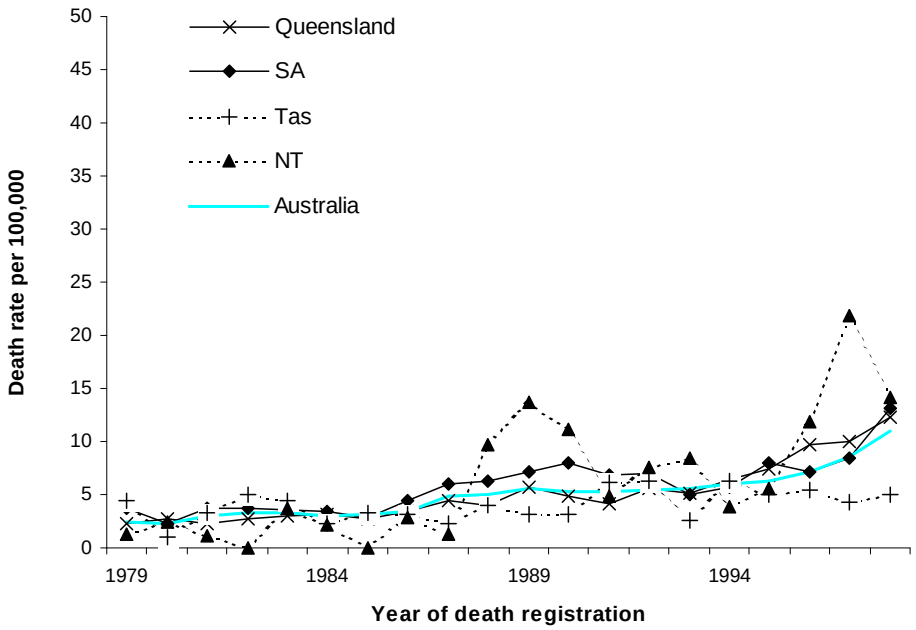


Figure 3.25 : Age-standardised rates for hanging by State or Territory for males of all ages, 1979-1998

The marked fluctuations in rates for NT and Tasmania occur as a result of small numbers.
This graph has been given the same vertical scale as Figure 3.22 to show the difference between the rates for males of all ages and the rates for males aged 20-39 years (Figure 3.26).

Males aged 20 to 39 years in particular demonstrate the marked increase in hanging over time, but, as for suicides of all causes, relatively low rates occurred among Tasmanian men in recent years. The Northern Territory, Western Australia and South Australia exhibit higher rates than the national average for hanging for males in the 20 to 39 year age group (Figure 3.26). The Northern Territory has exhibited the greatest increase in rate of hangings over the 20-year period, but it should be noted that the rate relates to small numbers.

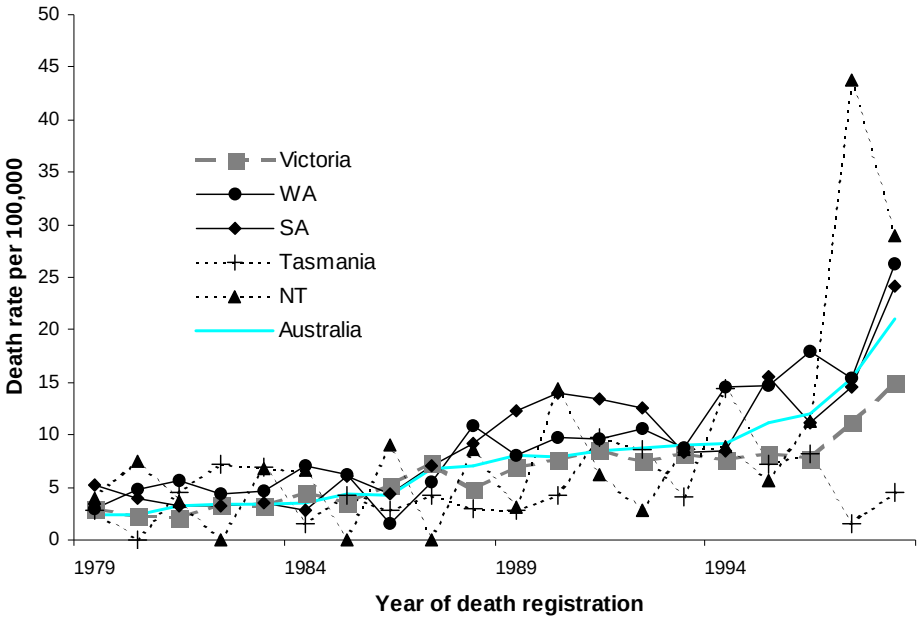


Figure 3.26 : Age-standardised rates for hanging by State or Territory for males 20-39 years, 1979-1998

For females, marked fluctuations because of small numbers in the ACT, Northern Territory and Tasmania complicate interpretation of trends in these jurisdictions. In the remaining States, suicide rates for females due to hanging have increased, especially since 1995 (Figure 3.27).

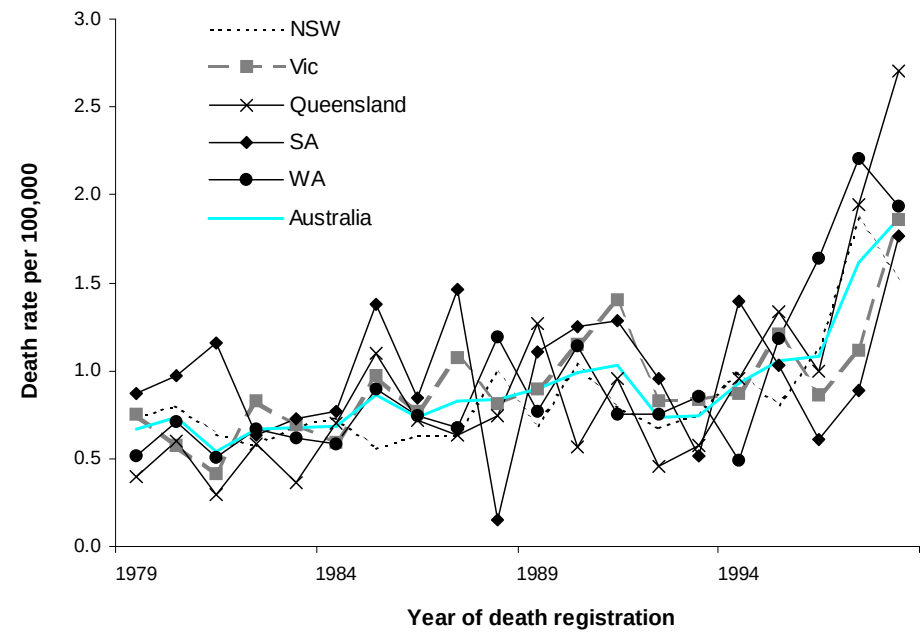


Figure 3.27 : Age-standardised rates for hanging by State or Territory for females of all ages, 1979-1998

The rate of hanging is not as markedly raised in the 20-39 year old females when compared to other female age groups and are therefore not shown here.

Motor Vehicle Exhaust

Nationally there has been a slight trend towards increased rates of suicide by motor vehicle exhaust gassing. All States and Territories display this trend apart from Western Australia.

Western Australia has displayed the highest rates for suicide by motor vehicle exhaust overall during the period 1979 to 1998, but the rate has remained fairly stable and has not shown the increase seen nationally.

The Northern Territory has had the lowest rates of suicide by this method. Figure 3.28 shows the variation between the Northern Territory, Western Australia and Australia overall. The rates for the remaining States were aligned with the overall Australian rates.

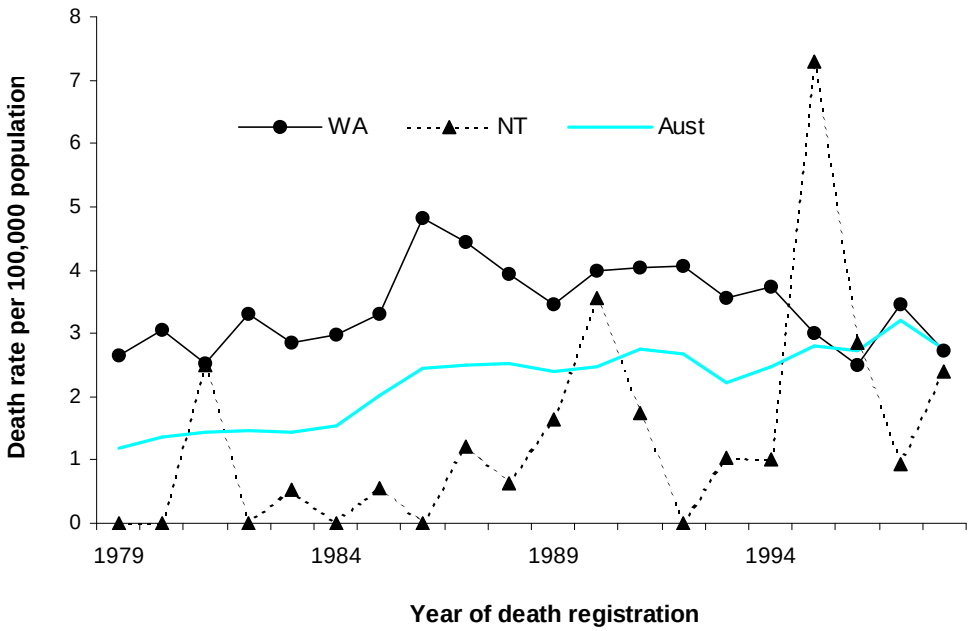


Figure 3.28 : Age-standardised rates for suicide by motor vehicle exhaust gassing by selected State or Territory for persons of all ages, 1979-1998

The marked fluctuations in rates in the NT occur as a result of small numbers.

Firearms

For most States and Territories, suicide rates by firearm were similar to the national average. All States and Territories showed decreasing age-standardised rates for suicide by firearms between 1979 and 1998. The Northern Territory, Tasmania and Queensland had consistently higher rates than the remaining States and Territories, but since the mid-1990s these rates have decreased to rates similar to those of the other jurisdictions.

The age-standardised rate for Queensland decreased rather sharply from 1992. Cantor and Slater (1995) came to a cautious conclusion that new firearm control legislation, which came into effect at the start of 1992, may have reduced suicide rates in that State.

A dramatic fall in the rates of suicide by firearms was seen in Tasmania during the period 1994 to 1996 (Figure 3.29).

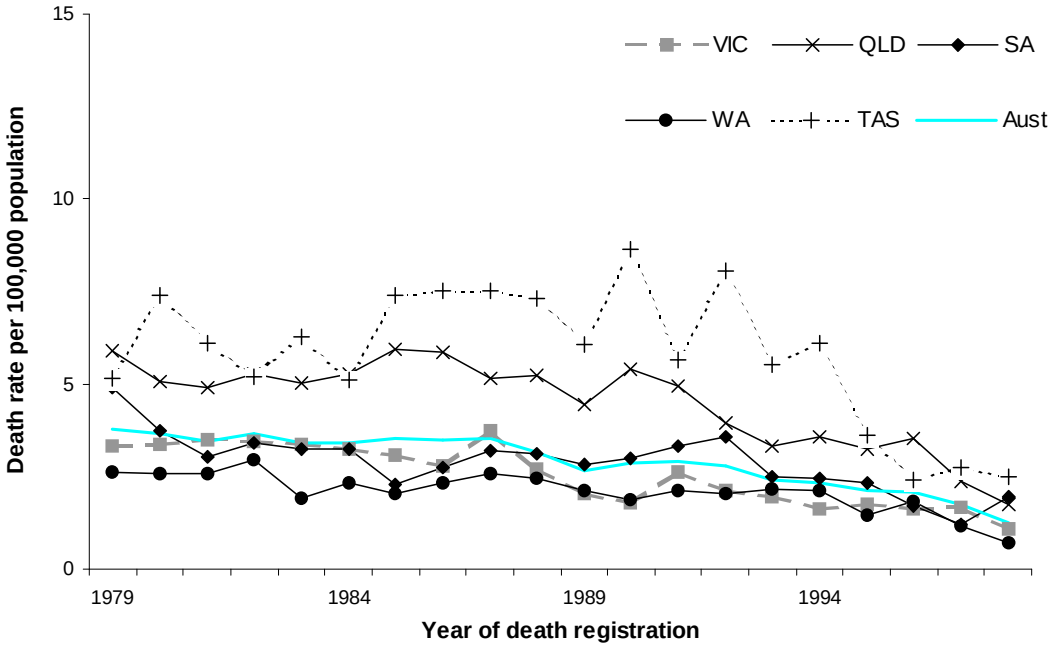


Figure 3.29 : Age-standardised rates for suicide by firearm for selected States and Territories for persons of all ages, Australia, 1979-1998

The rates for the ACT showed year to year fluctuations because of the small numbers involved, whereas the rates for South Australia and Western Australia were slightly lower than the national rates throughout the period, and followed the downwards trend.

Poisonings by solid or liquid substances

In Australia, suicide rates through poisonings by solid or liquid substances have been decreasing since 1979 for both males and females.

Queensland has shown higher rates than the national average, but the rates for this State are decreasing. The profiles for other jurisdictions are also decreasing and are in close alignment with the national average.

The Northern Territory has generally shown rates lower than the national average, and rates are also decreasing for this jurisdiction.

To highlight the changes in average rates of suicide by poisoning over time for the years 1994-98 compared to 1979-83, the percentage change for each State and Territory is displayed in Figure 3.30. Victoria and South Australia have shown the largest decreases in average rates of suicide due to poisoning.

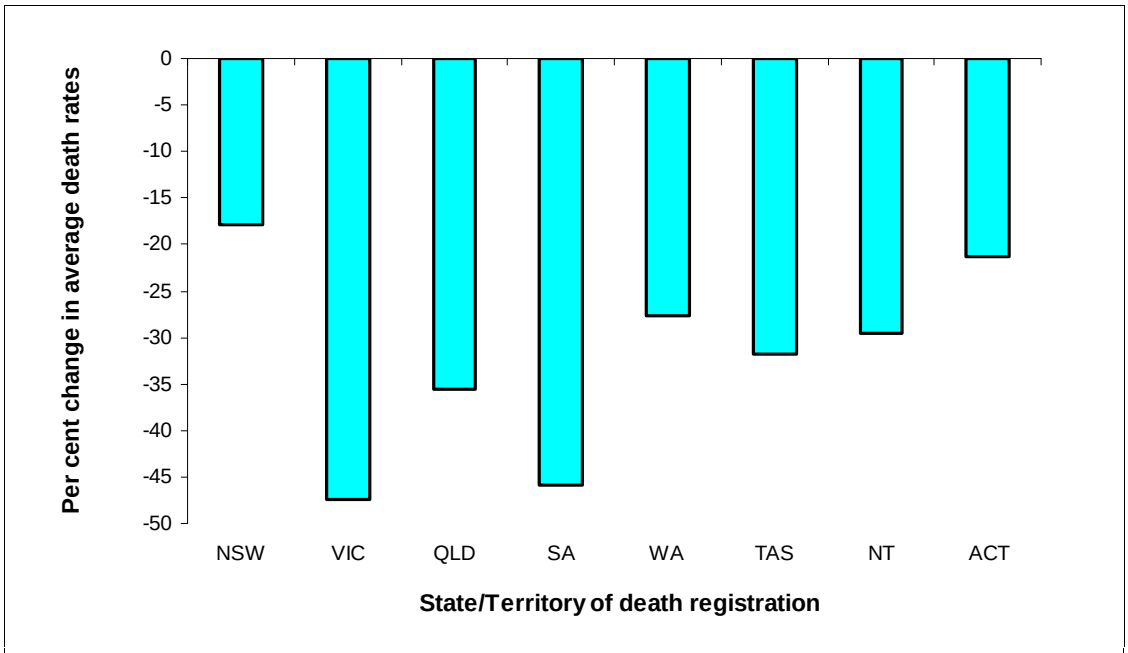


Figure 3.30 : Per cent change in average age-standardised rates for poisonings by solid or liquid substances for State and Territories for persons of all ages; for the periods 1979-1983 and 1994-1998, as a proportion of the 1979-83 rates

3.4.3 Variation in State/Territory contributions to national change

As reported in Section 3.1 there was an increase of 9% in the number of suicide occurrences between 1996 and 1997. This large increase mainly occurred in NSW and Victoria. In the following year case numbers did not change much in these two States, but Queensland, South Australia and Western Australia showed notable increases (Table 3.1 and Figure 3.31). The table and the figure present 'years to October' in order to reduce the effect of the non-availability of data on deaths registered after the end of 1998. (See Section 4.2.2)

Table 3.1 : Suicide case numbers by jurisdiction of registration and date of occurrence (12-month periods ending October)

12 months ending October	Jurisdiction in which death was registered								
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
1995	777	548	488	195	212	69	22	34	2,345
1996	799	504	536	180	229	57	37	33	2,375
1997	908	594	517	200	233	57	37	40	2,586
1998	914	600	585	238	280	56	37	31	2,741

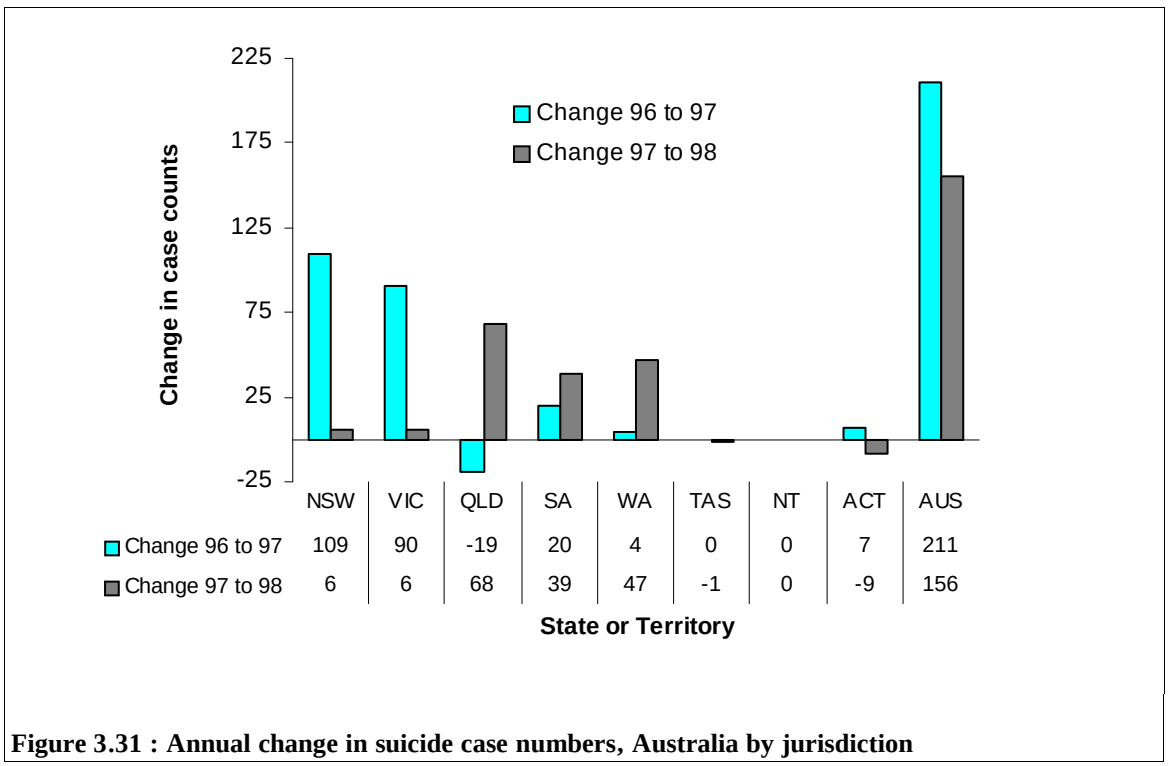


Figure 3.31 : Annual change in suicide case numbers, Australia by jurisdiction

4 Issues in reporting suicide deaths

4.1 Data presented in this Report

4.1.1 Identification of suicide deaths

Suicide and self-injury are complex concepts, subject to difference of interpretation (O'Carroll, Berman 1996). Key questions are whether all (or nearly all) suicide and self-injury cases are coded to the categories reported, and whether other types of cases might have been coded to them. Also, the decision as to whether a particular death is due to suicide principally depends on the information available in the coroner's records, and on the application of ICD-9 External cause codes, generally based on that information.

Little empirical information on the reliability of these data are available. There is considerable potential for factors to do with information recording or coding to affect data in different ways for different States and Territories. Hence, apparent differences between jurisdictions should be interpreted with caution. Beginning with 1993 registrations, coding has been centralised at the Brisbane office of the ABS. This may have reduced variations in assigning ICD-9 E-codes, but will not affect the recording of initial information on suicide cases.

Suicide may be especially susceptible to misclassification because the intention of the deceased person is not always clear, especially with causes of death such as drowning and drug overdoses. Also, social disapproval of suicide might prompt some cases to be presented in a way that leads them not to be recorded as such.

4.1.2 Source data

Deaths data used in this Report are from the Australian Bureau of Statistics (ABS) mortality unit record data collection. These represent the number of deaths registered by Registrars of Births, Deaths and Marriages during each calender year.

Deaths given an International Classification of Diseases External cause code which identifies suicide are included in this Thematic Report. For deaths since 1979, the total number of suicide cases would be those with ICD-9 E-codes in the range of E950 to E959. For years prior to 1979, the relevant E-codes in previous ICD revisions were used to identify suicide cases. Time trends for suicide deaths are mostly presented for the period 1979 to 1998. As already indicated, this is the period during which Australian death data have been classified according to the 9th revision of ICD and earlier data were coded to previous revisions of the ICD.

This Report makes use of standard aggregations of the ICD-9 E-code classification in regard to method used in suicide. These are:

- Hanging E953.0
- Motor vehicle exhaust E952.0
- Firearms E955.0 to E955.4
- Solid and liquid poisons E950
- Cutting/piercing E956
- Other specified means Remainder of E950 to E959

Where relevant, any other subdivision of suicide into various methods is clearly noted.

4.1.3 Population data

Population data used to calculate rates were also obtained from the ABS. Rates for 1998 were calculated using final population estimates as provided by ABS.

Most rates have been adjusted to overcome the effect of differences in the proportions of people of different ages (and different injury risks) in the populations that are compared. Direct standardisation was employed, taking the Australian population in 1991 as the standard. Changes in age compositions are small within narrow age bands (e.g. 15-19 years) and adjustment has not been applied to 5-year age groups. Where crude rates are reported this is noted.
All (or nearly all) suicide deaths are registered, so sampling errors do not apply to these data. However, the time periods used to group the cases (i.e. calendar years) are arbitrary. Use of another period (e.g. July to June) would result in different rates. Where case numbers are small, the effect of chance variation on rates can be large. Confidence intervals (95%, based on a Poisson assumption about the number of cases in a time period) have been placed around rates as a guide to the size of this variation. Chance variation alone would be expected to lead to a rate outside the interval only once out of 20 occasions.

4.2 Considerations in regard to registration of suicide deaths

National mortality data are released annually by the ABS. Each annual file includes all deaths registered in a calendar year. Most deaths are registered during the year in which they occur, but some are not registered until later, mainly early in the following year.

An assumption is often made that the number of registrations in a particular period provides a good estimate of the number of death occurrences. This holds true often enough to be useful, but it works best if the true incidence of a cause of death does not fluctuate greatly over short periods of time and if the time between occurrence and registration of deaths is not long or variable.

For public health purposes, case numbers by date of death (i.e. occurrences) are generally of greater interest than case numbers by date of registration. Also, the greatest interest is usually in the most recent period. Thus, the nature of the mortality data collection is such that the data of greatest interest (i.e. the latest values for occurrence) are the least complete and most uncertain part of the collection. These issues were highlighted with the publication of the 1997 data.

4.2.1 Analysing the increase of suicide cases in 1997

The number of deaths registered as suicide during 1997 was substantially (14%) higher than in the previous year, a point made in by the ABS in the Causes of Death publication (Australian Bureau of Statistics 1999b). Such a large increase, especially in a type of death that is the subject of much attention by policy makers, researchers and the media, warranted scrutiny. When investigating the 1997 death registration data, a consideration was that the ABS had introduced automated coding methods and multiple cause coding for mortality data, beginning with the 1997 registrations. As part of an assessment of data to look for any signs of such an effect, case numbers were examined by month of registration. No sign was seen of a step likely to be due to the changed method, but a large peak in suicide registrations was evident in December 1997.

Further assessment of data and discussion with ABS officers confirmed that a particularly large number of suicide deaths were registered in December 1997. It also showed that the increase in annual suicide registrations and the peak in December 1997 were largely restricted to Victoria and NSW. The registrations in December 1997 did not appear to have an unusual composition (in terms of age, sex, means of suicide, etc). Unusually high numbers of other types of external cause death were also registered in December 1997, and this was restricted to Victoria. Numbers of suicide occurrences were relatively high in the last quarter of 1997, particularly in NSW, Queensland and Victoria.

The December 1997 peak in suicide registrations was so large and sharp that a problem with data seemed to be the most likely explanation. Nevertheless, suicide rates had been trending upwards, and media attention to the subject in Australia was high near the time of the peak (notably concerning the death of Michael Hutchence in November 1997). It was difficult to distinguish between several possible explanations for the pattern until data for 1998 registrations were available. The main possibilities were:

- The peak might be an artefact of the data system. If so, the cause thought most likely was concentration of registrations in December 1997. Other logically possible causes include coding errors and increased propensity to classify deaths as suicides.
- The December 1997 peak in registrations might reflect a sudden increase in suicide occurrence. This might have been transient, an upward step, or an upward trend.

Data on deaths registered in 1998 became available in December 1999. This section reports further investigation of the December 1997 peak in suicide registrations, and related matters, using mortality data for 1998 registrations.

Figure 4.1 shows numbers of deaths registered in Australia as suicides, by month, during the period January 1995 to December 1998 (solid line). Superimposed on this are suicide numbers charted according to the month of death (dashed line). Note that many deaths occurring near the end of 1998 will not have been registered until 1999, so the last few data points, especially that for December, do not represent all cases. (The dashed line has been omitted after October 1998 to indicate the uncertainty.)

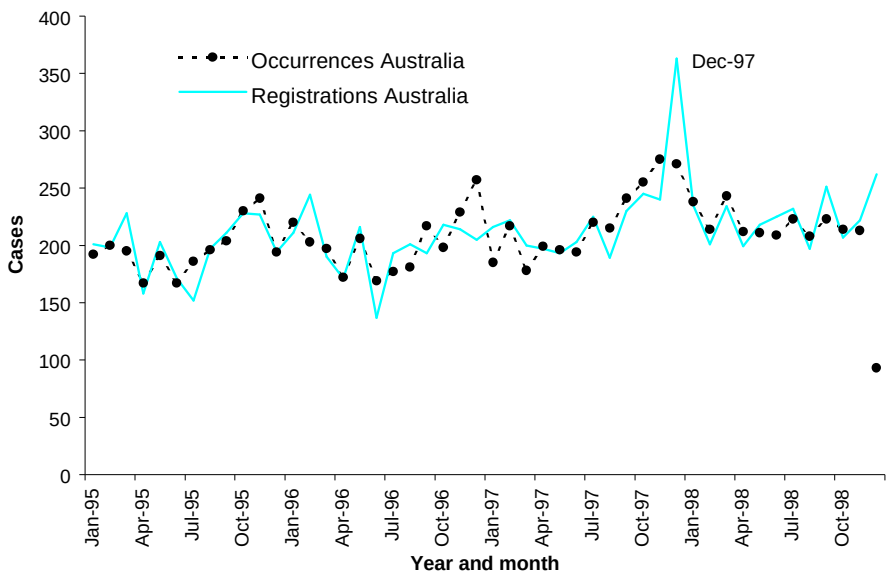


Figure 4.1 : Suicide deaths and registrations by month, Australia, January 1995 to November 1998

The unprecedentedly high number of suicides registered in December 1997 can be seen. The 1998 data indicate that this was a transient peak. The number of suicide deaths was also unusually high in the last three months of 1997, these being three of five months on record in which the number exceeded 250.

This overall pattern was not repeated at State level: In NSW (Figure 4.2), the number of deaths registered as suicide increased markedly from 60 to 80 cases per month in the two years to July 1997, to a peak of 110 cases in December 1997. Case numbers for 1998 suggest a return to the previous monthly range. Hanging cases accounted for the peak.

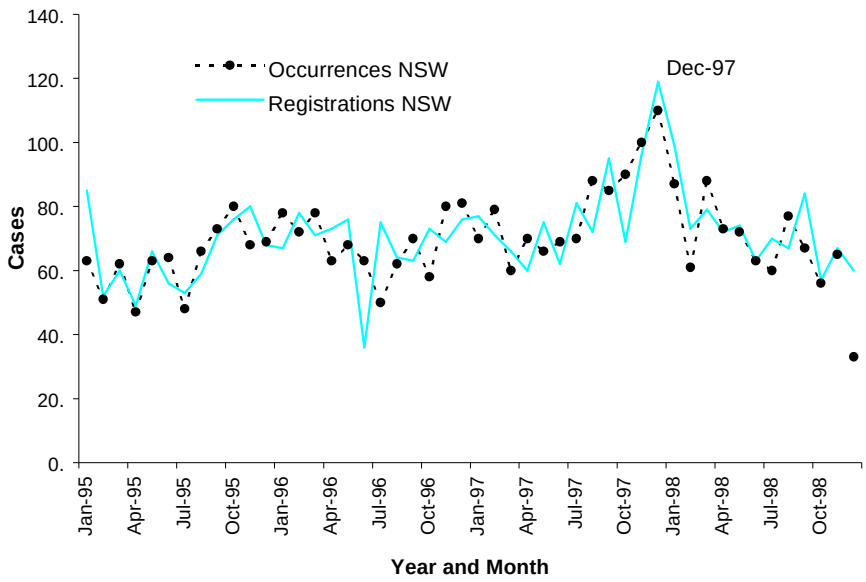


Figure 4.2 : Suicide in NSW: deaths and registrations by month, January 1995 to November 1998

Victoria accounted for most of the peak in registrations seen in December 1997. The numbers of suicide registrations in Victoria in December 1997 and December 1998 were much larger than in other months (Figure 4.3). Unusually small numbers of cases were registered in January 1997 and January 1998. This pattern suggests an administrative cause. There was a less dramatic peak in suicide case numbers in Victoria from September to November 1997. Case numbers averaged a little over 60 per month in this period compared with about 45 per month in the previous two years and 48 per month in the first 10 months of 1998.

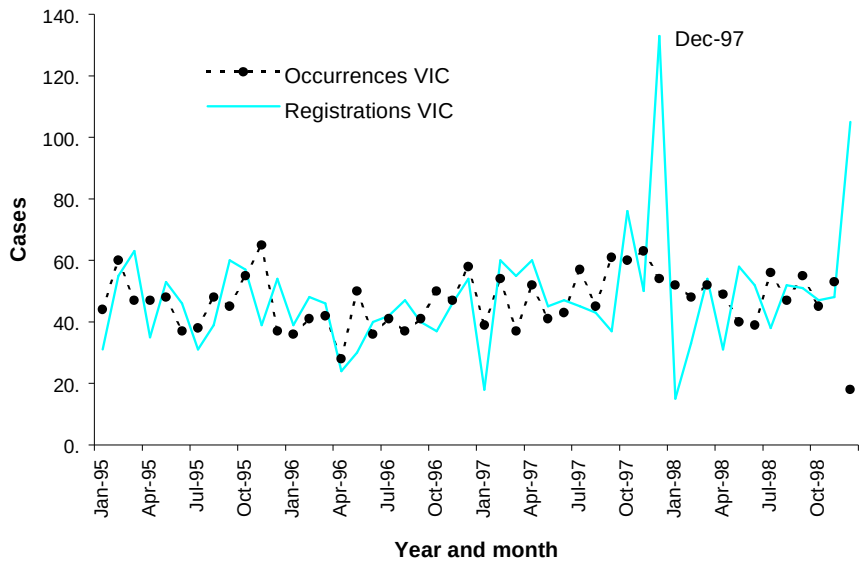


Figure 4.3 : Suicide in Victoria: deaths and registrations by month, January 1995 – November 1996

Queensland data show a peak in cases in the last quarter of 1997 after a dip earlier in the year (Figure 4.4). Hanging accounted for most of the rise, though deaths using other means were also relatively frequent near the end of 1997. Registration numbers tended to be similar to case numbers in the previous month.

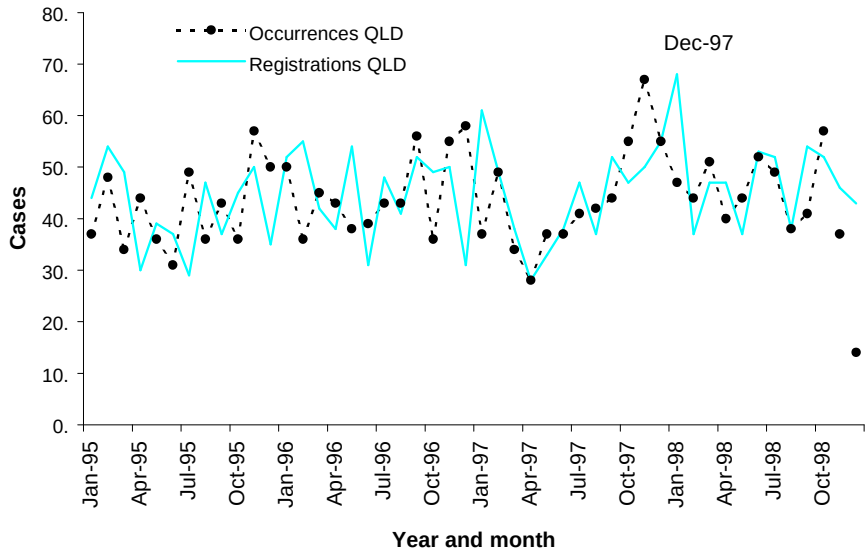


Figure 4.4 : Suicide in Queensland: deaths and registrations by month, January 1995 to November 1998

Smaller case numbers in other jurisdictions make it less easy to detect patterns by month of occurrence and registration. There were no patterns as marked as that in Victoria.

Conclusions

The peak of suicide registrations in late 1997 had two components:

- A large peak of registrations in Victoria in December 1997, not limited to suicide cases. A similar large number of registrations in Victoria in December 1998, and low numbers in January 1997 and January 1998, suggest an administrative explanation: since late 1997, deaths that might otherwise have been registered in January, or in another month, have been registered in December.
- A smaller, though substantial, peak in suicide occurrence in the last quarter of 1997. This is evident in NSW, Victoria, Queensland and (in December, and continuing in early 1998) Western Australia. Suicide rates have a seasonal component, and tend to be highest in this quarter in Australia. The peak in 1997 was larger than in previous years.

4.2.2 Influence of reporting periods

As illustrated above , delay occurs between the date on which a death occurs and the date on which it is registered. It is the practice of the Australian Bureau of Statistics to release one annual mortality data file, containing deaths registered in a particular calendar year. Consequently, essentially complete date of occurrence data for a particular calendar year (say 1997) are not available until year of registration data are released for the following year (i.e. 1998 registrations, released late in 1999).

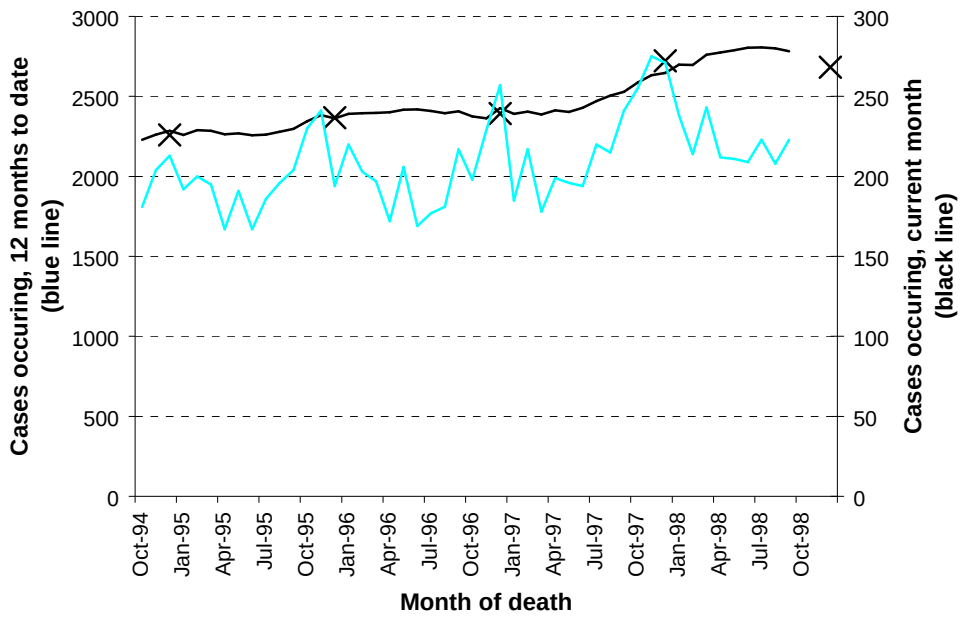
Most of the suicides that are not registered during the calendar year in which they occur happen in November and December. Hence, registrations to the end of 1998 are likely to include nearly all cases that occurred to the end of September 1998. If patterns observed for recent years continued in 1998, then the occurrence estimate for the year to September 1998 should be about 99% complete (in relation to the case numbers that will be known after 1999 registrations data become available). Similarly, the estimate for cases during the month of September 1998 should be about 97% complete. Likely completeness would be lower if estimates were for years to October (98% and 93%) or November (97% and 88%), and much lower if to December (91% and 37%).

Numbers of cases registered during recent calender years are shown in Table 4.1. Case counts by year of occurrence are also presented in this table. The reporting periods used for this purpose are years to September, because of characteristics of currently available deaths data which complicate timely report on a year-of-occurrence basis.

Table 4.1 : Suicide counts for Australia, Persons (case numbers registered and occurring)

	Registrations in calendar year	Deaths in years to end September
1994	2,258	2,220
1995	2,367	2,296
1996	2,393	2,407
1997	2,723	2,529
1998	2,683	2,782

Figure 4.5 presents numbers of suicide cases in Australia based on date of death. It covers the latest four-year period for which sufficiently complete data are available.



X = Suicide death registrations in calendar year.

Figure 4.5 : Suicide Australia: Rolling 12-month case counts based on registrations from October 1994 to September 1998

The blue line in Figure 4.5 represents the number of suicide deaths that occurred in Australia during the 12-months ending with each month, from October 1994 to September 1998 (i.e. it is a rolling 12-month case count). The black line shows the number of suicide deaths that occurred in each month in this period. The lines are not continued after September 1998 because underestimation due to omission of cases not registered until after the end of 1998 becomes substantial near the end of the period for which registration data are available. Figure 4.5 also shows (as 'X') the number of suicide registrations in each of the five calendar years 1994 to 1998.

Assessment based on year of death shows a more steady increase in suicide case numbers during recent years than does the number of registrations. While suicide registrations increased by 14% from 1996 to 1997, suicide occurrences increased 9%.

Monthly suicide case numbers show seasonal variation, being higher in summer than in winter. A particularly large peak occurred in the summer of 1997/98, which accounts for the rise in rolling annual case counts in the period after mid 1997.

Of the 2,646 suicides that occurred in 1997 and had been registered by the end of 1998, 6.6% were registered in 1998. If the same proportion of 1998 suicide deaths is registered in 1999, then the final number of suicide occurrences in 1998 will be about 1% higher than the number in 1997 (n = 2 646).

Case numbers in August and September 1998 were lower than in the corresponding month of 1997, suggesting that the 1998/99 summer peak may not have been as large as that in 1997/98. However, case numbers were higher in mid-1998 than in mid-1997. If the number of cases in the last quarter of 1998 was no higher than the number in the last quarter of 1996, then the final number of suicides in 1998 will be about 1% higher than the number in 1997.

This section illustrates suicide monitoring based on data of occurrence. Essentially complete year-of-occurrence reporting can be based on currently available mortality data if reporting is in terms of years to September. Alternatively, the ABS could enable more timely reporting on the basis of calendar year of occurrence by (for example) releasing data on deaths occurring in a given year and registered in the first quarter of the following year along with the final release of deaths registered during the year.

4.3 Deaths due to 'Undetermined intent'

The ICD provides a range of 'external cause' codes for injury events where it was undetermined whether the injury was 'accidentally or purposely inflicted'. The uncertainty about intent that leads to use of these codes is usually whether a case satisfies criteria for being recorded as 'suicide and self-inflicted injury'.

The use of these categories is susceptible to variation unrelated to the occurrence of cases. This is because its use depends on investigatory and record-keeping practice and on quite subtle decisions concerning the nature of intent and the sufficiency of evidence concerning intent. Sometimes the two categories 'suicide and self-inflicted injury' and 'undetermined intent' are combined for analysis of self-harm, or both categories are included and distinguished. It is particularly important to consider these approaches if the number of cases coded as 'undetermined intent' is large in relation to the number coded as 'suicide and self-inflicted injury' or varies substantially within the data being considered (e.g. between age groups or over time).

In 1998, the number of 'undetermined intent' deaths (n = 129) was 5% of the 2,811 deaths coded as suicide or 'undetermined intent'. The proportion was 4% for males and 7% for females.

The inclusion of 'undetermined intent' deaths would not have a significant impact on the findings in this report (Figure 4.6).

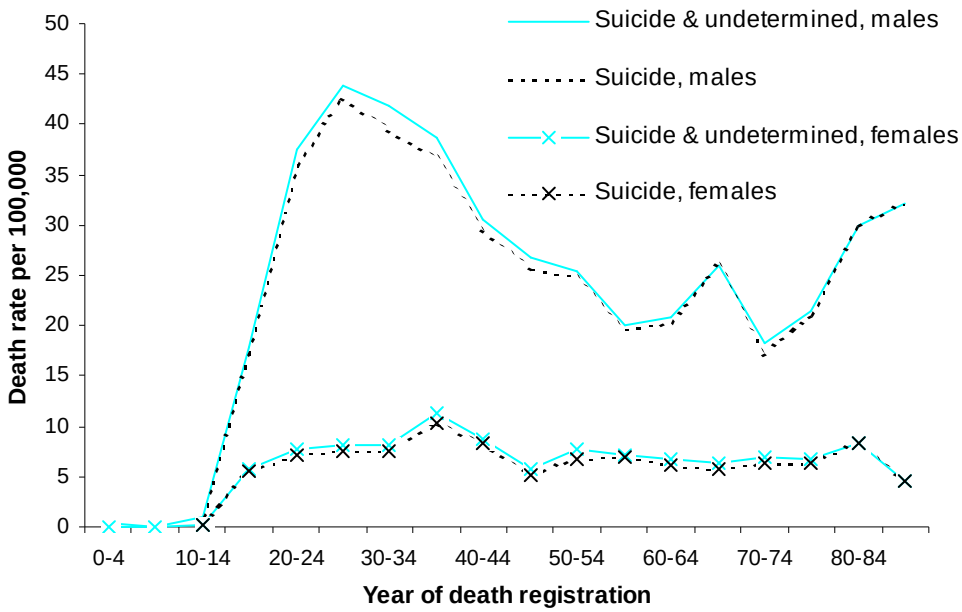


Figure 4.6 : Age-specific rates for Suicide and 'Undetermined intent' cases by sex; Australia, 1998

For males, the number of 'undetermined deaths' ranged from 2% to 6% of the numbers of deaths recorded as suicide or 'undetermined intent' in the period 1979 and 1998. Equivalent proportions for females are 3% and 12%. There is no sign of a trend in these proportions (Figure 4.7).

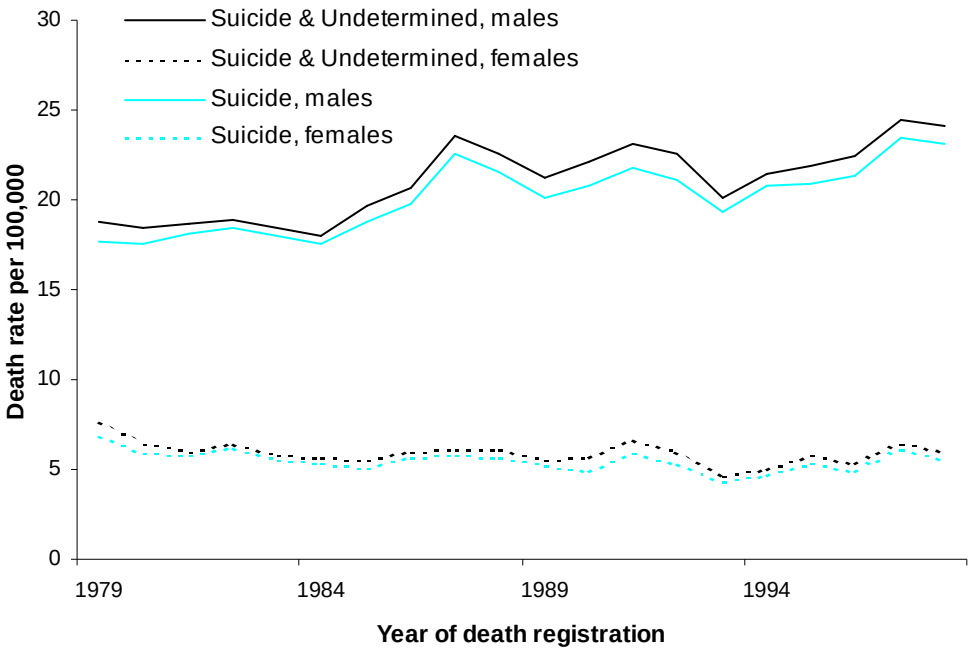


Figure 4.7 : Suicide and 'undetermined intent' cases by sex; Australia 1979-1998

4.4 International comparison of suicide data

Comparison of suicide rates is usually done with data obtained from the World Health Organisation. There are questions about comparability of these statistics, e.g. it has been estimated that some of the countries reporting to the WHO have undercounts of nearly one-third of suicide cases (Commonwealth Department of Health and Aged Care and Strategy 2000). International comparisons should, therefore, be approached conservatively.

The most recent statistics then available from 51 of the 196 members states of the United Nations supplying data on suicide deaths (i.e. for 1994), indicated that Australia's overall suicide rate is about average. For males of all ages, the suicide rate ranked 28th, whereas the female rate ranked 31st (World Health Organisation 1996).

A more detailed discussion on international comparison is available in the recent literature review published by the Commonwealth of Australia (Commonwealth Department of Health and Aged Care and Strategy 2000).

5 Suicide in Indigenous Australians

This section describes current data on suicide deaths in Aboriginal and Torres Strait Islanders. These data have several limitations which concern identification of suicide cases; identification of Indigenous status; and population data for Indigenous Australians. Due to the significant impact these issues have on the interpretation of data presented here, these concerns are discussed first.

5.1 Data issues

5.1.1 Data source

As for all suicide deaths, data on Indigenous suicide deaths are derived from the routine national mortality data collection held by the ABS. The Indigenous suicide cases reported on here refer to those identified as Indigenous Australians among deaths registered between 1988 and 1998. Limited data on Indigenous status are available before 1988 (see Table 5.1) and 1998 is the most recent data set available at the time of writing.

Little evidence is available on the completeness and reliability of the identification of suicides by Indigenous people. The problem has two parts: identification of suicides, and identification of Indigenous people. These are discussed below.

A further complication relates to the quality of population data for Indigenous Australians. This has a significant implication when suicide rates are calculated and is discussed in Section 5.1.4.

The use of these data for analysis is problematic, but we present these as part of this report, because of the lack of data on suicide in Indigenous Australians and to raise awareness of the complexities in regard to national mortality data.

5.1.2 Identification of suicide cases

This limitation applies to all suicide cases and was discussed in Section 4.1.2. The main conclusion is that there is little evidence about the reliability of identification of suicide. It is unknown whether the reliability of identifying suicide among Indigenous people differs from identification of such cases among non-Indigenous persons. What is known is that there is increased interest in suicide among Indigenous Australians. A recent report on Aboriginal youth suicide bears testimony to this (Tatz 1999).

5.1.3 Identification of Indigenous status

In Australia the earliest use of an indicator for identifying Indigenous status in deaths data was in 1980 in NSW where a question about Indigenous status was available on the death notification form (ABS and AIHW 1999). Other jurisdictions introduced the indicator at various times thereafter (Table 5.1).

Table 5.1 : Year of first collection of Indigenous status

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Death notification form	1980	1987	1996	1986	1985	1988	1988	1984
Medical certificate – Cause of death	n.a.[(a)]	1987	1996	In place	1983	1999 [(b)]	1988	1998

(a) Information on Indigenous status may be available by linking with the death notification form.

(b) The original authors expected that data collection would start in this year.

Source: ABS & AIHW 1999.

Although the relevant forms use the standard concept of identifying Indigenous status (i.e. 'Was the deceased of Aboriginal or Torres Strait Islander origin?'), there are variations in the way these question are worded, e.g. in Western Australia the word "Aboriginal" with two options "Yes" and "No" appears on the notification form (ABS and AIHW 1999).

The presence of an indicator enables identification of Indigenous status but does not guarantee complete or reliable identification. The usefulness of administrative data collections, such as the national mortality and morbidity data collections, is currently limited by the quality of identification of Indigenous status. Although empirical evidence on the completeness and reliability with which Indigenous status is identified is still limited, especially for mortality data, it is quite probable that currently available data result in underestimation of true case counts.

A recent report on the quality of identification of Indigenous status in hospital separations data illustrated this. Gray (1999) found that accuracy of identification of Indigenous status ranged from 55-100%. Other demographic data items were also recorded inaccurately and incompletely, but the recording of Indigenous status showed the greatest variation from hospital to hospital with a lower level of accuracy than other data variables (Gray 1999).

Another demonstration of the problems regarding identification of Indigenous status was reported by ABS and AIHW (1999). They estimated the level of under-reporting of all deaths among Indigenous people (i.e. not only deaths due to external causes) by comparing the number of registered deaths recorded as Indigenous with the number of expected deaths based on experimental life tables derived by the ABS from census results (ABS and AIHW 1999). Two sets of estimates of completeness were calculated, i.e. a set based on 1991 Census and experimental life tables for 1986-91 and a second set based on 1996 Census and experimental life tables for 1991-96. These figures for Australia as a whole are shown in Table 5.2.

Table 5.2 : Ratio of registered to expected; Australia 1995-1997

	No. of registered deaths among Indigenous Australians [a]	Ratio of registered to expected deaths for:	
		1991 Census-based projections	1996 Census-based projections
1995	1,182	0.54	0.36
1996	1,306	0.59	0.39
1997	1,662	0.74	0.49

(a) Includes 'Other territories'.

Source : ABS & AIHW 1999.

Completeness of data for deaths among Indigenous Australians were quite low. Except for the 1997 figure based on the 1991 Census-based projections, around 50% or less of Indigenous deaths were registered as such. However, things seem to be improving somewhat: both sets of figures indicate an increase in the proportion of estimated completeness over the years 1995 to 1997.

There are differences between States and Territories in regard to estimated completeness of Indigenous status identification. The ratio of registered to expected deaths as presented by ABS and AIHW (1999) shows the differences in completeness between States and Territories and to higher quality of data in South Australia, Western Australia and the Northern Territory. These three jurisdictions had the smallest discrepancies between registered and expected deaths. When projections based on the 1991 Census are considered, it is apparent that these three jurisdictions registered, on average, around 90% of the projected number of deaths for the years 1995 to 1997. These proportions seemed to remain fairly stable. When 1996 Census-based figures are considered, the proportion is lower, i.e. around 65% for South Australia, 75% for Western Australia and but higher for the Northern Territory. Other jurisdictions show lower proportions, especially Tasmania. For both the 1991 and 1996 Census-based figures, less than 10% of the projected deaths are registered per year in this State. ACT shows greater variation in numbers, but the completeness seems to be decreasing. Victoria was stable for 1995 and 1996, but showed a huge increase in completeness in 1997. NSW showed a decline in numbers, but the decline in the number of deaths registered in 1997 was the result of a technical issue. (ABS and AIHW 1999)

The Queensland Registrar for Births, Deaths and Marriages began collecting data on Indigenous status for births and deaths in 1996. For this year, coverage of Indigenous deaths for Queensland was 42% on 1991 Census-based expectancies and 29% on 1996 Census-based expectancies. For 1997, coverage figures were 85% and 58% on 1991 and 1996 benchmarks, respectively, but increased to 94% and 63% respectively for 1998 (Australian Bureau of Statistics 1999a).

The relatively low coverage in 1996 occurred because, despite the Queensland Registrar's concerted efforts to recover stocks of superseded forms and replace them with those containing the Indigenous status question, a substantial number of deaths were still reported on old forms and were, therefore, without information on Indigenous status. 1997 was the first full year for which births and deaths were consistently reported on forms containing the Indigenous question.

5.1.4 Population data

Background

There are several concerns about the population estimates for Indigenous Australians. These relate to deficiencies in the quality of Indigenous births, deaths, internal migration and base population data (Australian Bureau of Statistics 1996). Another major issue is the definition and membership of the Indigenous population.

The indicator used to identify Indigenous status in the various censuses have undergone a number of changes over time. A detailed discussion can be found in the report by ABS and AIHW (1999). The same question has been used in censuses from 1981 to the present (with the exception of the change in instructions to people of both Aboriginal and Torres Strait Islander origin introduced in 1996). However, there have been large changes in the counts of Indigenous Australians between the Censuses and these cannot be explained fully by natural population increase (ABS and AIHW 1999). This is not a unique phenomenon and similar patterns have been observed in other high-income countries where Indigenous populations are a minority (ABS and AIHW 1999).

Between 1991 and 1996, the number of people counted as Indigenous increased by 33% (ABS and AIHW 1999). Of this increase, just under half is attributable to natural population increase and changes in census editing procedures. For the total population the increase for the same time period was only 5% (ABS and AIHW 1999).

The explanation for the increase, over and above the natural increase, is that some people answered the question on Indigenous status differently from one Census to the next. This could reflect changes in self-identification among some people of ATSI origin, or a change in willingness of people who already identify as Indigenous to indicate this on the census form, or a combination of both (ABS and AIHW 1999). No quantitative empirical research on this has yet been done, although the ABS is planning a series of studies to explore these issues further.

Other sources of uncertainty with respect to the estimation of Indigenous population are:

- The question on Indigenous status is sometimes not answered in Censuses. (For example, in the 1996 Census, information on Indigenous status was missing for more than 525,000 persons, which is more than the almost 353,000 people who indicated that they were of ATSI origin. Population estimates are calculated by assigning people with missing values to either the Indigenous or non-Indigenous population, using probabilities based on their age, sex and place of residence (ABS and AIHW 1999).
- Satisfactory data on Indigenous births, deaths and migration are not available for the Indigenous population (Australian Bureau of Statistics 1996).

Despite these difficulties, it is considered that the experimental estimates and projections based on the 1996 Census and produced by ABS are the best currently available (ABS and AIHW 1999).

Population numbers used in this Report

As stated above, the ABS produces 'Experimental' estimates for the Indigenous population for the years 1991-1996 and projections for the years 1996-2006 (ABS and AIHW 1999).

Experimental estimates

The ABS has published two series of population estimates for 1991-96, based on the 1996 Census (ABS and AIHW 1999).

The 'low series' Estimated Resident Population (ERP) figures are based on the propensity of people to identify as Indigenous at the time of the 1996 Census. They start with the estimated population in 1996. Estimates for prior years are then calculated by making adjustments for the assumed demographic changes only.

The 'high series' ERP figures incorporate new and previously unpublished estimates for 1991-96, which in addition to demographic changes, include assumptions about changes in the propensity of people to identify as Indigenous over the period 1991 to 1996.

In this report, we used the 'low series' experimental estimates for 1991-96.

Experimental projections

For population projections for 1996-2006, two series have also been published by the ABS (ABS and AIHW 1999). The two series use different assumptions about future changes in the propensity of people to identify as Indigenous on the census form. In both series, it is assumed that fertility rates of Indigenous females will decline by 1% per year, that Indigenous paternity rates, mortality and net interstate migration will remain constant, and that zero overseas migration will occur for the projected period (ABS and AIHW 1999).

The low series assumes there will be no change in people's propensity to identify as Indigenous and that the Indigenous population will only change as a result of natural increase. The high series projections assume that there will be an increase over time in the propensity of people to identify as Indigenous. It is assumed that the rate of change will be the same as that which occurred between 1991 and 1996. (ABS and AIHW 1999)

In this report we used the 'low series' of experimental projections for the years 1997 and 1998.

Population estimates based on the 1996 Census for years prior to 1991 were unavailable at the time of writing and no rates were calculated for 1988-1990.

5.2 Data on Indigenous suicides

5.2.1 Suicide case counts and rates

Between 1988 and 1998 a total of 436 suicides were registered among Indigenous Australians (Table 5.3). This formed 21% of all Indigenous deaths due to injury and poisoning registered for these years. The comparable proportion for non-Indigenous people was also 21%.

As stated in Section 5.1.3, identification of Indigenous status is considered to be more reliable for South Australia, Western Australia and Northern Territory. We do not know how well the data for these jurisdictions represents the profile for all Indigenous Australians, but in the sections below, we present combined data for these three areas as a quasi-national picture.

Table 5.3 : Number of Indigenous suicides registered by State or Territory, Australia 1988-1998

Year	Counts and rates for SA, WA and NT[a]						Counts for other States and Territories					Totals for Australia	
	SA	WA	NT	Tot	Crude Rate	Stand. Rate[b]	QLD	NSW	VIC	TAS	ACT	Incl QLD	Excl QLD
1988	5	7	5	**17**	*n.a.*	*n.a*	*n.a.*	5	4	0	0	..	**26**
1989	12	8	0	**20**	*n.a.*	*n.a*	*n.a.*	6	1	0	0	..	**27**
1990	8	6	2	**16**	*n.a.*	*n.a*	*n.a.*	4	2	0	0	..	**22**
1991	8	4	1	**13**	11.1	9.4	*n.a.*	5	2	1	0	..	**21**
1992	7	5	7	**19**	15.8	17.6	*n.a.*	3	2	0	0	..	**24**
1993	2	9	2	**13**	10.6	9.8	*n.a.*	7	3	1	0	..	**24**
1994	8	9	5	**22**	17.6	18.7	*n.a.*	7	2	0	0	..	**31**
1995	9	10	2	**21**	16.5	16.3	*n.a.*	13	3	1	1	..	**39**
1996	1	12	8	**21**	16.1	17.4	16	2	4	0	0	**43**	**27**
1997	6	9	11	**26**	19.6	18.7	38	3[c]	3	0	0	**70**	**32**
1998	9	20	10	**39**	28.9	26.3	44	21	4	0	1	**109**	**65**

(a) Crude and standardised rates calculated using case counts and population estimates for Indigenous persons in South Australia, Western Australia and the Northern Territory. Rates are for 100,000 per population.

(b) Stand. Rate, ie Age-standardised rate adjusted by direct standardisation taking the 1991 Australian population as the standard.

(c) The decline in the number of Indigenous suicide deaths for NSW in 1997 is influenced by a decline in the number of all Indigenous deaths registered as such for this year. This decline was the result of a technical issue (ABS & AIHW 1999).

When data for Western Australia, South Australia and the Northern Territory (highlighted in grey in Table 5.1) are reviewed, the annual number of deaths registered as suicides by Indigenous people has ranged from 13 (in 1991 and 1993) to 39 (in 1998).

Crude rates based on these case counts have fluctuated between 10.6 per 100,000 population per year (in 1993) and 28.9 (in 1998). Age-standardised rates for the three combined jurisdictions varied between 9.4 per 100,000 population in 1991 and 26.3 per 100,000 in 1998, but overall the rates did not show a strong trend and the average standardised rate was around 17 per 100,000. The increase from 1997 to

1998 was about 40% for the standardised rates. It is mainly due to a large increase in case numbers in Western Australia.

When looking at non-Indigenous Australians (not presented in Table 5.1), the age-standardised rates for the three combined jurisdictions did not show a notable trend between 1991 and 1998. These rates varied from 11.8 per 100,000 population (in 1994) to 15.7 (in 1998), while the average rate was 13.3 per 100,000 population. There also was only a 14% difference between the rate for 1997 (13.7) and the one for 1998.

In Queensland, data on Indigenous status became available for deaths registered from the beginning of 1996. Age-standardised rates for Indigenous suicide in Queensland based on these case counts were 14.2 per 100,000 population in 1996, 34.2 per 100,000 in 1997 and 40.8 in 1998.

The first of these rates was similar to the age-standardised rate in the same year based on cases in South Australia, Western Australia and the Northern Territory. The Queensland rate for 1997 was more than twice as high as in the previous year. The explanation for the increase in case numbers lies (at least partly) in an administrative change. (As explained in section 5.1.3, 1996 was a transitional year as Indigenous identification in Queensland mortality data commenced.)

It is unclear to what extent rises in suicide numbers and rates among Indigenous Australians reflect true increases. Although there is great variation in ascertainment between jurisdictions, overall for Australia as a whole there is an increase in completeness. This may mean that the increase in suicide deaths can at least partly be explained by better ascertainment of Indigenous status.

5.2.2 Age and sex distribution

In 1998 (in the whole of Australia) a total of 109 Indigenous deaths were registered as suicide (Table 5.3). Of these, 94 (86%) were male, and of these, 81 (i.e. 86% of 94) were aged between 15 and 39 years of age. Of the 15 females, 12 (80%) were between 15 and 39 years old.

Considering all case that occurred between 1988 and 1998, Indigenous suicide was sharply concentrated in the younger age groups especially for both males (Figure 5.1).

Male case counts were significantly higher than those for females, except for those aged 10-14 years and those aged more than 49 years. Between 1988 and 1998, the overall average male to female ratio based on age-standardised rates was 6.7:1 for Indigenous suicides.

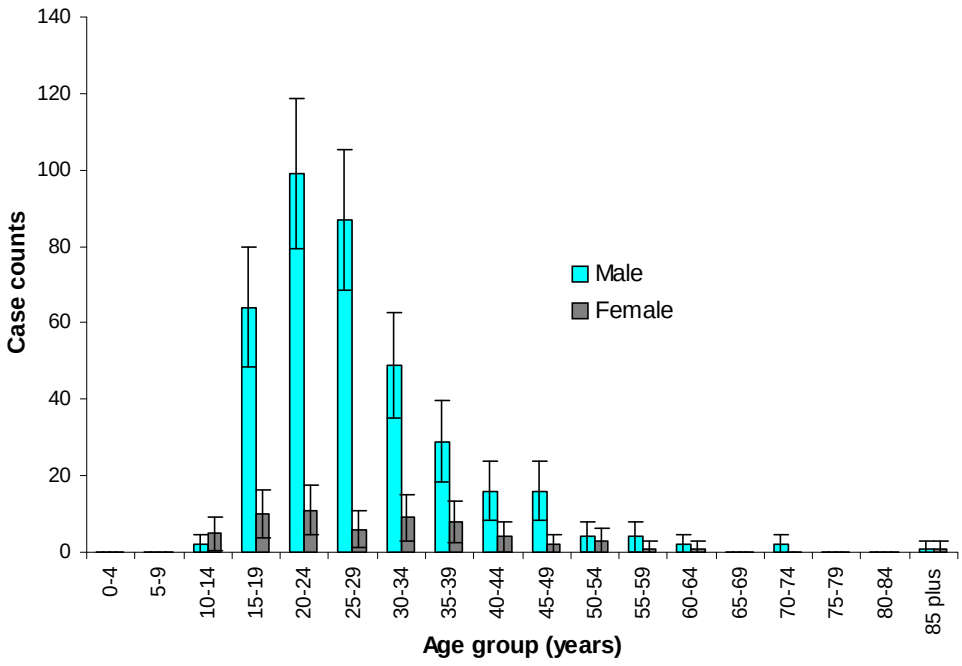


Figure 5.1 : Suicide by Indigenous Australians 1988-1997: case numbers by age group and sex

Error bars indicate 95% CI for case counts.

Rates were higher for Indigenous persons than non-Indigenous persons at age groups up to 40-44 years, though the difference was significant in terms of 95% confidence intervals only for the age groups 15-19, 20-24 and 25-29 years (Figure 5.2).

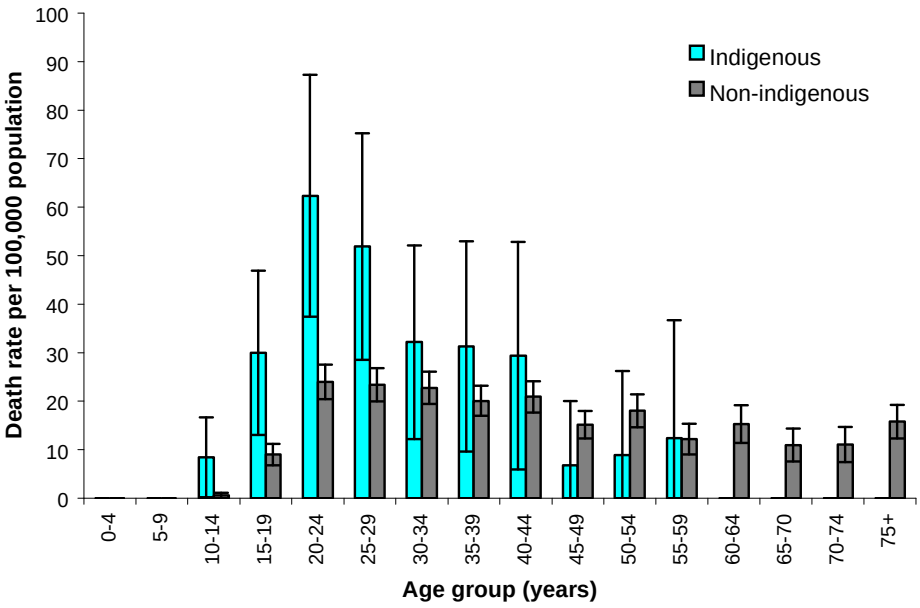


Figure 5.2 : Age-specific suicide rates for Indigenous and non-Indigenous people; SA, WA and NT, 1996-1998

The chart shows average rates over three years due to the small annual numbers of Indigenous cases.

Error bars indicate 95% confidence intervals for rates.

5.2.3 Method of suicide

Hanging was the commonest means of suicide for Indigenous males and females between 1988 and 1998 (Table 5.4). Other common means were firearms (for males) and poisoning by solid or liquid substances (for females).

Table 5.4 : Methods used in suicides: percentages for Indigenous and non-Indigenous suicides by sex, Australia, 1988-1998

Method	Indigenous Males		Non-Indigenous Males		Indigenous Females		Non-Indigenous Females	
Hanging	250	67%	5,526	31%	40	67%	944	20%
Firearm	65	17%	3,562	20%	1	2%	221	5%
Poisoning (solids&liquids)	16	4%	1,989	11%	9	15%	1,594	34%
MV exhaust	13	3%	4,079	23%	0	0%	695	15%
Cutting/piercing	10	3%	330	2%	3	5%	91	2%
Other/unspecified	21	6%	2,566	14%	8	13%	1115	24%
Total	**375**	**100%**	**18,052**	**100%**	**61**	**102%**	**4,660**	**100%**

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

Please note that data for Queensland has only been available since 1996.

In comparison with suicides by non-Indigenous people in the same period, the suicides by Indigenous Australians in this period were much more likely to be by hanging (e.g. for males, 67% of Indigenous cases; 31% of non-Indigenous cases) and less likely to be by poisoning, including poisoning by motor vehicle exhaust gas (Table 5.2).

5.3 Deaths in custody

Deaths in custody among Indigenous Australians has been a matter of public concern. This was highlighted by the Royal Commission into Aboriginal Deaths in custody (Royal Commission into Aboriginal Deaths in Custody 1991).

National mortality data held by the ABS do not allow for the identification of deaths in custody within the data sets. The Australian Institute of Criminology has a unique Deaths in Custody Monitoring Program that collects data on deaths which occur in police custody and custody-related police operations, as well as those that happen in prison custody (Dalton 1999).

A recent analysis by Dalton (1999) of these data showed that from 1980 to 30 September 1999, there was a total of 219 Indigenous deaths in custody. Nearly half of these (110) occurred between 1980 and 1989. The other 109 occurred between 1990 and the end of September 1999.

Of the 110 Indigenous deaths in the years 1980-1989, 61% of deaths occurred in police institutional settings and 36% in prison. The rest occurred in juvenile detention. For the second time period, 1990 to 30 September 1999, 18% of deaths occurred in police custody, while 81% took place in prison. Less than 1% occurred during juvenile detention (Dalton 1999). In this latter period there also were 30 Indigenous deaths in custody-related operations. (Data on this category was not available before 1990.)

Of the 119 Indigenous deaths that occurred in prisons between 1980 and 1998[5], 53 (45%) was due to suicide or self-inflicted harm (Dalton 1999). The average number of suicide deaths was just less than 3 deaths per year. For non-Indigenous inmates, suicide comprised 47% of all deaths and the average number of suicides was 17 per year. However, for Indigenous Australians there seems to be a shift in pattern over time. The number and proportion of suicide deaths has been greater for the period since 1990 than in the decade before (Dalton 1999). Also, in each year since 1995, suicide has represented 50% or more of all Indigenous deaths in prison.

Another publication by Dalton (1998) reports on deaths in custody and custody-related police operations. From 1 July 1997 to 30 June 1998, a total of 99 such deaths were reported. Of these, 17 deaths were of Indigenous Australians (Dalton 1998).

Of the 17 Indigenous deaths, five occurred in police custody and 12 in prison. There were no deaths in juvenile custody. Of the 12 prison deaths, six were due to suicide and hanging was the method of choice in all of them (Dalton 1998).

[5] In 1988, Indigenous people comprised 15% of the prison population; at June 1998 this figure was 19%. In the years 1980-1989, 12% of prison deaths were of Indigenous Australians. In the decade since, the proportion has risen to 17%. (Dalton 1999)

6 Hospitalised self-harm; 1997/98

(See Appendix 8.2, Tables 8.20-8.24)

Deaths identified as suicides are one outcome of a range of behaviours variously termed ‘self-harm’, ‘intentional self-inflicted injury’ and ‘attempted suicide’ (O'Carroll, Berman 1996). The main focus of this Thematic Report is an analysis of data concerning deaths by suicide (i.e. in Sections 2-5). This section provides a short overview of the subset of self-harming behaviours that result in admission to a hospital. These cases are referred to here as ‘hospitalised self-harm’.

As with the previous section, this section starts with consideration of data issues, which is then followed by data from the latest year available at the time of writing, i.e. data for the financial year 1997/98.

6.1 Data issues

6.1.1 Defining hospitalised self-harm

Self-harming behaviours resulting in admission to a hospital are only part of the total picture of self-harming behaviours and their consequences. It is not accurate to regard hospitalised self-harm as equivalent to ‘attempted suicide’ (e.g. for comparison with ‘completed suicide’ represented in the mortality data discussed in Sections 2-5). Figure 6.1 represents the relationship schematically.

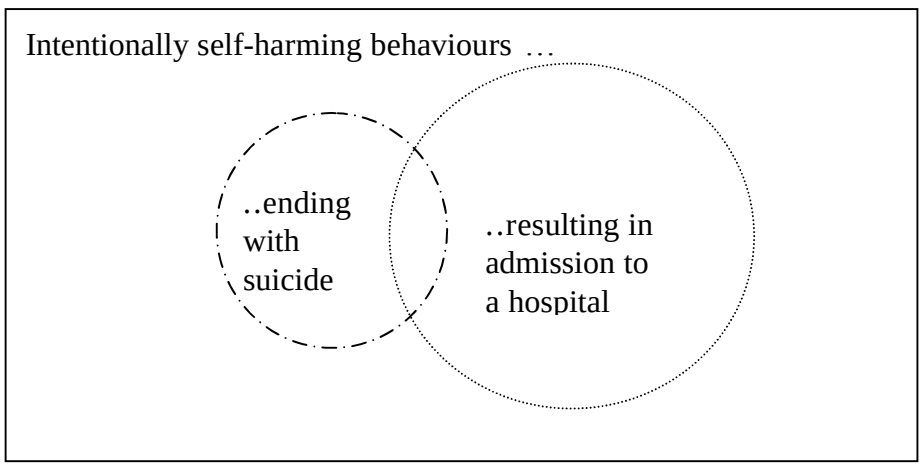


Figure 6.1 : Diagram of the relationship between suicide, hospitalised self-harm and other self-harm

Figure 6.1 also indicates the following characteristics of self-harming behaviours and their consequences:

- There is some overlap between hospitalised self-harm and suicide, as some suicide deaths occur after admission to a hospital.
- Hospitalised self-harm is more frequent than completed suicide.
- Hospitalised self-harm is an outcome of only some self-harming behaviours.

The Figure might be read as indicating that 'hospitalised self-harm' is a sharply-defined category of the consequences of self-harming behaviours. In practice, the demarcation has some uncertainty. This is partly due to difficulty in arriving at the precise operational definition of 'intentional self-harm'. Also, suicide and attempted suicide continue to carry social disapproval. This might be reflected in unwillingness of some hospitalised patients to admit intentional self-harm, and reluctance of clinicians to record this in some cases. The data considered here do not provide insight into these possibilities or into the differences that might exist between jurisdictions.

6.1.2 Data source

The case data reported in this section are taken from the Australian Institute of Health and Welfare database of Australian Hospital Statistics. Except where stated otherwise in the text the selection criteria were:

- Separation from hospital occurring during the year 1 July 1997 to 30 June 1998; and
- A value in the range E950 to E959 in the main 'External Cause' field or, if that field is empty, a value in the same range in the first non-null additional 'External Cause' field.

Further information about 1997/98 hospital data can be found in the AIHW publication 'Australian Hospital Statistics 1997-98' (Australian Institute of Health and Welfare 1999).

The source database contains records for all separations by admitted patients in the reference period from almost all hospitals in Australia. The exceptions, minor in relation to the total number of records, are detailed in Australian Hospital Separations 1997-98 (pp 2-3).

6.2 Data for 1997/98

As stated above, hospital statistics are generally based on data recorded after an episode of care has concluded and the patient has left ('separated from') hospital. This section reports on hospital separations during the period 1 July 1997 to 30 June 1998 where the first E-code (if any) had a value in the range E950 to E959. These cases are referred to here as hospitalised self-harm.

6.2.1 Age and sex distribution

A total of 25,120[6] episodes of hospital care due to self-harm concluded in Australia during the financial year 1997/98. This yielded a crude annual rate of 134.9 per 100,000 population and an all-ages standardised rate[7] of 137.5 per 100,000 population. Overall, self-harm made up 3.8% of hospital separations due to 'external causes of injury and poisoning' and 0.5% of all hospital separations in 1997/98.

Of the total number of hospital episodes due to deliberate self-harm, 43% were males. These 10,709 episodes comprised 3.0% of male hospital separations due to 'external causes of injury and poisoning' at a crude annual rate of 115.6 per 100,000 population, and an age-standardised rate of 116.9 per 100,000 population.

The 14,410 female episodes comprised 4.9% of all female hospital separations due to 'external causes of injury and poisoning'. The crude rate for females in 1997/98 was 154.0 per 100,000 population, while the age-standardised rate was 159.0 per 100,000 population.

For both males and females the highest rates were for age groups from the teens to middle age, and were much lower at older ages (Figure 6.2).

The concentration of self-harm separations in the younger part of adult ages is even more pronounced when considered in terms of numbers of separations. This is because the ages having the highest rates also account for a large proportion of the population. For example, 78% of separations were at ages 15 to 44 years, while 20% were at older ages.

The highest rates were for females aged 15 to 29 years. Rates for males were also high in most of this age range, though they were much lower than female rates at ages 15 to 19 years. Rates for older males and females were lower, the lowest adult rates occurring at ages about 60 to 80 years (Figure 6.2).

Rates for females were significantly higher than rates for males for all age groups from 10 to 14 years to 50 to 54 years, except the age group 30 to 34 years.

Rates for older males were somewhat higher than for middle-aged males and for the oldest group charted (ages 85 and older) rates for males were significantly higher than those for females.

[6] Sex was not recorded for one episode.

[7] Adjusted by direct standardisation taking the Australian population in 1991 as the standard.

(Note however, that case numbers for males and females in this age group were similar, the difference in rates reflecting the high proportion of women in the elderly population.)

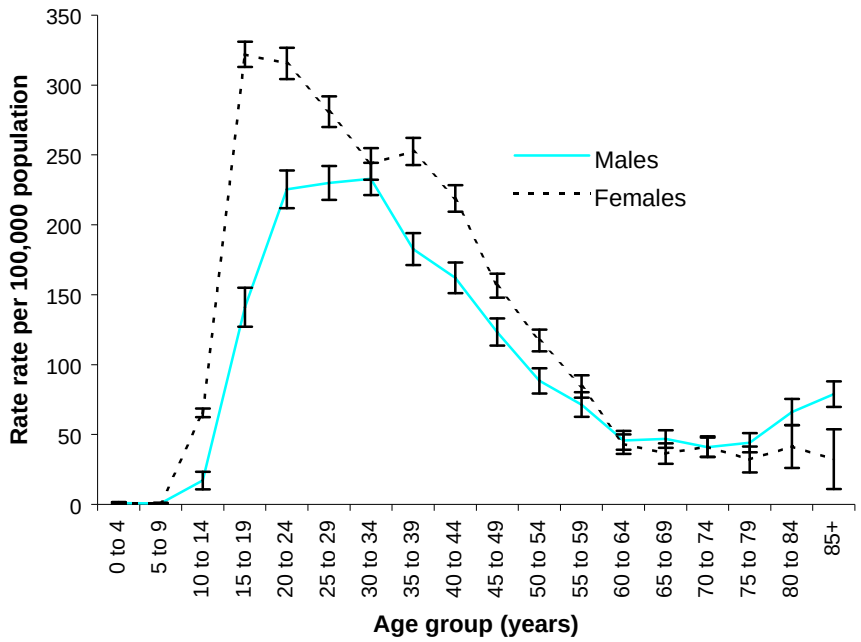


Figure 6.2 : Age-specific rates of hospital separations due to deliberate self-harm for males and females by age group; Australia 1998

Error bars indicate 95% confidence intervals for rates.

Overall, the male to female ratio of the rate of hospital separations due to deliberate self-harm was 0.74 (0.75 when based on age-standardised rates). This varied across age groups and the ratio generally increased with age (Figure 6.3). As noted above, male rates were substantially higher than female rates only for the oldest group shown. (Note that rate ratios are not shown for the two youngest groups as the few cases in these groups are of doubtful validity. Even if they were valid, ratios based on such small number are subject to large variation by chance).

Figure 6.3 : Ratios of male to female rates of hospital separation due to deliberate self-harm; Australia 1997/98

6.2.2 Methods used among episodes of hospitalised self-harm in 1997/98

Poisoning by solid or liquid substances was by far the most common means used among self-harm hospital separations in Australia in 1997/98 (Table 6.1). This category accounted for 70% of male separations due to self-harm, and 85% of female separations.

Table 6.1 : Self-harm hospital separations by method used and sex, Australia 1997/98

Method [(a)]	Males		Females	
	Case counts	Per cent	Case counts	Per cent
Hanging	410	4%	131	1%
Motor vehicle exhaust	330	3%	86	1%
Firearm	77	1%	9	0%
Poison, solids/liquids	7,520	70%	12,236	85%
Cutting/piercing	1,574	15%	1,463	10%
Other/unspecified	798	7%	485	3%
Total [(b)]	**10,709**	**100%**	**14,410**	**100%**

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

(a) Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0, Firearm: 955.0-.4; Poisoning (solid, liquids): 950; Cutting/Piercing: 956; Other: remainder of E950-E959.

(b) Sex was not recorded for one separation.

In Figures 6.4 and 6.5, this large category has been split into three more specific ones. This reveals that poisoning by tranquillisers and related medications accounts for the majority of the poisoning cases. Poisoning by tranquillisers accounted for 37% of all the male separations (Figure 6.4) and 47% of all the female separations (Figure 6.5) due to self-harm.

Only at ages 10 to 19 did tranquillisers account for much less than half of the female separations. For this age group, the commonest category was poisoning by analgesics, etc. (i.e. 37% of all female self-harm separations at these ages), followed by tranquillisers (27%).

The Poisoning cases are considered further in the next section.

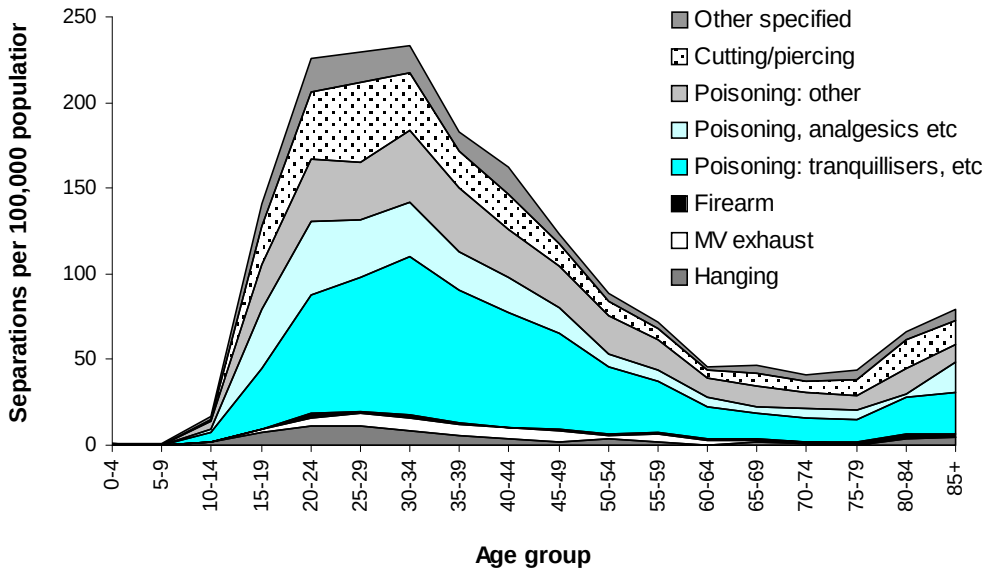


Figure 6.4 : Methods of hospitalised self-harm: rates by age group Australia, 1997/98: males

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0, Firearm: 955.0-.4; Poisoning: analgesics, etc: 950.0; Poisoning: tranquillisers, etc: 950.3; Poisoning: other: remainder of E950; Cutting/Piercing: 956; Other: remainder of E950-E959.

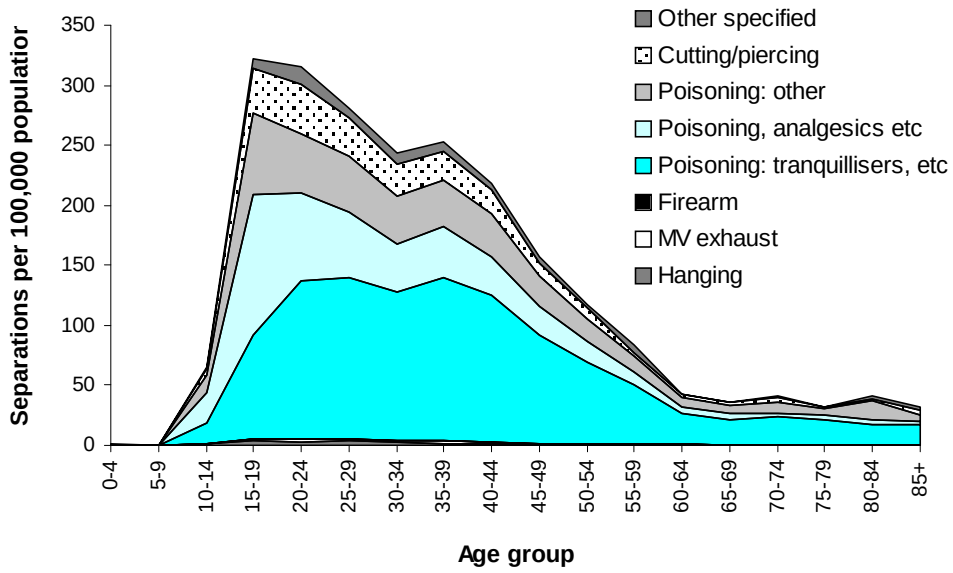


Figure 6.5 : Methods of hospitalised self-harm: rates by age group Australia, 1997/98: females

Categories: Hanging: E953.0; Motor vehicle exhaust: E952.0, Firearm: 955.0-.4; Poisoning: analgesics, etc: 950.0; Poisoning: tranquillisers, etc: 950.3; Poisoning: other: remainder of E950; Cutting/Piercing: 956; Other: remainder of E950-E959.

6.2.3 Self-harm by poisoning

This section provides further description of the large proportion of suicide and self-harm separations by poisoning.

'Self-harm by poisoning' is defined here as **all** of the separations considered above in which the Principal Diagnosis or any Additional Diagnosis was recorded as poisoning (i.e. ICD-9-CM values in the range 960 to 989).

Records meeting this definition made up 20,258 (81%) of the total 25,119 self-harm separations in 1997/98. Seventy-four per cent of male self-harm separations were by poisoning, and the equivalent proportion was 86% for females (Table 6.2).

Table 6.2 : All self-harm hospital separations which had any presence of a poisoning diagnosis, by sex; Australia 1997/98

	Males			Females		
Diagnosis	**Case counts**	**Per cent**	**Rate[(c)]**	**Case counts**	**Per cent**	**Rate[(c)]**
Poisoning [(a)]	7,913	74%	85.9	12,345	86%	135.9
Not poisoning	2,796	26%	31.0	2,065	14%	23.1
Total [(b)]	**10,709**	**100%**	**116.9**	**14,410**	**100%**	**159.0**

(a) 'Poisoning': Principal Diagnosis or any Additional Diagnosis has ICD-9-CM code in range 960 to 989.

(b) Sex was not recorded for one separation.

(c) Separations per 100,000 population.

The types of poisoning that can be distinguished here is determined by the categories available in the International Classification of Diseases (ICD-9-CM). A small number of categories account for most of the cases. The following section focuses on the four most commonly used ICD-9-CM categories, plus the category for heroin (which is common among suicide deaths by poisoning – see Section 2.1.2).

One or more of these five types of poisoning was recorded for 76% of the self-harm by poisoning separations shown in Table 6.3 (i.e. 70 % for males and 79% for females). Counts, proportions and rates of self-harm separations involving these types of poisoning are shown in Table 6.3.

Table 6.3 : Types of poisoning for self-harm hospital separations with a poisoning[(a)] diagnosis, by sex; Australia 1997/98

	Males			Females		
Diagnosis [(b)]	**Counts**	**Per cent**	**Rate[(c)]**	**Counts**	**Per cent**	**Rate[(c)]**
Benzodiazepine tranquillisers (969.4)	2,962	37%	31.9	4,966	40%	53.4
Antidepressants (969.0)	1,670	21%	17.9	2,888	23%	31.6
Aromatic analgesics nec (965.4)	1,366	17%	15.1	3,136	25%	35.4
Phenothiazine tranquillisers (969.1)	598	8%	6.5	1,193	10%	13.2
Heroin (965.01)	303	4%	3.4	142	1%	1.6
Poisoning diagnosis, none of the above	2,346	30%	25.5	2,587	21%	28.7
Any poisoning diagnosis (960-989)	7,913	100%	85.9	12,345	100%	135.9

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

(a) Poisoning': Principal Diagnosis or any Additional Diagnosis has ICD-9-CM code in range 960 to 989.

(b) Diagnosis: each row includes cases having the specified ICD-9-CM code as the Principal Diagnosis or any Additional Diagnosis.

(c) Separations per 100,000 population (age-standardised rates).

More than one substance is recorded as being involved in some separations due to self-harm by poisoning. Consequently, summing rows in Table 6.3 produces larger values than are shown in the last row, i.e. for 'Any poisoning diagnosis (960-989)'.

Age-adjusted rates of separations having the diagnoses distinguished in Table 6.3 are shown in Figure 6.5. Rates for females were significantly higher than rates for males for all of the types of self-harm by poisoning shown except for poisoning by heroin.

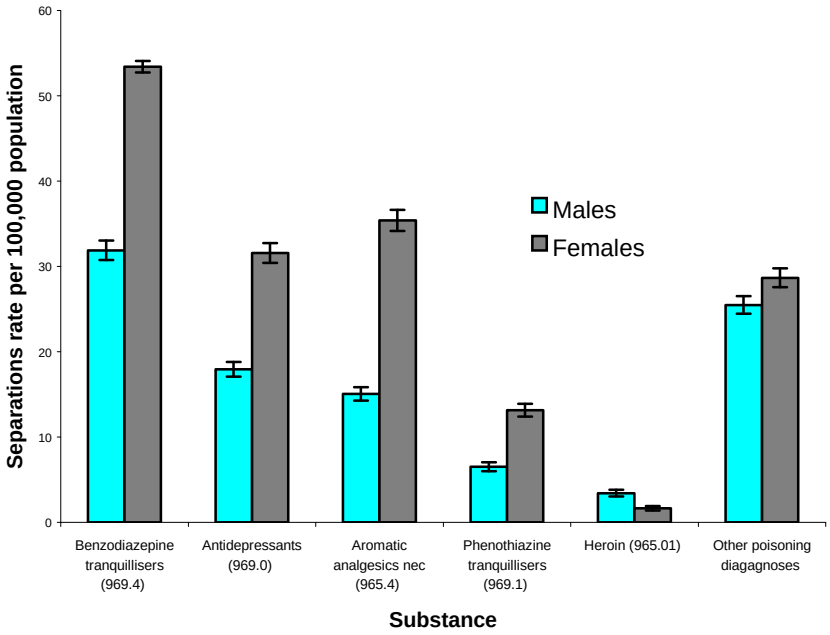


Figure 6.6 : Involvement of certain substances in self-harm poisoning separations, by sex; Australia 1997/98

Error bars indicate 95% confidence intervals for rates.

Most of the types of substance distinguished in Figure 6.6 show similar patterns of age-specific rates. Rates for benzodiazepine tranquillisers, phenothiazine tranquillisers and antidepressants rose with age during the latter teenage years and the twenties, and fell after about 40 years of age. Rates for females (Figure 6.8) rose to a higher level than the rates for males (Figure 6.7), and remained at a relatively constant plateau level from about 20 to 24 years to 40 to 44 years[8].

The category 'aromatic analgesics nec' showed a markedly different pattern (Figures 6.7 and 6.8). For both males and females, the highest rates for this type of self-harm poisoning occurred at young ages, peaking at 15 to 19 years for females and 20 to 24 years for males. The peak for young women is very sharp, and reached a rate higher than that seen for any other type of self-harm poisoning at any age. In 1997/98, 946 separations at ages 15 to 19 years occurred in this category, of whom 749 (79%) were females.

The inclusion criteria specified for this ICD-9-CM category refer to acetanilide, paracetamol and phenacetin. Paracetamol is the dominant drug of this type used in Australia, and it can be expected to account for the bulk of the cases considered here.

[8] Figures 6.7 and 6.8 have been given the same vertical scale to assist comparison of male and female rates.

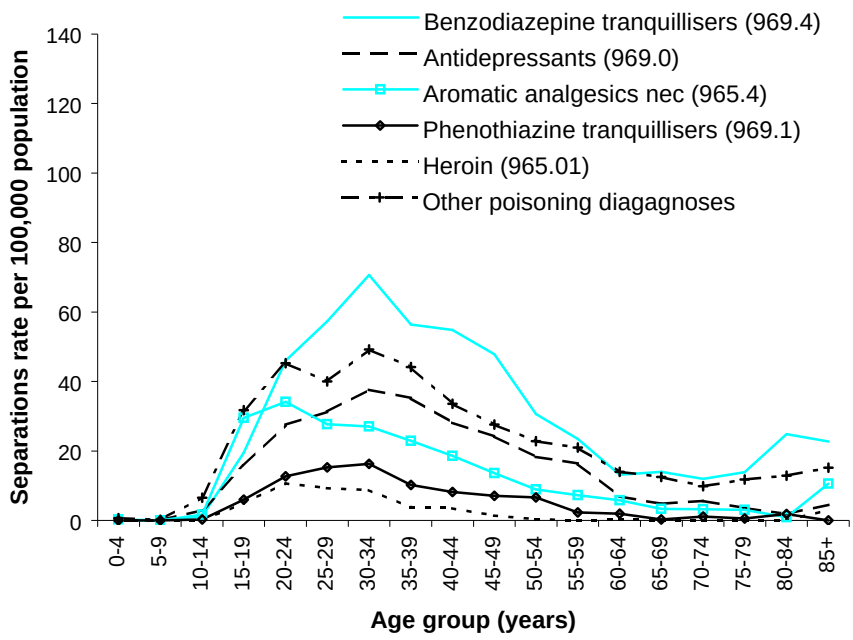


Figure 6.7 : Age-specific rates of type of poisoning for male self-harm poisoning separations; Australia 1997/98

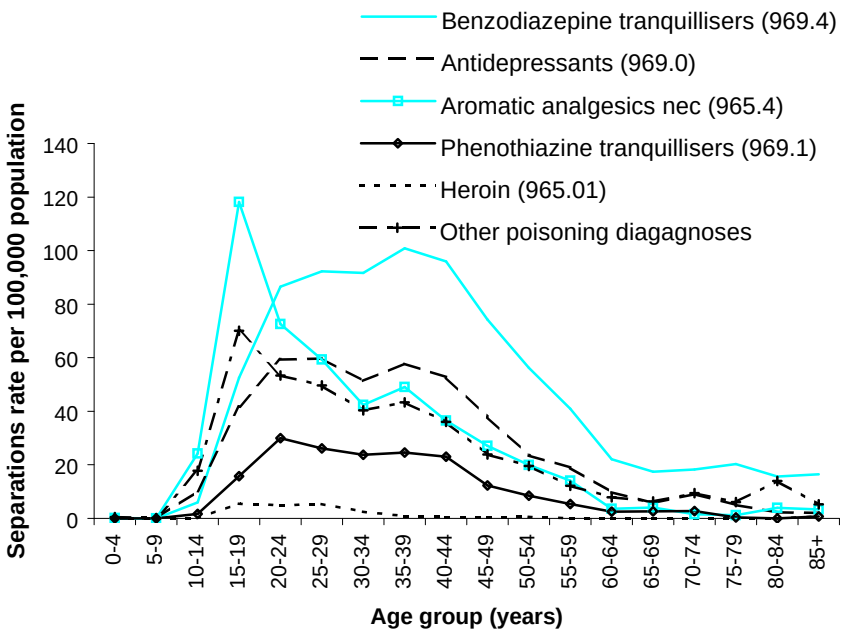


Figure 6.8 : Age-specific rates of type of poisoning for female self-harm poisoning separations; Australia 1997/98

6.2.4 Separations due to 'Undetermined intent'

The ICD provides a range of 'external cause' codes for 'injury undetermined whether accidentally or purposely inflicted'. Please see Section 4.3 for further discussion.

In 1997/98 in Australia, the number of 'undetermined intent' separations (n = 1,397) was 5% of the total number of separations coded as 'suicide and self-inflicted injury' or 'undetermined intent' injury. The proportion was 7% for males and 4% for females.

The relative size of the groups is shown in Figure 6.9, where the pairs of lines indicate age-specific rates with and without inclusion of 'undetermined intent' cases. While not a trivial difference, it is not large enough to have much impact on the national descriptive analysis for a single year presented in Sections 6.2.1-6.2.3. However, its use differs substantially between jurisdictions, especially over time, and it would be important to take account of the possibility of differences in coding practise concerning these two categories when making comparisons between places or over time.

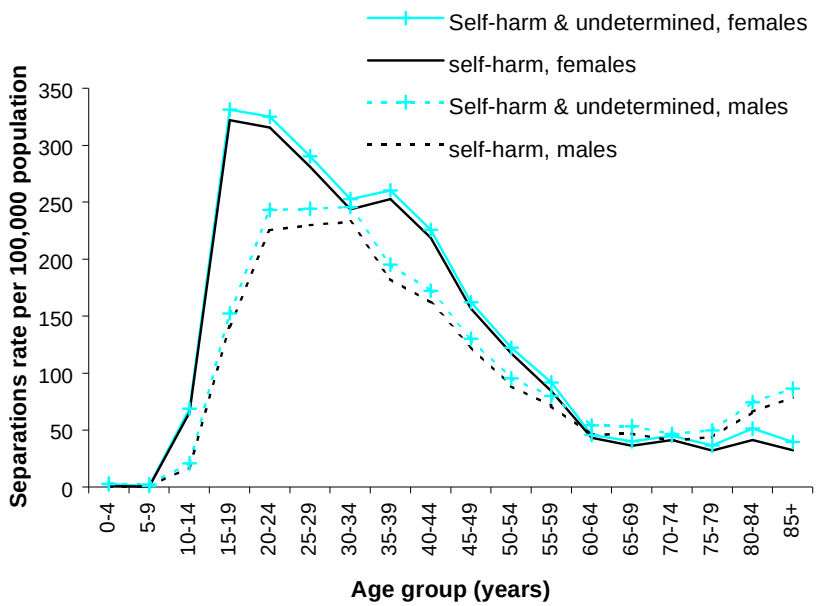


Figure 6.9 : Hospitalised self-harm, as well as 'undetermined intent' cases by sex; Australia 1997/98

6.2.5 Separations by State or Territory

Meaningful comparison between States and Territories are complicated by differences in the composition of populations by age, and by the possibility that coding practices (or other data-related factors) differ. (In Figures 6.9 – 6.11 that follow differences in age structure have been allowed for by use of age-adjusted rates[9]). Possible differences in coding practices are more difficult to identify and allow for. As noted above, self-harm, suicide and related concepts are abstractions that are susceptible to differences of interpretation. Certain ranges of codes in the ICD-9-CM represent categories to which cases that are similar to self-harm cases are most often coded. These are the 'undetermined intent' range (E980-E989), described in the previous section, and 'Accidental poisoning by drugs' (E850-E859). 'Undetermined intent' is likely to be used when the available evidence, as assessed by the coder, suggests self-harm enough to prompt the use of a category outside the 'accident' range, but not enough to lead to the use of a code in the self-harm range.

If the coder interprets the evidence of a separation that should be coded to 'self-harm' as 'accidental', then the code used is likely to be in the range E850-E859. That is because about 80% of self-harm separations involve poisoning.

Age-adjusted self-harm separation rates at aged 10 years and older were higher than the national rate (using the criterion for significance indicated on the Figures) in Queensland and Western Australia (Figure 6.9). Using the same criterion, rates were lower than the national rate in NSW, Tasmania, and both Territories.

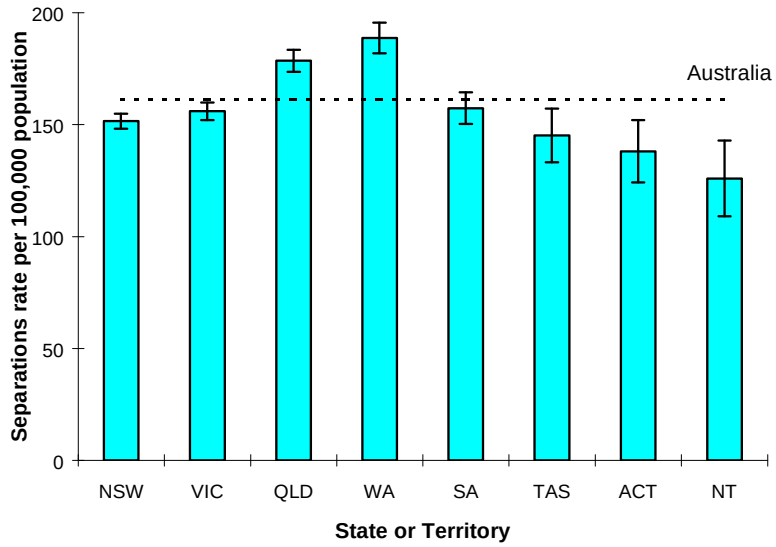


Figure 6.10 : Age-standardised rates for hospitalised self-harm for persons aged 10 years and older, by State and Territory

[9] Note that the rates shown in these three figures are age-adjusted rates for ages 10 years and older. This age range has been used to exclude the large number of accidental poisoning separations that occur in early childhood, which are not relevant to the present purpose. All-ages rates for hospitalised self-harm can be found in Table 8.20 to 8.24.

Different state-specific patterns are seen for undetermined intent and accidental poisoning by drugs. The rate of undetermined intent separations was low in NSW, and highest in the Territories (Figure 6.10). Accidental poisoning rates were lowest in Western Australia and the Territories, and highest in Queensland, South Australia and Tasmania (Figure 6.11).

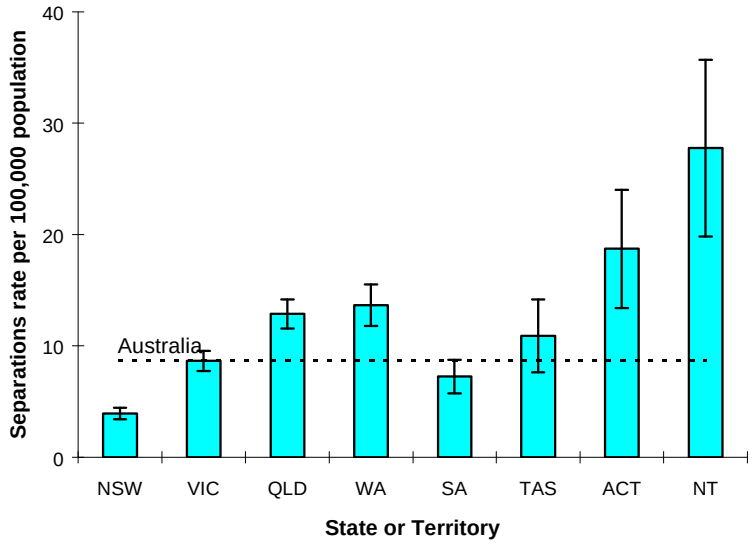


Figure 6.11 : 'Undetermined intent' hospital separations for persons aged 10 years or older, by State or Territory; 1997/98

Error bars indicate 95% confidence intervals for rates.
Includes cases where main External Cause field or the first non-null Additional External Cause code field = E980-E989.

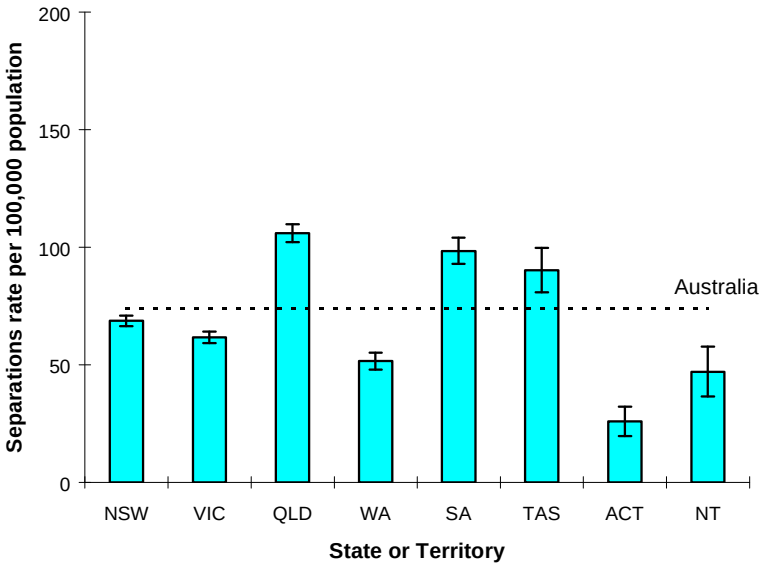


Figure 6.12 : Hospital separations due to accidental poisoning by drugs for persons aged 10 years or older, by State or Territory; 1997/98

Error bars indicate 95% confidence intervals for rates.
Includes cases where main External Cause field or the first non-null Additional External Cause code field = E850-E859.

In previous years, Western Australia has shown high rates of self-harm separations in comparison with other jurisdictions, and low rates of accidental poisoning separations (omitting separations in childhood in both cases). In recent years this State has shown less rise in self-harm separations than other jurisdictions and more rise in those due to accidental poisoning by drugs. Western Australian data for 1997/98 still showed some signs of this pattern, but much less than in the mid-1990s.

Both Territories showed low rates of self-harm separations, and high rates of undetermined intent separations. Both also had low rates of separations due to accidental poisoning by drugs. The relatively high rates of undetermined intent separations in these jurisdictions may indicate some difference in coding practice, or in the records available to coders. Rates for all three types of separations were relatively high for Queensland.

6.2.6 Outcome of episodes of hospital care due to self-harm

Table 6.5 shows the 'mode of separation' that occurred at the end of the episodes of in-patient hospital care due to self-harm that concluded in Australia during 1997/98.

Many of the separations were to circumstances that should have generated another separation event and another record in the Australian hospital separations database. These are transfers to other acute hospitals and psychiatric hospitals and statistical type changes. These totalled 4,053 separations in 1997/98 (16%). If all of these were given an E-code in the range E950 to E959 at the destination institution, then the estimated number of incident cases of self-harm resulting in the total of 25,120 separations reported here would be about the 25,120 less 4,053, i.e. 21,067. (This estimate assumes that episodes of care in progress on 1 July 1997 were balanced by those in progress on 30 June 1998).

Data presently in the national morbidity database do not enable direct assessment of the extent to which counts of separations over estimate incident events.

Table 6.4 : Mode of separation for hospitalised self-harm; Australia 1997/98

Mode of separation	Case counts	Per cent
Discharge/transfer to (an)other acute hospital	2,427	9.7%
Discharge/transfer to a nursing home	61	0.2%
Discharge/transfer to (an)other psychiatric hospital	928	3.7%
Discharge/transfer to other health care accommodation	270	1.1%
Statistical discharge - type change	611	2.4%
Left against medical advice/discharge at own risk	1,149	4.6%
Statistical discharge from leave	87	0.3%
Died	281	1.1%
Other (includes discharge to usual residence)	19,282	76.8%
Total [(a)]	**25,096**	**100%**

Sections shaded in blue indicates most common method and those shaded in grey the second most common method.

(a) Missing data for 24 separations.

Just over 1% of the episodes ended with death of the patient (Table 6.4). These 281 deaths were 10% of the 2,801 deaths that occurred in Australia in 1997/98 and were coded as due to suicide [Unpublished analysis of national mortality data (NISU, 2000)].

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8 Appendices

Appendix 8.1 : Data tables for suicide deaths

Table 8.1 : Counts, age-specific rates and male to female rate ratio of suicide registrations by five-year age groups for males, females, and persons; Australia, 1998

Age group (years)	Males		Females		Persons		M:F Rate Ratio
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	
0-4 [a]	..	..	..	..	..	..	..
5-9 [a]	..	..	..	..	..	..	..
10-14	6	1.2	1	1.1	7	0.5	1.1
15-19	116	18.4	35	5.2	151	11.5	3.5
20-24	248	42.3	47	8.9	295	21.7	4.8
25-29	314	40.4	56	8.1	370	25.2	5.0
30-34	277	34.6	53	7.8	330	23.4	4.4
35-39	273	29.1	77	8.6	350	23.4	3.4
40-44	206	31.4	58	8.4	264	18.8	3.7
45-49	167	23.5	33	7.0	200	15.3	3.4
50-54	147	25.3	39	9.5	186	16.0	2.7
55-59	88	22.6	30	7.6	118	13.5	3.0
60-64	75	22.5	23	6.6	98	13.3	3.4
65-69	87	22.9	20	7.1	107	15.7	3.2
70-74	49	24.6	21	6.7	70	11.4	3.7
75-79	42	35.8	17	8.2	59	12.6	4.4
80-84	33	34.0	15	6.2	48	16.5	5.5
85 plus	22	39.8	7	6.0	29	12.9	6.7
All ages	**2,150**	**23.1**	**533**[b]	**5.7**	**2,683**[b]	**14.3**	**4.0**

(a) For purposes of national statistics, the ABS assumes that children under the age of 10 years are not capable of forming the intent to commit suicide.

(b) Age was not reported for one case.

Table 8.2 : Methods of suicide - case counts and age-specific rates by five-year age group for males; Australia, 1998

Age group (years)	Hanging (E953.0)		Motor vehicle exhaust (E952.0)		Firearm (E955.0-.4)		Poisoning (E950)		Cutting/ Piercing (E956)		Other/ unspecified (Remainder of E950-E959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
10-14	4	0.6	0	..	2	0.3	0	..	0	..	0	..
15-19	78	11.6	8	1.2	10	1.5	4	0.6	1	0.1	15	2.2
20-24	151	21.8	31	4.5	24	3.5	13	1.9	1	0.1	28	4.0
25-29	164	22.2	59	8.0	25	3.4	29	3.9	3	0.4	34	4.6
30-34	149	21.2	64	9.1	13	1.8	21	3.0	3	0.4	27	3.8
35-39	138	18.5	67	9.0	14	1.9	27	3.6	5	0.7	22	3.0
40-44	75	10.7	61	8.7	21	3.0	16	2.3	6	0.9	27	3.9
45-49	55	8.4	53	8.1	13	2.0	21	3.2	5	0.8	20	3.1
50-54	57	9.6	38	6.4	15	2.5	14	2.4	5	0.8	18	3.0
55-59	37	8.3	19	4.3	13	2.9	8	1.8	2	0.4	9	2.0
60-65	28	7.6	14	3.8	12	3.3	5	1.4	2	0.5	14	3.8
65-69	31	9.3	12	3.6	21	6.3	11	3.3	2	0.6	10	3.0
70-74	15	5.2	10	3.5	15	5.2	1	0.3	0	..	8	2.8
75-79	13	6.5	5	2.5	8	4.0	3	1.5	2	1.0	11	5.5
80-84	13	11.8	6	5.5	6	5.5	5	4.5	0	..	3	2.7
85+	4	5.9	4	5.9	5	7.3	0	..	1	1.5	8	11.7
Total[(a)]	**1,012**	**10.9**	**451**	**4.8**	**217**	**2.3**	**178**	**1.9**	**38**	**0.4**	**254**	**2.7**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

Table 8.3 : Methods of suicide - case counts and age-specific rates by five-year age group for females; Australia, 1998

Age group (years)	Hanging (E953.0)		Motor vehicle exhaust (E952.0)		Firearm (E955.0-.4)		Poisoning (E950)		Cutting/ Piercing (E956)		Other/ unspecified (Remainder of E950-E959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
10-14	1	0.2	0	..	0	..	0	..	0	..	0	..
15-19	23	3.6	0	..	2	0.3	4	0.6	0	..	6	0.9
20-24	18	2.7	7	1.1	2	0.3	10	1.5	0	..	10	1.5
25-29	19	2.6	6	0.8	4	0.5	19	2.6	0	..	8	1.1
30-34	24	3.4	5	0.7	1	0.1	15	2.1	1	0.1	7	1.0
35-39	24	3.2	19	2.5	2	0.3	24	3.2	2	0.3	6	0.8
40-44	15	2.1	9	1.3	2	0.3	17	2.4	1	0.1	14	2.0
45-49	8	1.2	8	1.2	2	0.3	8	1.2	0	..	7	1.1
50-54	10	1.8	8	1.4	0	..	11	1.9	1	0.2	9	1.6
55-59	8	1.9	2	0.5	0	..	10	2.3	1	0.2	9	2.1
60-65	8	2.2	4	1.1	0	..	4	1.1	2	0.5	5	1.4
65-69	5	1.4	2	0.6	0	..	7	2.0	0	..	6	1.7
70-74	5	1.5	4	1.2	0	..	8	2.4	1	0.3	3	0.9
75-79	2	0.7	1	0.4	1	0.4	9	3.4	0	..	4	1.5
80-84	1	0.6	2	1.1	1	0.6	7	3.9	1	0.6	3	1.7
85+	1	0.6	0	..	0	..	5	3.2	0	..	1	0.6
Total[a]	**172**	**1.8**	**77**	**0.8**	**17**	**0.2**	**158**	**1.7**	**10**	**0.1**	**99[b]**	**1.0**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

(b) Age was not reported for one case.

Table 8.4 : Methods of suicide - case counts and age-specific rates by five-year age group for persons; Australia, 1998

Age group (years)	Hanging (E953.0)		Motor vehicle exhaust (E952.0)		Firearm (E955.0-.4)		Poisoning (E950)		Cutting/ Piercing (E956)		Other/ unspecified (Remainder of E950-E959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
10-14	5	0.4	0	..	2	0.2	0	..	0	..	0	..
15-19	101	7.7	8	0.6	12	0.9	8	0.6	1	0.1	21	1.6
20-24	169	12.5	38	2.8	26	1.9	23	1.7	1	0.1	38	2.8
25-29	183	12.4	65	4.4	29	2.0	48	3.3	3	0.2	42	2.9
30-34	173	12.3	69	4.9	14	1.0	36	2.6	4	0.3	34	2.4
35-39	162	10.8	86	5.8	16	1.1	51	3.4	7	0.5	28	1.9
40-44	90	6.4	70	5.0	23	1.6	33	2.4	7	0.5	41	2.9
45-49	63	4.8	61	4.7	15	1.1	29	2.2	5	0.4	27	2.1
50-54	67	5.8	46	4.0	15	1.3	25	2.2	6	0.5	27	2.3
55-59	45	5.1	21	2.4	13	1.5	18	2.1	3	0.3	18	2.1
60-65	36	4.9	18	2.4	12	1.6	9	1.2	4	0.5	19	2.6
65-69	36	5.3	14	2.0	21	3.1	18	2.6	2	0.3	16	2.3
70-74	20	3.2	14	2.3	15	2.4	9	1.5	1	0.2	11	1.8
75-79	15	3.2	6	1.3	9	1.9	12	2.6	2	0.4	15	3.2
80-84	14	4.8	8	2.8	7	2.4	12	4.1	1	0.3	6	2.1
85+	5	2.2	4	1.8	5	2.2	5	2.2	1	0.4	9	4.0
Total [a]	**1,184**	**6.4**	**528**	**2.8**	**234**	**1.2**	**336**	**1.8**	**48**	**0.3**	**353[b]**	**1.9**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

(b) Age was not reported for one case.

Table 8.5 : Suicide death registrations - counts and age-specific rates for males, females and persons by five-year age groups for States and Territories; Australia, 1998

Age group (years)	NEW SOUTH WALES						VICTORIA					
	Males		Females		Persons		Males		Females		Persons	
	Case Counts	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*
0-4	0	..	0	..	0	..	0	..	0	..	0	..
5-9	0	..	0	..	0	..	0	..	0	..	0	..
10-14	3	1.3	0	0	3	0.7	2	1.2	0	0	2	0.6
15-19	33	14.8	6	2.8	39	9.0	31	18.9	9	5.8	40	12.5
20-24	92	40.7	12	5.5	104	23.3	43	24.8	16	9.6	59	17.3
25-29	85	34.7	19	7.7	104	21.2	74	39.9	12	6.4	86	23.1
30-34	86	36.2	14	5.9	100	21.0	55	31.2	20	11.1	75	21.0
35-39	104	41.0	19	7.5	123	24.3	47	25.7	21	11.3	68	18.4
40-44	69	29.3	19	8.1	88	18.7	34	19.8	12	6.9	46	13.3
45-49	51	23.3	11	5.1	62	14.2	38	23.9	5	3.1	43	13.4
50-54	42	21.0	13	6.8	55	14.0	38	26.5	6	4.2	44	15.4
55-59	31	20.4	12	8.1	43	14.4	25	22.6	6	5.5	31	14.1
60-64	24	18.7	9	7.0	33	12.8	14	15.1	6	6.3	20	10.6
65-69	29	24.7	7	5.7	36	14.9	18	21.1	5	5.5	23	13.1
70-74	19	18.9	6	5.1	25	11.4	12	16.4	6	7.0	18	11.3
75-79	16	22.4	4	4.2	20	12.0	9	17.8	8	11.5	17	14.2
80-84	15	38.6	2	3.1	17	16.5	6	21.5	2	4.3	8	10.8
85+	10	43.4	3	5.5	13	16.7	2	11.0	2	4.8	4	6.7
Total [(a)]	**709**	**22.7**	**156**	**4.8**	**865**	**13.6**	**448**	**19.2**	**136**	**5.7**	**584**	**12.4**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

Table 8.5 : Suicide death registrations - counts and age-specific rates for males, females and persons by five-year age groups for States and Territories; Australia, 1998 (continued)

Age group (years)	QUEENSLAND						SOUTH AUSTRALIA					
	Males		Females		Persons		Males		Females		Persons	
	Case Counts	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*
0-4	0	..	0	..	0	..	0	..	0	..	0	..
5-9	0	..	0	..	0	..	0	..	0	..	0	..
10-14	0	..	0	..	0	..	1	1.9	0	..	1	1.0
15-19	27	20.8	14	11.4	41	16.2	7	13.8	1	2.1	8	8.1
20-24	46	35.4	7	5.6	53	20.7	25	48.3	3	6.1	28	27.7
25-29	60	43.7	13	9.5	73	26.7	34	61.6	5	9.3	39	35.9
30-34	66	51.7	9	7.0	75	29.3	28	51.5	4	7.4	32	29.6
35-39	68	50.0	24	17.5	92	33.6	15	25.8	5	8.5	20	17.1
40-44	41	32.1	14	10.9	55	21.5	24	43.6	5	9.0	29	26.2
45-49	45	36.6	10	8.4	55	22.7	14	26.8	1	1.9	15	14.2
50-54	28	25.2	6	5.7	34	15.7	16	34.0	7	14.8	23	24.4
55-59	14	16.9	8	10.2	22	13.7	8	22.3	2	5.6	10	13.9
60-64	18	27.1	3	4.7	21	16.1	4	13.0	3	9.4	7	11.2
65-69	15	25.7	4	6.7	19	16.1	14	47.9	0	..	14	23.3
70-74	10	20.1	3	5.4	13	12.4	2	7.5	3	9.7	5	8.7
75-79	4	11.3	2	4.4	6	7.5	4	21.2	2	7.8	6	13.5
80-84	2	10.3	7	23.2	9	18.1	2	19.0	2	11.6	4	14.4
85+	6	49.4	0	..	6	15.9	1	15.5	1	6.6	2	9.2
Total [a]	450	26.2	124	7.1	574	16.6	199	27.3	45 [b]	5.5	244	16.4

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

(b) Age was not reported for one case.

Table 8.5 : Suicide death registrations - counts and age-specific rates for males, females and persons by five-year age groups for States and Territories; Australia, 1998 (continued)

Age group (years)	WESTERN AUSTRALIA						TASMANIA					
	Males		Females		Persons		Males		Females		Persons	
	Case Counts	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*
0-4	0	..	0	..	0	..	0	..	0	..	0	..
5-9	0	..	0	..	0	..	0	..	0	..	0	..
10-14	0	..	1	1.5	1	0.7	0	..	0	..	0	..
15-19	12	17.5	3	4.6	15	11.2	2	11.4	0	..	2	5.8
20-24	32	45.0	7	10.4	39	28.2	1	6.5	0	..	1	3.3
25-29	45	60.5	7	9.8	52	35.7	6	37.4	0	..	6	18.4
30-34	31	44.0	4	5.8	35	25.0	5	31.8	1	6.0	6	18.6
35-39	28	37.4	6	8.1	34	22.9	8	44.1	1	5.3	9	24.3
40-44	22	30.9	7	9.9	29	20.4	6	34.1	1	5.6	7	19.7
45-49	12	18.0	4	6.2	16	12.2	0	..	2	12.1	2	6.1
50-54	12	20.7	4	7.5	16	14.3	7	46.8	2	13.7	9	30.5
55-59	5	11.7	1	2.5	6	7.2	4	34.2	0	..	4	17.3
60-64	12	35.4	2	6.0	14	20.8	2	20.5	0	..	2	10.1
65-69	7	23.7	3	10.0	10	16.8	2	22.3	1	10.5	3	16.2
70-74	3	12.4	3	11.1	6	11.7	1	13.0	0	0.0	1	6.1
75-79	7	42.4	0	..	7	18.4	2	37.4	1	13.5	3	23.5
80-84	4	44.7	1	6.8	5	21.2	2	64.3	1	19.4	3	36.2
85+	3	50.0	1	7.5	4	20.7	0	..	0	..	0	..
Total [(a)]	**235**	**26.1**	**54**	**5.9**	**289**	**16**	**48**	**20.5**	**10**	**3.7**	**58**	**11.9**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

Table 8.5 : Suicide death registrations - counts and age-specific rates for males, females and persons by five-year age groups for States and Territories; Australia, 1998 (continued)

Age group (years)	NORTHERN TERRITORY						AUSTRALIAN CAPITAL TERRITORY					
	Males		Females		Persons		Males		Females		Persons	
	Case Counts	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*	*Case Counts*	*Rates*
0-4	0	..	0	..	0	..	0	..	0	..	0	..
5-9	0	..	0	..	0	..	0	..	0	..	0	..
10-14	0	..	0	..	0	..	0	..	0	..	0	..
15-19	4	53.6	2	29.4	6	42.1	0	..	0	..	0	..
20-24	4	44.3	2	25.2	6	35.4	5	35.1	0	..	5	18.2
25-29	7	67.6	0	..	7	35.2	3	22.9	0	..	3	11.4
30-34	4	43.3	0	..	4	22.6	2	16.8	1	8.2	3	12.4
35-39	2	22.5	1	12.6	3	17.9	1	8.1	0	..	1	4.0
40-44	6	79.7	0	..	6	41.3	4	34.3	0	..	4	16.7
45-49	2	29.4	0	..	2	15.9	5	43.1	0	..	5	21.0
50-54	2	35.2	1	22.5	3	29.6	2	19.5	0	..	2	9.9
55-59	1	26.2	0	..	1	15.5	0	..	1	15.4	1	7.5
60-64	0	..	0	..	0	..	1	20.7	0	..	1	10.4
65-69	0	..	0	..	0	..	2	52.8	0	..	2	25.8
70-74	1	108.1	0	..	1	57.8	1	33.2	0	..	1	15.1
75-79	0	..	0	..	0	..	0	..	0	..	0	..
80-84	0	..	0	..	0	..	2	197.8	0	..	2	72.4
85+	0	..	0	..	0	..	0	..	0	..	0	..
Total [(a)]	**33**	**32.3**	**6**	**6.4**	**39**	**20.1**	**28**	**19.3**	**2**	**1.3**	**30**	**9.9**

(a) Total rates are age-standardised rates, while the others in this table are age-specific.

Table 8.6 : Methods used in suicide deaths - counts and age-standardised rates for males, females and persons by State or Territory; Australia, 1998

Sex	Method	NSW		VIC		QLD		SA		WA		TAS		NT		ACT	
		Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
Males	Hanging	356	11.6	204	8.8	209	12.3	94	13.1	108	11.8	12	5.0	16	14.2	13	7.9
	MV exhaust	126	3.9	99	4.2	100	5.8	52	7.0	43	4.7	17	7.0	4	3.7	10	8.2
	Firearm	59	1.9	48	2.0	53	3.1	27	3.7	12	1.4	11	4.8	6	6.0	1	0.6
	Poisoning (solids&liquids)	67	2.0	31	1.3	37	2.1	11	1.5	22	2.5	5	2.3	4	0.9	1	0.5
	Cutting/piercing	11	0.3	7	0.3	11	0.6	3	0.4	3	0.3	0	0.0	2	1.8	1	0.6
	Other/unspecified	90	2.9	59	2.5	40	2.4	12	1.6	47	5.4	3	1.4	1	3.2	2	1.5
	All methods	**709**	**22.7**	**448**	**19.2**	**450**	**26.2**	**199**	**27.3**	**235**	**26.1**	**48**	**20.5**	**33**	**32.3**	**28**	**19.3**
Females	Hanging	48	1.5	43	1.9	46	2.7	13	1.8	17	1.9	0	..	4	4.4	1	0.7
	MV exhaust	18	0.5	18	0.7	22	1.2	6	0.8	7	0.7	4	1.6	1	1.0	1	0.6
	Firearm	2	0.1	4	0.2	7	0.4	2	0.3	1	0.1	1	0.4	0	0.0	0	0.0
	Poisoning (solids&liquids)	52	1.6	37	1.5	31	1.8	17	1.9	19	2.0	2	0.7	0	0.0	0	0.0
	Cutting/piercing	3	1.5	2	0.1	1	0.1	2	0.3	0	0.0	1	0.3	1	1.1	0	0.0
	Other/unspecified	33	1.0	32	1.4	17	0.9	5	0.5	10	1.1	2	0.8	0	0.0	0	0.0
	All methods	**156**	**4.8**	**136**	**5.7**	**124**	**7.1**	**45**	**5.5**	**54**	**5.9**	**10**	**3.7**	**6**	**6.4**	**2**	**1.3**
Persons	Hanging	404	6.5	247	5.3	255	7.5	107	7.5	125	7.0	12	2.5	20	9.6	14	4.3
	MV exhaust	144	2.3	117	2.6	122	3.6	58	3.9	50	2.9	21	4.5	5	2.7	11	4.0
	Firearm	61	0.9	52	1.1	60	1.8	29	2.0	13	0.7	12	2.5	6	3.2	1	0.3
	Poisoning (solids&liquids)	119	1.8	68	1.4	68	1.9	28	1.8	41	1.0	7	1.5	4	0.5	1	0.3
	Cutting/piercing	14	0.9	9	0.2	12	0.3	5	0.3	3	0.2	1	0.2	3	1.4	1	0.3
	Other/unspecified	123	1.9	91	1.9	57	1.7	17	1.0	57	3.1	5	1.0	1	1.7	2	0.7
	All methods	**865**	**13.6**	**584**	**12.4**	**574**	**16.6**	**244**	**16.4**	**289**	**16.0**	**58**	**11.9**	**39**	**20.1**	**30**	**9.9**

Table 8.7 : Suicide case counts, age-standardised rates and male to female rate ratio of suicide registrations for males, females and persons; Australia selected years 1921-1998

Year of death registration	Males		Females		Persons		M:F Rate Ratio
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	
1921	505	22.4	111	4.8	616	13.9	4.7
1931	687	24.4	138	4.7	825	14.6	5.2
1941	463	14.5	161	4.6	624	9.4	3.1
1951	608	15.6	197	4.9	805	10.2	3.2
1961	898	18.9	347	7.3	1245	13.0	2.6
1971	1150	19.8	588	9.9	1738	14.7	2.0
1981	1258	18.1	413	5.8	1671	11.8	3.1
1990	1735	20.7	426	4.9	2161	12.7	4.2
1991	1847	21.7	513	5.9	2360	13.7	3.7
1992	1820	21.1	473	5.3	2293	13.1	4.0
1993	1687	19.3	394	4.4	2081	11.7	4.4
1994	1829	20.7	428	4.7	2257	12.6	4.4
1995	1871	20.9	495	5.4	2366	13.0	3.9
1996	1931	21.3	462	4.9	2393	13.0	4.3
1997	2146	23.5	577	6.1	2723	14.6	3.9
1998	2150	23.1	533	5.6	2683	14.3	4.2

Table 8.8 : Suicide case counts for males by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	1	9	28	42	41	47	66	58	51	59	46	35	9	8	4	1
1931	0	0	2	13	32	53	64	71	58	68	88	83	57	42	30	22	0	4
1941	0	0	0	12	26	23	28	37	52	47	45	53	54	29	24	20	9	4
1951	0	0	3	22	38	41	37	55	63	75	52	52	66	52	25	17	7	3
1961	0	0	1	23	46	54	68	83	106	110	115	96	63	61	42	22	4	4
1971	0	0	8	75	107	98	89	100	102	127	127	85	73	59	45	30	16	9
1981	0	0	4	72	166	140	131	105	114	90	101	93	69	70	44	27	22	10
1990	0	0	6	128	251	235	177	171	159	105	93	98	84	79	60	39	29	21
1991	0	0	6	133	243	206	217	227	173	132	119	84	72	68	57	52	42	16
1992	0	0	5	125	253	226	205	181	150	156	104	80	90	83	71	47	25	19
1993	0	0	4	111	234	200	206	152	134	154	93	84	86	74	61	38	34	22
1994	0	0	3	122	252	205	209	174	180	150	120	91	82	76	65	45	33	22
1995	0	0	5	98	252	236	238	220	162	154	116	108	69	63	54	39	34	23
1996	0	0	7	114	237	236	229	234	179	151	115	93	88	68	68	52	42	18
1997	0	0	8	122	295	294	246	215	216	153	141	98	81	77	69	68	37	26
1998	0	0	6	116	248	314	277	273	206	167	147	88	75	87	49	42	33	22

Table 8.9 : Suicide counts for females by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	0	7	4	16	20	15	10	11	8	9	4	2	4	0	1	0
1931	0	0	0	6	11	21	15	11	13	18	11	15	7	3	6	1	0	0
1941	0	0	1	6	13	15	16	13	15	19	20	17	13	6	5	2	0	0
1951	0	0	0	3	14	11	13	27	17	25	13	26	15	15	11	5	2	0
1961	0	0	0	8	15	24	33	35	34	33	36	41	34	31	15	3	3	2
1971	0	0	3	29	38	51	57	46	60	76	63	44	47	29	28	9	6	2
1981	0	0	1	15	41	36	35	39	37	42	42	40	22	25	17	13	6	2
1990	0	0	0	34	26	42	56	35	40	34	26	24	21	27	22	17	14	8
1991	0	0	2	21	65	56	48	45	51	40	31	40	33	20	22	18	13	8
1992	0	0	2	31	46	42	58	45	50	33	29	28	24	24	21	23	8	9
1993	0	0	1	19	36	38	40	53	27	43	28	19	18	20	19	16	14	3
1994	0	0	3	17	40	43	42	55	44	38	30	23	24	14	18	16	12	9
1995	0	0	0	29	55	49	50	50	54	48	41	31	19	23	14	13	15	4
1996	0	0	7	26	30	49	47	65	45	50	38	21	19	15	23	14	8	5
1997	0	0	7	33	60	59	56	64	58	45	51	32	24	25	22	21	11	9
1998	0	0	1	35	47	56	53	77	58	33	39	30	23	20	21	17	15	7

Table 8.10 : Suicide case counts for persons by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	1	16	32	58	61	62	76	69	59	68	50	37	13	8	5	1
1931	0	0	2	19	43	74	79	82	71	86	99	98	64	45	36	23	0	4
1941	0	0	1	18	39	38	44	50	67	66	65	70	67	35	29	22	9	4
1951	0	0	3	25	52	52	50	82	80	100	65	78	81	67	36	22	9	3
1961	0	0	1	31	61	78	101	118	140	143	151	137	97	92	57	25	7	6
1971	0	0	11	104	145	149	146	146	162	203	190	129	120	88	73	39	22	11
1981	0	0	5	87	207	176	166	144	151	132	143	133	91	95	61	40	28	12
1990	0	0	6	162	277	277	233	206	199	139	119	122	105	106	82	56	43	29
1991	0	0	8	154	308	262	265	272	224	172	150	124	105	88	79	70	55	24
1992	0	0	7	156	299	268	263	226	200	189	133	108	114	107	92	70	33	28
1993	0	0	5	130	270	238	246	205	161	197	121	103	104	94	80	54	48	25
1994	0	0	6	139	292	248	251	229	224	188	150	114	106	90	83	61	45	31
1995	0	0	5	127	307	285	288	270	216	202	157	139	88	86	68	52	49	27
1996	0	0	14	140	267	285	276	299	224	201	153	114	107	83	91	66	50	23
1997	0	0	15	155	355	353	302	279	274	198	192	130	105	102	91	89	48	35
1998	0	0	7	151	295	370	330	350	264	200	186	118	98	107	70	59	48	29

Table 8.11 : Age-specific suicide rates for males by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	0.4	3.8	12.7	18.7	18.1	23.6	38.7	39.6	37.8	50.3	50.5	61.1	26.8	40.4	42.1	21.3
1931	0	0	0.6	4.2	11.0	19.9	26.3	30.3	25.4	34.7	54.7	63.9	50.4	46.2	48.5	71.9	..	75.5
1941	0	0	..	3.7	8.5	7.5	9.8	14.2	22.1	21.3	21.3	30.5	40.3	29.5	32.1	41.8	39.0	53.3
1951	0	0	1.0	7.8	11.5	11.4	11.4	16.9	21.2	29.0	23.2	26.3	37.0	39.8	28.5	33.1	24.7	22.9
1961	0	0	0.2	5.5	12.8	15.8	17.6	21.1	30.8	32.8	39.4	40.4	33.2	40.9	35.9	31.9	12.0	25.3
1971	0	0	1.2	13.0	18.4	19.7	20.9	25.7	24.5	31.2	37.4	27.7	29.3	31.1	35.4	38.5	36.5	42.7
1981	0	0	0.6	10.9	25.2	22.5	21.1	20.8	26.7	23.9	25.5	25.1	23.6	28.0	25.0	25.4	42.3	36.0
1990	0	0	0.9	17.8	36.5	32.8	25.3	26.1	24.8	20.9	22.1	26.7	22.8	25.2	27.5	25.2	35.9	50.5
1991	0	0	0.9	19.0	34.4	29.3	30.4	34.2	26.4	25.1	27.4	22.9	19.6	21.2	24.9	32.7	49.8	36.2
1992	0	0	0.8	18.4	34.9	32.6	28.2	26.8	23.0	27.8	23.3	21.4	24.8	25.5	29.7	29.0	28.3	40.1
1993	0	0	0.6	16.7	32.0	29.2	28.2	22.2	20.5	25.9	20.4	21.9	24.0	22.4	24.3	23.3	36.5	43.7
1994	0	0	0.5	18.6	34.5	30.0	28.4	25.0	27.3	24.3	25.3	23.1	23.1	22.9	24.6	27.6	33.5	41.3
1995	0	0	0.8	15.1	34.8	34.1	32.6	30.9	24.3	24.2	23.4	26.6	19.5	18.8	20.0	23.0	33.1	40.5
1996	0	0	1.0	17.4	33.4	33.2	31.8	32.2	26.5	23.1	22.2	22.2	24.9	20.2	24.6	29.0	39.7	29.9
1997	0	0	1.2	18.4	42.3	40.4	34.6	29.2	31.4	23.6	25.3	22.6	22.5	22.9	24.5	35.8	34.1	40.6
1998	0	0	0.9	17.2	35.9	42.6	39.4	36.6	29.5	25.5	24.9	19.7	20.3	26.0	17.1	20.9	30.0	32.2

Table 8.12 : Age-specific suicide rates for females by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	..	3.0	1.7	6.7	9.0	7.8	6.2	8.0	6.7	9.0	5.1	4.0	12.5	..	9.7	..
1931	0	0	..	2.0	4.0	8.6	6.3	4.6	5.9	9.7	7.2	11.8	6.4	3.5	10.1	3.3	..	..
1941	0	0	0.3	1.9	4.3	4.9	5.9	5.4	6.5	8.3	9.6	9.9	9.5	5.7	6.1	3.8	..	..
1951	0	0	..	1.1	4.5	3.3	4.1	8.6	6.2	10.6	5.8	12.3	8.0	10.4	10.5	7.6	5.2	..
1961	0	0	..	2.0	4.5	7.7	9.4	9.4	10.2	10.2	13.2	18.1	16.3	16.7	10.2	3.1	5.6	7.2
1971	0	0	0.5	5.2	6.8	11.0	14.3	12.6	15.5	19.5	18.6	14.2	17.6	13.8	16.3	7.2	7.7	4.4
1981	0	0	0.2	2.4	6.4	5.9	5.8	8.0	9.1	11.7	11.1	10.8	6.8	8.7	7.5	8.4	5.9	2.7
1990	0	0	..	5.0	3.9	5.9	8.1	5.3	6.5	7.1	6.5	6.7	5.7	7.7	8.1	7.7	10.0	7.6
1991	0	0	0.3	3.2	9.4	8.0	6.7	6.8	8.0	8.0	7.5	11.2	8.9	5.7	7.8	8.0	8.9	7.3
1992	0	0	0.3	4.8	6.5	6.1	8.0	6.6	7.8	6.1	6.8	7.6	6.6	6.8	7.2	10.0	5.3	7.8
1993	0	0	0.2	3.0	5.1	5.6	5.5	7.7	4.2	7.5	6.5	5.1	5.0	5.6	6.3	7.0	8.8	2.5
1994	0	0	0.5	2.7	5.6	6.3	5.7	7.9	6.7	6.4	6.6	6.0	6.7	3.9	5.7	7.0	7.2	7.1
1995	0	0	..	4.7	7.8	7.1	6.8	7.0	8.1	7.8	8.6	7.8	5.3	6.5	4.3	5.6	8.7	3.0
1996	0	0	1.1	4.2	4.4	6.9	6.5	8.9	6.6	7.8	7.6	5.2	5.3	4.2	7.0	5.7	4.5	3.5
1997	0	0	1.1	5.2	8.9	8.1	7.8	8.6	8.4	7.0	9.5	7.6	6.6	7.1	6.7	8.2	6.1	6.0
1998	0	0	0.2	5.5	7.1	7.6	7.5	10.3	8.3	5.1	6.8	7.0	6.2	5.7	6.4	6.3	8.3	4.5

Table 8.13 : Age-specific suicide rates for persons by five-year age group in years; Australia, selected years 1921-1998

Year of death registration	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+
1921	0	0	0.2	3.4	7.1	12.6	13.6	15.9	22.9	24.3	23.1	31.2	29.4	34.5	19.8	19.8	25.3	9.8
1931	0	0	0.3	3.1	7.6	14.5	16.4	17.3	15.8	22.6	31.5	38.2	28.8	25.6	29.6	37.6	..	32.5
1941	0	0	0.2	2.8	6.4	6.2	7.9	10.0	14.3	14.7	15.5	20.3	24.8	17.2	18.5	22.0	17.8	22.2
1951	0	0	0.5	4.6	8.1	7.5	7.8	12.8	14.0	20.2	14.5	19.1	22.2	24.4	18.7	18.8	13.5	9.2
1961	0	0	0.1	3.8	8.8	11.9	13.7	15.4	20.6	21.7	26.8	29.5	24.3	27.5	21.6	15.2	8.1	13.7
1971	0	0	0.9	9.2	12.7	15.5	17.7	19.3	20.2	25.4	28.0	20.9	23.2	22.1	24.4	19.2	18.0	16.4
1981	0	0	0.4	6.7	15.9	14.3	13.5	14.6	18.1	17.9	18.5	18.0	14.8	17.7	15.2	15.3	18.2	11.7
1990	0	0	0.5	11.6	20.4	19.5	16.7	15.7	15.8	14.2	14.5	16.8	14.2	16.0	16.8	14.9	19.5	19.7
1991	0	0	0.6	11.3	22.1	18.7	18.6	20.5	17.3	16.7	17.7	17.1	14.2	13.1	15.5	18.2	23.9	15.6
1992	0	0	0.6	11.8	20.9	19.4	18.1	16.7	15.4	17.2	15.3	14.6	15.7	15.8	17.3	17.9	13.8	17.2
1993	0	0	0.4	10.0	18.7	17.4	16.8	14.9	12.4	16.9	13.6	13.6	14.5	13.7	14.4	13.7	19.1	14.5
1994	0	0	0.5	10.9	20.3	18.2	17.1	16.4	17.0	15.5	16.2	14.6	14.9	13.1	14.3	15.6	16.9	17.1
1995	0	0	0.4	10.0	21.5	20.7	19.7	19.0	16.2	16.1	16.1	17.3	12.4	12.5	11.5	12.9	17.8	14.1
1996	0	0	1.1	10.9	19.1	20.1	19.1	20.5	16.5	15.5	15.1	13.8	15.1	12.0	15.1	15.6	17.7	11.4
1997	0	0	1.1	12.0	25.9	24.3	21.2	18.9	19.8	15.4	17.6	15.2	14.5	14.8	14.9	20.0	16.7	16.4
1998	0	0	0.5	11.5	21.7	25.2	23.4	23.4	18.8	15.3	16.0	13.5	13.3	15.7	11.4	12.6	16.5	12.9

Table 8.14 : Suicide case counts and age-standardised rates for various methods of male suicides; Australia, 1979-1998

Year of death registration	Hanging (E953.0)		MV Exhaust (E952.0)		Firearms (E955.0-.4)		Poisoning (solid, liquids) (E950)		Cutting/piercing (E956)		Other/unspecified (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	161	2.4	137	2.0	481	7.0	234	3.5	23	0.4	160	2.4
1980	149	2.2	169	2.5	479	6.9	217	3.2	19	0.3	165	2.5
1981	210	3.0	183	2.5	453	6.4	199	2.8	29	0.5	184	2.8
1982	232	3.2	187	2.6	506	7.1	176	2.4	28	0.4	187	2.7
1983	236	3.3	187	2.5	477	6.4	179	2.5	22	0.3	206	3.0
1984	221	3.0	203	2.8	477	6.4	208	2.8	22	0.3	177	2.4
1985	242	3.2	262	3.4	505	6.6	187	2.5	23	0.3	208	2.8
1986	266	3.4	328	4.2	507	6.6	187	2.4	23	0.3	220	2.9
1987	388	4.9	356	4.5	533	6.8	228	2.9	28	0.4	252	3.4
1988	399	5.0	349	4.3	489	6.1	211	2.6	36	0.5	246	3.1
1989	455	5.5	347	4.2	420	5.1	181	2.2	31	0.4	224	2.7
1990	444	5.3	376	4.5	454	5.4	224	2.6	32	0.4	205	2.5
1991	447	5.2	405	4.7	482	5.7	242	2.8	33	0.4	238	2.9
1992	469	5.5	410	4.7	462	5.3	212	2.5	26	0.3	250	2.9
1993	478	5.5	339	3.8	414	4.8	177	2.0	29	0.3	250	2.9
1994	519	5.9	388	4.3	400	4.5	219	2.5	37	0.4	266	3.0
1995	562	6.3	418	4.6	365	4.1	222	2.5	32	0.4	272	3.1
1996	644	7.1	432	4.7	367	4.1	199	2.2	29	0.3	260	2.9
1997	770	8.5	500	5.4	309	3.3	190	2.1	42	0.5	335	3.7
1998	1,012	10.9	451	4.8	217	2.3	178	1.9	38	0.4	254	2.7

Table 8.15 : Suicide case counts and age-standardised rates for various methods of female suicides; Australia, 1979-1998

Year of death registration	Hanging (E953.0)		MV Exhaust (E952.0)		Firearms (E955.0-.4)		Poisoning (solid, liquids) (E950)		Cutting/piercing (E956)		Other/unspecified (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	46	0.7	23	0.3	42	0.6	253	3.7	6	0.1	109	1.6
1980	50	0.7	18	0.3	37	0.5	193	2.8	8	0.1	102	1.4
1981	38	0.5	23	0.3	42	0.6	193	2.7	13	0.2	104	1.5
1982	50	0.7	25	0.4	35	0.5	216	3.0	13	0.2	120	1.6
1983	51	0.7	28	0.4	35	0.5	206	2.8	9	0.1	89	1.2
1984	52	0.7	24	0.3	46	0.6	161	2.1	5	0.1	115	1.5
1985	69	0.9	47	0.6	45	0.6	146	1.9	14	0.2	78	1.0
1986	58	0.7	56	0.7	41	0.5	179	2.3	6	0.1	111	1.4
1987	68	0.8	46	0.6	38	0.5	207	2.6	8	0.1	100	1.2
1988	69	0.8	64	0.8	32	0.4	187	2.3	3	..	112	1.3
1989	76	0.9	52	0.6	30	0.4	161	1.9	10	0.1	108	1.3
1990	86	1.0	45	0.5	32	0.4	162	1.9	8	0.1	93	1.1
1991	90	1.0	69	0.8	23	0.3	193	2.2	15	0.2	123	1.4
1992	65	0.7	59	0.7	27	0.3	186	2.1	9	0.1	128	1.4
1993	66	0.7	55	0.6	17	0.2	137	1.5	11	0.1	108	1.2
1994	84	0.9	56	0.6	20	0.2	156	1.7	8	0.1	104	1.1
1995	95	1.1	91	1.0	23	0.3	161	1.7	6	0.1	119	1.3
1996	99	1.1	73	0.8	15	0.2	179	1.9	8	0.1	88	0.9
1997	148	1.6	104	1.1	21	0.2	157	1.6	11	0.1	136	1.4
1998	172	1.8	77	0.8	17	0.2	158	1.7	10	0.1	99	1.0

Table 8.16 : Suicide case counts and age-standardised rates for various methods of suicides for persons; Australia, 1979-1998

Year of death registration	Hanging (E953.0)		MV Exhaust (E952.0)		Firearms (E955.0-.4)		Poisoning (solid, liquids) (E950)		Cutting/ piercing (E956)		Other/ unspecified (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	207	1.5	160	1.2	523	3.8	487	3.5	29	0.2	269	1.9
1980	199	1.5	187	1.4	516	3.7	410	3.0	27	0.2	267	1.9
1981	248	1.7	206	1.5	495	3.5	392	2.8	42	0.3	288	2.1
1982	282	1.9	212	1.5	541	3.7	392	2.7	41	0.3	307	2.1
1983	287	1.9	215	1.4	512	3.4	385	2.6	31	0.2	295	2.0
1984	273	1.8	227	1.5	523	3.4	369	2.4	27	0.2	292	1.9
1985	311	2.0	309	2.0	550	3.5	333	2.2	37	0.2	286	1.8
1986	324	2.0	384	2.5	548	3.5	366	2.3	29	0.2	331	2.1
1987	456	2.8	402	2.5	571	3.5	435	2.7	36	0.2	352	2.2
1988	468	2.8	413	2.5	521	3.2	398	2.4	39	0.2	358	2.2
1989	531	3.2	399	2.4	450	2.7	342	2.1	41	0.2	332	2.0
1990	530	3.1	421	2.5	486	2.9	386	2.3	40	0.2	298	1.8
1991	537	3.1	474	2.7	505	2.9	435	2.5	48	0.3	361	2.1
1992	534	3.1	469	2.7	489	2.8	398	2.3	35	0.2	378	2.2
1993	544	3.1	394	2.2	431	2.4	314	1.8	40	0.2	358	2.0
1994	603	3.4	444	2.5	420	2.3	375	2.1	45	0.2	370	2.1
1995	657	3.7	509	2.8	388	2.1	383	2.1	38	0.2	391	2.1
1996	743	4.1	505	2.7	382	2.1	378	2.0	37	0.2	348	1.9
1997	918	5.0	604	3.2	330	1.7	347	1.8	53	0.3	471	2.5
1998	1,184	6.4	528	2.8	234	1.2	336	1.8	48	0.2	353	1.9

Table 8.17 : Suicide case counts and age-standardised rates for males, by State or Territory; Australia, 1979-1998

Year of death registration	NSW		VIC		QLD		SA		WA		TAS		NT		ACT	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	396	16.5	313	17.4	211	20.7	132	21.1	83	14.2	38	19.7	10	12.2	15	13.1
1980	411	16.9	320	17.6	209	20.2	99	16.5	101	17.2	37	18.5	11	18.2	11	14.0
1981	412	16.8	317	17.0	221	20.5	118	19.2	109	18.0	53	27.7	13	22.9	16	18.7
1982	434	17.4	325	17.3	230	20.5	131	21.0	132	20.2	43	20.8	8	13.6	15	12.7
1983	401	16.0	375	19.6	226	19.4	105	16.1	110	16.8	53	26.8	16	23.6	21	21.1
1984	383	14.9	346	17.7	246	20.7	125	18.9	139	20.6	39	18.8	9	12.0	22	19.5
1985	503	19.0	336	17.1	263	21.2	106	15.5	134	19.9	52	24.5	14	18.0	20	18.7
1986	477	17.8	371	18.7	309	24.4	143	20.9	134	19.3	60	27.9	13	24.8	24	18.7
1987	532	19.5	500	24.4	338	26.2	142	21.0	162	22.2	58	27.7	15	18.8	26	21.8
1988	561	20.1	413	20.2	333	25.1	149	21.3	169	22.3	60	27.6	23	25.6	21	13.7
1989	552	19.4	374	17.8	334	24.4	149	21.0	158	20.5	43	19.7	21	37.4	26	21.1
1990	538	18.8	398	18.5	340	24.1	174	24.4	167	21.0	63	28.3	30	33.3	25	20.2
1991	595	20.5	474	21.7	342	23.8	169	23.5	168	20.8	52	23.2	18	19.7	29	22.2
1992	590	20.1	445	20.2	326	22.0	166	22.7	171	20.8	75	33.1	19	22.3	27	21.3
1993	577	19.4	394	17.8	304	20.0	134	18.3	174	20.9	67	29.4	15	15.3	19	12.0
1994	629	21.1	399	17.9	368	23.4	140	19.1	189	22.2	63	27.7	17	16.8	25	16.0
1995	602	19.8	436	19.4	395	24.3	162	22.5	176	20.3	52	22.8	21	28.1	30	21.9
1996	661	21.6	382	16.9	456	27.6	154	20.6	171	19.4	52	23.0	28	28.3	27	17.5
1997	724	23.4	529	23.1	432	25.9	161	21.9	206	23.1	38	16.5	32	30.5	23	15.2
1998	709	22.7	448	19.2	450	26.2	199	27.3	235	26.1	48	20.5	33	32.3	28	19.3

Table 8.18 : Suicide case counts and age-standardised rates for females by State or Territory; Australia, 1979-1998

Year of death registration	NSW		VIC		QLD		SA		WA		TAS		NT		ACT	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	146	5.8	147	7.8	83	8.4	47	7.4	35	6.2	16	7.9	1	1.3	4	3.5
1980	135	5.5	118	6.2	71	6.7	46	7.4	24	4.4	10	5.2	3	5.9	1	0.7
1981	134	5.3	108	5.7	82	7.6	43	6.7	28	4.8	10	4.8	3	4.4	5	3.8
1982	151	5.8	136	7.0	69	6.1	45	6.9	37	6.3	16	7.5	0	0.0	5	4.1
1983	137	5.1	140	7.0	56	4.8	34	4.9	32	5.0	15	7.4	0	0.0	4	3.5
1984	126	4.7	120	6.0	70	6.1	26	3.8	37	5.5	13	5.9	2	2.4	9	7.6
1985	140	5.1	83	4.0	80	6.5	32	4.5	40	6.0	15	6.8	1	1.2	8	8.6
1986	137	4.9	142	6.9	79	6.3	39	5.4	30	4.3	12	5.8	1	1.2	11	8.9
1987	116	4.1	150	7.0	91	7.1	46	6.3	42	5.8	9	4.1	2	3.1	11	8.4
1988	162	5.5	118	5.4	85	6.4	38	5.3	39	5.2	13	5.7	3	3.3	9	6.5
1989	135	4.6	118	5.4	82	5.9	52	7.2	25	3.3	18	7.8	2	3.4	6	4.5
1990	142	4.7	102	4.5	79	5.5	41	5.5	44	5.6	8	3.5	3	3.0	7	5.8
1991	173	5.8	136	6.0	80	5.4	57	7.7	43	5.3	14	6.0	3	2.8	7	4.7
1992	145	4.7	112	4.9	98	6.5	48	6.5	43	5.2	20	8.2	3	3.6	5	3.8
1993	138	4.4	94	4.1	62	4.0	34	4.5	42	5.0	15	6.2	6	6.5	3	1.9
1994	152	4.8	111	4.7	90	5.6	30	4.1	28	3.4	7	3.0	1	6.4	9	5.5
1995	172	5.5	127	5.5	101	6.1	39	5.2	37	4.3	14	5.9	2	8.7	3	2.0
1996	160	5.0	111	4.7	87	5.2	31	4.1	47	5.3	11	4.2	7	7.8	8	4.9
1997	219	6.8	140	5.8	103	6.0	34	4.4	49	5.5	11	4.5	5	5.2	16	10.2
1998	156	4.8	136	5.7	124	7.1	45	5.5	54	5.9	10	3.7	6	6.4	2	1.3

Table 8.19 : Suicide case counts and age-standardised rates for persons by State or Territory; Australia, 1979-1998

Year of death registration	NSW		VIC		QLD		SA		WA		TAS		NT		ACT	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
1979	541	11.0	460	12.5	294	14.5	179	14.1	118	10.2	54	13.9	11	7.3	19	8.3
1980	546	11.1	437	11.7	280	13.3	145	11.6	125	10.8	47	11.8	14	12.8	12	7.1
1981	545	10.8	425	11.2	303	13.9	161	12.7	137	11.4	63	15.8	16	14.6	21	10.9
1982	583	11.4	461	11.9	299	13.1	176	13.5	169	13.2	59	14.3	8	7.8	20	8.4
1983	537	10.3	515	13.1	282	12.0	139	10.3	142	10.9	68	16.3	16	13.2	25	11.9
1984	509	9.6	465	11.6	316	13.3	151	11.2	176	13.1	52	12.1	11	7.8	31	13.5
1985	643	11.9	419	10.3	343	13.8	138	10.1	174	12.8	67	15.5	15	10.4	28	12.6
1986	614	11.2	513	12.5	388	15.3	182	13.0	164	11.6	72	16.6	14	12.2	35	13.8
1987	647	11.5	650	15.4	429	16.5	188	13.3	204	14.0	67	15.5	17	11.6	37	14.9
1988	723	12.7	531	12.5	418	15.6	187	13.1	208	13.8	73	16.1	26	15.4	30	10.1
1989	687	11.9	492	11.4	416	15.0	201	14.0	183	11.9	61	13.6	23	21.2	32	12.3
1990	680	11.6	500	11.3	419	14.6	215	14.9	211	13.3	71	15.7	33	19.3	32	12.6
1991	768	13.0	610	13.7	422	14.4	226	15.5	211	13.0	66	14.4	21	11.9	36	12.9
1992	735	12.2	557	12.4	424	14.1	214	14.6	214	13.1	95	20.4	22	13.6	32	11.8
1993	715	11.8	488	10.8	366	11.8	168	11.3	216	13.0	82	17.7	21	11.2	22	6.9
1994	780	12.8	510	11.2	458	14.4	170	11.5	217	12.8	70	15.0	18	12.5	34	10.7
1995	774	12.5	562	12.3	496	15.1	201	13.7	213	12.3	66	14.2	23	19.1	33	11.3
1996	821	13.1	493	10.6	543	16.3	185	12.2	218	12.3	63	13.2	35	18.9	35	11.2
1997	943	15.0	669	14.3	535	15.8	195	13.0	255	14.2	49	10.3	37	18.7	39	12.6
1998	865	13.6	584	12.4	574	16.6	244	16.4	289	16.0	58	11.9	39	20.1	30	9.9

Appendix 8.2 : Data tables for hospitalised self-harm

Table 8.20 : Counts, age-specific rates and male to female ratio of hospitalised self-harm by five-year age groups for males, females and persons; Australia 1997/98

Age group (years)	Males		Females		Persons		M:F ratio
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	
0 to 4	6	0.9	6	1.0	12	0.9	0.9
5 to 9	5	0.7	2	0.3	7	0.5	2.4
10 to 14	115	17.1	419	65.4	534	40.7	0.3
15 to 19	941	141.0	2,040	321.9	2,981	229.1	0.4
20 to 24	1,559	225.4	2,110	315.5	3,669	269.7	0.7
25 to 29	1,684	229.9	2,050	281.0	3,734	255.4	0.8
30 to 34	1,646	232.9	1,731	243.6	3,377	238.3	1.0
35 to 39	1,354	182.7	1,881	252.6	3,235	217.7	0.7
40 to 44	1,123	162.0	1,526	218.8	2,649	190.5	0.7
45 to 49	804	123.3	1,009	156.5	1,813	139.8	0.8
50 to 54	508	88.4	649	117.3	1,157	102.6	0.8
55 to 59	314	71.4	359	84.4	673	77.8	0.8
60 to 64	167	45.8	158	43.1	325	44.4	1.1
65 to 69	157	46.8	127	36.3	284	41.4	1.3
70 to 74	116	40.9	136	41.3	252	41.2	1.0
75 to 79	86	44.1	84	32.1	170	37.2	1.4
80 to 84	72	66.1	74	41.4	146	50.7	1.6
85+	52	78.9	49	32.3	101	46.4	2.4
All ages [a]	**10,709**	**116.9**	**14,410**	**159.0**	**25,120 [b]**	**137.5**	**0.7**

(a) The all-age rates are age-standardised.

(b) Includes case where age or sex were not state

Table 8.21 : Case counts and rates for various methods of hospitalised self-harm for males; Australia 1997/98

Age-group (Years)	Hanging (E953.0)		MV exhaust gas (E952.0)		Firearms (E955.0-.4)		Poisoning, tranquillisers & other psychotropics (E950.3)		Poisoning, analgesics etc (E950.0)		Other poisoning by solids & liquids (Remainder of E950)		Cutting/piercing (E956)		Other means (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-14	14	2.1	0	..	1	0.1	36	5.4	11	1.6	34	5.1	6	0.9	13	1.9
15-19	48	7.2	12	1.8	4	0.6	235	35.2	229	34.3	176	26.4	149	22.3	88	13.2
20-24	80	11.6	30	4.3	16	2.3	481	69.5	296	42.8	254	36.7	267	38.6	135	19.5
25-29	80	10.9	56	7.6	9	1.2	571	78.0	249	34.0	242	33.0	344	47.0	133	18.2
30-34	61	8.6	49	6.9	14	2.0	651	92.1	225	31.8	300	42.4	238	33.7	108	15.3
35-39	40	5.4	50	6.7	5	0.7	574	77.4	171	23.1	273	36.8	160	21.6	81	10.9
40-44	27	3.9	41	5.9	4	0.6	465	67.1	140	20.2	196	28.3	145	20.9	105	15.1
45-49	14	2.1	39	6.0	6	0.9	368	56.4	95	14.6	158	24.2	87	13.3	37	5.7
50-54	19	3.3	15	2.6	2	0.3	228	39.7	44	7.7	128	22.3	44	7.7	28	4.9
55-59	10	2.3	20	4.6	3	0.7	130	29.6	31	7.1	78	17.7	28	6.4	14	3.2
60-64	1	0.3	9	2.5	3	0.8	69	18.9	19	5.2	42	11.5	16	4.4	8	2.2
65-69	6	1.8	3	0.9	4	1.2	49	14.6	14	4.2	41	12.2	24	7.2	16	4.8
70-74	2	0.7	3	1.1	1	0.4	40	14.1	16	5.6	24	8.5	21	7.4	9	3.2
75-79	0	..	2	1.0	2	1.0	26	13.3	10	5.1	17	8.7	18	9.2	11	5.6
80-84	4	3.7	1	0.9	2	1.8	23	21.1	2	1.8	17	15.6	18	16.5	5	4.6
85+	3	4.5	0	..	1	1.5	16	24.3	12	18.2	7	10.6	9	13.6	4	6.1
All ages	**410**	**4.5**	**330**	**3.5**	**77**	**0.9**	**3,965**	**42.8**	**1,565**	**17.3**	**1,990**	**21.6**	**1,574**	**17.4**	**798**	**8.8**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.22 : Case counts and rates for various methods of hospitalised self-harm for females; Australia 1997/98

Age-group (Years)	Hanging (E953.0)		MV exhaust gas (E952.0)		Firearms (E955.0-.4)		Poisoning, tranquillisers & other psychotropics (E950.3)		Poisoning, analgesics etc (E950.0)		Other poisoning by solids & liquids (Remainder of E950)		Cutting/piercing (E956)		Other means (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-14	9	1.4	0	..	1	0.2	106	16.6	162	25.3	93	14.5	39	6.1	9	1.4
15-19	26	4.1	4	0.6	0	..	549	86.6	745	117.6	429	67.7	233	36.8	54	8.5
20-24	19	2.8	13	1.9	1	0.1	885	132.3	487	72.8	329	49.2	281	42.0	95	14.2
25-29	25	3.4	14	1.9	4	0.5	977	133.9	400	54.8	336	46.1	239	32.8	55	7.5
30-34	16	2.3	10	1.4	1	0.1	878	123.6	287	40.4	285	40.1	189	26.6	65	9.1
35-39	13	1.7	17	2.3	0	..	1,006	135.1	322	43.2	288	38.7	176	23.6	59	7.9
40-44	8	1.1	10	1.4	1	0.1	850	121.9	229	32.8	251	36.0	132	18.9	45	6.5
45-49	4	0.6	6	0.9	1	0.2	581	90.1	156	24.2	163	25.3	64	9.9	34	5.3
50-54	5	0.9	4	0.7	0	..	373	67.4	100	18.1	98	17.7	50	9.0	19	3.4
55-59	3	0.7	5	1.2	0	..	206	48.4	44	10.3	59	13.9	12	2.8	30	7.0
60-64	1	0.3	2	0.5	0	..	96	26.2	17	4.6	29	7.9	12	3.3	1	0.3
65-69	0	..	0	..	0	..	75	21.4	17	4.9	23	6.6	12	3.4	0	..
70-74	1	0.3	0	..	0	..	78	23.7	10	3.0	29	8.8	12	3.6	6	1.8
75-79	0	..	1	0.4	0	..	56	21.4	9	3.4	13	5.0	4	1.5	1	0.4
80-84	1	0.6	0	..	0	..	31	17.3	7	3.9	27	15.1	3	1.7	5	2.8
85+	0	..	0	..	0	..	26	17.1	5	3.3	8	5.3	5	3.3	5	3.3
All ages	**131**	**1.5**	**86**	**0.9**	**9**	**0.1**	**6,774**	**73.5**	**2,998**	**33.9**	**2,464**	**27.3**	**1,463**	**16.4**	**485**	**5.3**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.23 : Case counts and rates for various methods of hospitalised self-harm for persons; Australia 1997/98

Age-group (Years)	Hanging (E953.0)		MV exhaust gas (E952.0)		Firearms (E955.0-.4)		Poisoning, tranquillisers & other psychotropics (E950.3)		Poisoning, analgesics etc (E950.0)		Other poisoning by solids & liquids (Remainder of E950)		Cutting/piercing (E956)		Other means (Remainder of E950-959)	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-14	23	1.8	0	..	2	0.2	142	10.8	173	13.2	127	9.7	45	3.4	22	1.7
15-19	74	5.7	16	1.2	4	0.3	784	60.3	974	74.9	605	46.5	382	29.4	142	10.9
20-24	99	7.3	43	3.2	17	1.2	1,366	100.4	783	57.6	583	42.9	548	40.3	230	16.9
25-29	105	7.2	70	4.8	13	0.9	1,548	105.9	649	44.4	578	39.5	583	39.9	188	12.9
30-34	77	5.4	59	4.2	15	1.1	1,529	107.9	512	36.1	585	41.3	427	30.1	173	12.2
35-39	53	3.6	67	4.5	5	0.3	1,580	106.3	493	33.2	561	37.8	336	22.6	140	9.4
40-44	35	2.5	51	3.7	5	0.4	1,315	94.6	369	26.5	447	32.1	277	19.9	150	10.8
45-49	18	1.4	45	3.5	7	0.5	949	73.2	251	19.4	321	24.8	151	11.6	71	5.5
50-54	24	2.1	19	1.7	2	0.2	601	53.3	144	12.8	226	20.0	94	8.3	47	4.2
55-59	13	1.5	25	2.9	3	0.3	336	38.8	75	8.7	137	15.8	40	4.6	44	5.1
60-64	2	0.3	11	1.5	3	0.4	165	22.6	36	4.9	71	9.7	28	3.8	9	1.2
65-69	6	0.9	3	0.4	4	0.6	124	18.1	31	4.5	64	9.3	36	5.3	16	2.3
70-74	3	0.5	3	0.5	1	0.2	118	19.3	26	4.2	53	8.7	33	5.4	15	2.4
75-79	0	..	3	0.7	2	0.4	82	18.0	19	4.2	30	6.6	22	4.8	12	2.6
80-84	5	1.7	1	0.3	2	0.7	54	18.8	9	3.1	44	15.3	21	7.3	10	3.5
85+	3	1.4	0	..	1	0.5	42	19.3	17	7.8	15	6.9	14	6.4	9	4.1
All ages	**541**	**3.0**	**416**	**2.2**	**86**	**0.5**	**10,739**	**58.1**	**4,563**	**33.9**	**4,454**	**24.7**	**3,037**	**16.8**	**1,283**	**7.1**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.24 : Hospitalised self-harm – case counts and rates for males, females and persons by five-year age groups for States and Territories; Australia, 1997/98

Age-group (Years)	NSW						Victoria					
	Males		Females		Persons		Male		Females		Persons	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
10-14	48	21.5	177	83.2	225	51.6	13	8.1	87	56.5	100	31.8
15-19	315	142.6	605	288.2	920	213.5	207	127.3	500	322.7	707	222.6
20-24	491	216.3	587	265.3	1,078	240.5	354	205.4	31	317.3	885	260.5
25-29	558	229.5	704	287.5	1,262	258.6	356	193.2	83	259.7	839	226.6
30-34	527	219.9	517	215.9	1,044	217.9	355	201.0	45	246.8	800	224.2
35-39	450	178.4	546	216.9	996	197.6	282	154.7	25	284.1	807	219.8
40-44	370	158.3	434	185.6	804	171.9	261	153.2	53	261.0	714	207.6
45-49	243	111.4	288	133.9	531	122.6	202	127.7	60	162.0	462	145.0
50-54	196	100.6	197	105.2	393	102.9	108	77.2	56	112.9	264	95.0
55-59	101	67.4	107	73.2	208	70.3	80	73.2	98	91.1	178	82.1
60-64	56	44.1	57	44.5	113	44.3	37	40.1	39	41.2	76	40.6
65-69	59	50.0	57	45.8	116	47.9	42	49.0	23	25.4	65	36.9
70-74	51	51.0	49	41.7	100	46.0	28	38.7	32	37.2	60	37.9
75-79	30	43.2	31	33.2	61	37.4	17	34.6	22	32.6	39	33.4
80-84	25	65.3	27	42.3	52	50.9	16	57.5	17	36.7	33	44.5
85+	12	54.0	17	32.0	29	38.5	14	80.0	18	44.5	32	55.3
All ages	**3,532**	**114.6**	**4,401**	**144.6**	**7,933**	**129.2**	**2,374**	**104.4**	**3,690**	**162.4**	**6,064**	**133.1**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.24 : Hospitalised self-harm – case counts and rates for males, females and persons by five-year groups for States and Territories; Australia, 1997/98 (continued)

Age-group (Years)	Queensland						South Australia					
	Males		Females		Persons		Male		Females		Persons	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
10-14	19	14.8	65	53.4	84	33.5	8	15.4	39	78.6	47	46.2
15-19	203	158.4	426	351.0	629	252.0	74	146.9	171	356.2	245	249.0
20-24	325	248.7	484	380.9	809	313.9	96	184.3	130	262.4	226	222.4
25-29	382	280.2	391	289.8	773	284.9	112	202.6	130	242.1	242	222.1
30-34	359	280.4	325	252.3	684	266.3	124	226.5	133	244.8	257	235.6
35-39	291	215.6	374	274.6	665	245.2	116	199.6	136	231.6	252	215.7
40-44	234	184.5	280	220.7	514	202.6	99	180.6	117	210.9	216	195.9
45-49	190	155.5	206	173.8	396	164.5	63	120.7	95	180.0	158	150.5
50-54	84	78.0	129	126.3	213	101.5	35	76.3	64	139.4	99	107.9
55-59	66	81.4	77	100.5	143	90.7	27	76.4	32	90.1	59	83.3
60-64	32	49.2	35	55.7	67	52.4	21	68.6	10	31.6	31	49.8
65-69	33	56.5	16	26.9	49	41.6	12	40.7	14	45.0	26	42.9
70-74	19	38.7	17	31.0	36	34.7	7	26.4	14	45.3	21	36.6
75-79	17	49.5	15	34.1	32	40.9	11	59.9	5	19.9	16	36.8
80-84	18	94.0	13	43.6	31	63.3	5	47.9	7	40.9	12	43.5
85+	10	85.6	4	16.1	14	38.4	7	112.4	6	40.3	13	61.6
All ages	**2,285**	**135.1**	**2,859**	**170.9**	**5,144**	**152.4**	**817**	**113.9**	**1,106**	**155.9**	**1,923**	**134.4**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.24 : Hospitalised self-harm – case counts and rates for males, females and persons by five-year groups for States and Territories; Australia, 1997/98 (continued)

Age-group (Years)	Western Australia						Tasmania					
	Males		Females		Persons		Males		Females		Persons	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [(a)]	-	-	-	-	-	-	-	-	-	-	-	-
10-14	14	20.1	37	56.1	51.0	37.6	10	55.3	7	39.9	17.0	47.7
15-19	95	140.3	246	384.1	341.0	258.8	25	142.9	36	215.2	61.0	178.3
20-24	213	301.6	300	449.5	513.0	373.5	28	178.2	28	182.9	56.0	180.5
25-29	208	282.6	250	354.2	458.0	317.6	28	172.1	49	295.2	77.0	234.3
30-34	193	273.8	234	335.9	427.0	304.6	40	250.3	40	236.1	80.0	243.0
35-39	137	185.2	202	274.9	339.0	229.9	42	228.8	50	263.2	92.0	246.3
40-44	113	160.3	164	233.4	277.0	196.8	22	124.8	39	218.4	61.0	171.9
45-49	68	102.7	111	174.5	179.0	137.8	23	139.3	31	188.9	54.0	164.0
50-54	73	130.6	75	145.0	148.0	137.5	5	34.3	11	77.4	16.0	55.5
55-59	33	78.7	28	70.8	61.0	74.9	5	43.2	11	97.0	16.0	69.9
60-64	17	51.1	13	39.4	30.0	45.3	2	20.7	2	20.2	4.0	20.5
65-69	7	23.7	12	39.9	19.0	31.9	1	11.1	4	42.2	5.0	27.0
70-74	9	37.5	14	52.4	23.0	45.4	2	26.2	5	56.8	7.0	42.6
75-79	6	37.8	9	42.9	15.0	40.7	3	57.2	1	13.8	4.0	32.0
80-84	3	33.7	5	34.1	8.0	33.9	4	129.6	3	58.5	7.0	85.3
85+	7	119.7	2	15.5	9.0	47.9	1	56.7	2	49.1	3.0	51.4
All ages	**1,197**	**131.1**	**1,702**	**192.5**	**2,899**	**161.0**	**246**	**110.7**	**320**	**139.9**	**566**	**125.1**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

Table 8.24 : Hospitalised self-harm – case counts and rates for males, females and persons by five-year groups for States and Territories; Australia, 1997/98 (continued)

Age-group (Years)	Northern Territory						Australian Capital Territory					
	Males		Females		Persons		Male		Females		Persons	
	Case counts	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*	*Case counts*	*Rates*
0-4 [a]	-	-	-	-	-	-	-	-	-	-	-	-
5-.9 [a]	-	-	-	-	-	-	-	-	-	-	-	-
10-14	2	25.4	2	26.7	4.0	26.0	1	8.8	5	45.7	6.0	26.9
15-19	10	135.0	18	266.5	28.0	197.7	12	94.3	38	321.3	50.0	203.6
20-24	22	242.2	10	124.7	32.0	187.1	30	213.5	40	299.4	70.0	255.3
25-29	21	205.9	17	179.2	38.0	193.1	19	145.6	26	196.5	45.0	171.2
30-34	17	184.8	14	166.0	31.0	175.8	31	258.8	23	185.8	54.0	221.7
35-39	19	217.1	15	190.8	34.0	204.6	17	137.6	33	256.6	50.0	198.3
40-44	9	119.5	15	216.7	24.0	166.0	15	128.0	24	193.9	39.0	161.8
45-49	8	119.2	5	86.9	13.0	104.3	7	60.0	13	106.8	20.0	83.9
50-54	2	36.1	2	46.8	4.0	40.7	5	50.2	15	155.1	20.0	101.8
55-59	0	..	3	117.1	3.0	48.1	2	30.2	3	47.3	5.0	38.6
60-64	0	..	0	..	..	..	2	42.2	2	42.7	4.0	42.5
65-69	1	68.2	0	..	1.0	38.5	2	53.2	1	25.3	3.0	38.9
70-74	0	..	0	..	..	..	0	..	5	138.1	5.0	75.7
75-79	1	216.0	0	..	1.0	103.5	1	49.8	1	36.5	2.0	42.1
80-84	0	..	1	319.5	1.0	190.8	1	103.2	1	58.7	2.0	74.8
85+	0	..	0	..	..	..	1	186.2	0	..	1.0	55.6
All ages	**112**	**102.9**	**102**	**108.7**	**214**	**107.4**	**146**	**93.9**	**230**	**142.7**	**376**	**117.7**

(a) In 1997/98, 12 hospitalised self-harm cases were registered for the 0-4 year age group and another 7 for the 5-9 year age group (Table 8.20). Cases and rates for these age groups are not shown in this table.
(b) The all-ages rates are age standardised.

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INJURY RESEARCH & STATISTICS

This is a statistical report on suicide and hospitalised self-harm in Australia. It provides the latest data available, including data on age and sex distribution and methods used, and presents trends for suicide deaths.

The report also includes information on suicide among Indigenous Australians and describes the shortcomings of the data and the implications for interpreting the information.

It will be relevant to those interested in data on suicide or those working in the field, including community practitioners, health planners and administrators, academic researchers and the public.