Australian Bureau of Statistics

NEW ISSUE

1980–95

EMBARGO: 11:30 AM (CANBERRA TIME) WED 26 FEB 1997

FIREARMS DEATHS

Australia

ABS Catalogue No. 4397.0

NOTES

CLASSIFICATIONS

This report includes all registered deaths resulting from a firearm injury. The firearm deaths have been classified according to the Ninth Revision of the International Classification of Diseases (ICD-9). They are classed under the external causes list of ICD-9, and the major groupings are accidents, suicides and homicides. For a detailed description of the ICD codes included in this publication refer to paragraph 2 of the Explanatory Notes.

Unless otherwise stated, the data presented are classified according to the year of registration of death, while the geographic distribution of deaths is according to the place of usual residence of the deceased.

SYMBOLS AND OTHER USAGES

The following are used in this publication:

ICD	International Classification of Diseases (produced by the World Health Organisation)
n.p.	reliable rates could not be produced due to the small number of observations
WHO	World Health Organisation
YPLL	Years of potential life lost
—	nil or rounded to zero

INQUIRIES

For further information about these statistics and the availability of related unpublished statistics, contact Kiri Gaminiratne on Canberra (06) 252 6308.

For information about other ABS statistics and services, please refer to the back of this publication.

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Australian Statistician

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INTRODUCTION

This publication presents an overview of the levels and trends in firearms deaths in Australia during the 16-year period from 1980 to 1995. It is a part of a series of publications on mortality produced by the Australian Bureau of Statistics (ABS) and supplements those reports on related topics already issued by the ABS and other agencies. In 1991, the Injury Surveillance Unit of the Australian Institute of Health and Welfare published the report *Firearm Death in Australia: 26 Year Trends*, which analysed firearm-related deaths registered in the period 1964 to 1989. In 1994, the ABS released *Suicides in Australia* which included information on firearm suicides for the period 1983 to 1992. In 1996 the Institute of Criminology released *Violent Deaths & Firearms in Australia; Data and Trends*. This report included data on firearm-related deaths registered in Australia from 1915 to 1994 supplemented by data collected in the Institute's National Homicide Monitoring Program.

This publication provides statistics on firearms deaths as a whole, and suicides, homicides and fatal accidents involving firearms, derived from the data on registered deaths maintained by the Registrars of Births, Deaths, and Marriages in the States and Territories. Basic demographic information available on the death certificate is used to analyse variation by sex and age group, and by geographic location and month of occurrence. Information provided on the death certificate on the type of weapon is also discussed, although the ICD-9 classification used in this report does not distinguish between automatic and semi-automatic firearms.

This report does not cover injuries due to firearms. However, national information on firearm injuries is available through the hospital-based morbidity collection maintained by the Injury Surveillance Unit of the Australian Institute of Health and Welfare. The Australian Institute of Criminology maintains a data collection on firearm homicide which is being expanded to cover firearm accidents.

As this report covers the period to 1995, the Port Arthur homicides, which occurred in April 1996, are not included in the data. In response to these homicides, Commonwealth and State and Territory governments agreed to implement uniform gun laws which would ban automatic and semi-automatic weapons. These measures are to be implemented throughout Australia in 1997. Within the data limitations stated above, this report on the fatal outcomes of fream use will provide a baseline for monitoring the impact of uniform gun laws and associated measures.

After an initial presentation of the distribution of mortality from year to year, the remaining analysis is based on death rates averaged over three-year periods (except the latest year available, 1995), to minimise the effect of random fluctuations.

SUMMARY OF FINDINGS

NUMBER OF DEATHS

During the reference period, 1980–95, a total of 10,150 deaths were registered as firearm-related, accounting for 0.5% of all deaths reported. However in terms of premature mortality, firearm deaths are more significant, accounting for about 2.4% of total years of potential life lost before age 76 (see Technical Note). Of total deaths from external causes, which include accidents of all types, and all suicides and homicides, firearm deaths contributed 8.9%. Although the relative magnitude of deaths from the use of firearms as a cause of death is small, such deaths still have public health and social significance. Analysis of ABS mortality data indicates that firearms are involved in approximately one-quarter of all suicides and one-fifth of all homicides.

1 DEATHS FROM FIREARM USE, EXTERNAL(a) AND ALL CAUSES

Period	*Firearm deaths* no.	*External causes* no.	*Proportion(b)* %	*All causes* no.	*Proportion(c)* %
Three year averages					
1980–82	678	8 144	8.3	110 823	0.6
1983–85	684	7 553	9.1	112 935	0.6
1986–88	701	8 125	8.6	117 389	0.6
1989–91	604	7 936	7.6	121 147	0.5
1992–94	558	7 233	7.7	123 979	0.5
Latest calendar year					
1995(d)	479	7 413	6.5	125 124	0.4

(a) Accidents, poisoning, violence.

(b) Firearms deaths as a percentage of deaths due to external causes.

(c) Firearms deaths as a percentage of deaths due to all causes.

(d) Data for single year. Data for other periods are three-year averages. Refer to table 2 for numbers of deaths 1980–95.

The majority (78%) of firearm deaths during the reference period were suicides, 15% were homicides while deaths resulting from the accidental discharge of firearms contributed 5%. The remaining 2% were made up of a small number of deaths resulting from legal intervention (deaths by law enforcement agents in the performance of legal duties) and deaths where the intent was undetermined.

OVERALL TRENDS

The crude firearms death rate declined from 4.8 deaths per 100,000 population in 1980 to 2.6 in 1995 (see table 9). This represented a decline of 46% over a period of 16 years. The rate of decline observed remains about the same when firearm death rates are standardised for age to minimise the effect of variations in the age structure of the population over the years. (For details on standardisation see paragraph 9 of the Explanatory Notes.) The 1995 standardised rate of 2.6 was the lowest death rate from firearm use recorded during the reference period.

While the general trend was downward there have been fluctuations over the reference period. These fluctuations were influenced more by the year-to-year movement of death rates from firearm suicides than by firearm homicides or firearm accidents, reflecting the significance of suicides as the major component of firearm deaths.

2 FIREARM DEATHS BY TYPE OF DEATH

	Number of deaths				*Standardised death rate(a)*			
Year	*Accidents*	*Suicides*	*Homicides*	*Total(b)*	*Accidents*	*Suicides*	*Homicides*	*Total(b)*
1980	62	516	109	700	0.4	3.7	0.8	4.9
1981	36	495	87	632	0.2	3.5	0.6	4.4
1982	48	541	100	701	0.3	3.7	0.7	4.7
1983	40	512	92	654	0.3	3.4	0.6	4.3
1984	32	523	120	687	0.2	3.4	0.8	4.5
1985	35	550	97	710	0.2	3.5	0.6	4.5
1986	28	548	101	696	0.2	3.5	0.6	4.4
1987	27	571	96	711	0.2	3.5	0.6	4.4
1988	30	521	123	695	0.2	3.2	0.7	4.2
1989	19	450	80	569	0.1	2.7	0.5	3.4
1990	30	486	79	614	0.2	2.9	0.5	3.6
1991	29	505	84	629	0.2	2.9	0.5	3.6
1992	24	488	96	622	0.1	2.8	0.5	3.6
1993	18	431	64	522	0.1	2.4	0.4	2.9
1994	20	420	76	529	0.1	2.3	0.4	3.0
1995	15	388	67	479	0.2	2.1	0.3	2.6

(a) Standardised per 100,000 of the 1991 population (see paragraph 9 of the Explanatory Notes).

(b) Due to the small number of cases reported, firearm deaths classified under legal intervention and other types of death are not shown separately. However the total column includes all deaths.

While death rates from firearm accidents, suicides and homicides have all decreased in recent years, differences in their rates of change have affected the proportion of firearm deaths attributable to such deaths.

The proportion of firearms deaths resulting from accidents decreased from 7.2% in 1980–82 to 3.1% in 1995. Correspondingly, the proportion of firearm deaths due to suicides increased from 76% to 81% over the same period. The proportion of homicides remained relatively stable.

3 TYPE OF DEATH AS A PROPORTION OF FIREARM DEATHS

	Accidents	*Suicides*	*Homicides*	*Other*	*Total*
Period	%	%	%	%	%
Three year averages					
1980–82	7.2	76.3	14.6	1.9	100.0
1983–85	5.2	77.3	15.1	2.4	100.0
1986–88	4.0	78.0	15.2	2.7	100.0
1989–91	4.3	79.5	13.4	2.8	100.0
1992–94	3.7	80.0	14.1	2.2	100.0
Latest calendar year					
1995	3.1	81.0	14.0	1.9	100.0

SEX VARIATION

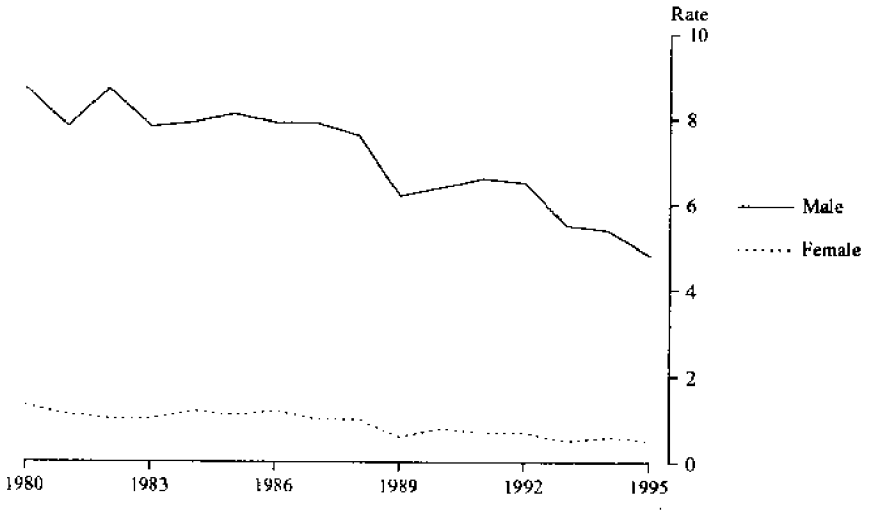
Firearm deaths are much more common among males than females. Over the reference period the largest single group of firearm deaths by type of death and sex were male suicides which were 73% of the total. Males made up the majority of each type of firearm death. The proportion of deaths that were males was highest for suicides (93%) and lowest for homicide (64%).

4 PROPORTION OF FIREARM DEATHS THAT ARE MALE, BY TYPE OF DEATH

Period	Accidents %	Suicides %	Homicides %	Other %	Total %
Three year averages					
1980–82	93.2	92.7	63.2	92.3	88.4
1983–85	84.1	92.1	65.7	86.0	87.5
1986–88	87.1	93.2	61.6	93.0	88.2
1989–91	94.9	94.1	62.1	96.0	89.9
1992–94	87.1	95.3	64.4	94.4	90.6
Latest calendar year					
1995	100.0	94.1	68.7	66.7	90.2
Aggregate					
1980–95	90.0	93.4	63.6	91.3	88.9

Among males, the standardised firearms death rate decreased from 8.7 deaths per 100,000 in 1980 to 4.8 in 1995, while the much lower female rate decreased from 1.3 deaths per 100,000 to 0.5 over the same period. Most of the decline in the rates occurred after 1988. These declines were evident for each category of firearm death and for all age groups (see tables 10 and 12).

STANDARDISED FIREARM DEATH RATES(a), BY SEX



(a) Standardised per 100,000 of the 1991 population (see paragraph 9 of the Explanatory Notes).

AGE VARIATION

Age-specific firearm death rates were lowest among children and rose with age, peaking in the 15–34 years age group. Rates then declined until ages 55 and over where death rates began to rise again. This pattern reflects the pattern for male deaths. About 42% of firearm deaths among males occurred in the 15–34 years age group, with deaths among those 65 years and over accounting for about 13% of all firearm deaths (see table 11). Age-specific death rates were higher for males than females in all age groups. While females in general followed a pattern similar to males, the deaths were distributed over a wider span of adult age groups.

The type of firearm death varied with age. Over the reference period 210 firearm deaths of children under 15 years were registered. Of these, the

largest proportion were due to homicides (46%), followed by accidents (30%). In the 15–24 years age group, the majority (78%) of firearm deaths were suicides, while accidents (7%) ranked third behind homicides (12%). This pattern remained the same in the adult age groups. While homicides ranked second in all adult age groups, the proportion was highest for those aged 25–44. At older ages (55 years and over) the proportion of suicides increased further while the proportion of homicides decreased.

5 TYPE OF DEATH AS A PROPORTION OF FIREARM DEATHS, BY AGE GROUP, 1980 to 1995

	Age group (years)						
	0–14	*15–24*	*25–34*	*35–44*	*45–54*	*55–64*	*65+*
Type of death	%	%	%	%	%	%	%
Accidents	30.0	7.0	3.9	3.6	3.2	4.3	1.9
Suicides	21.0	78.4	75.2	74.0	79.7	84.4	92.5
Homicides	45.7	11.5	17.7	20.2	15.2	9.4	4.9
Other	3.3	3.1	3.2	2.5	1.9	1.9	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

GEOGRAPHIC VARIATION BY USUAL RESIDENCE

States and Territories

Age–standardised firearm death rates classified according to the place of usual residence of the deceased, varied widely between States and Territories (see table 13). Although in small populations the death rates can be substantially affected even by a small change in the number of deaths, the Northern Territory and Tasmania stand out as the two areas with the highest rates. The Northern Territory rate fell substantially over the period, from about 14 deaths per 100,000 to around 7, whereas the Tasmanian rate showed little change, remaining at about 7 deaths per 100,000 (except in the rate shown for 1995, which was based on the number of deaths for a single year only). The fall in the Northern Territory rate was partly due to a decreasing contribution from accidents and homicides.

Queensland also recorded relatively high death rates. It had a rate of 6.1 deaths per 100,000 population in 1980–82 which rose to an average of 6.4 in 1983–88 before decreasing to an average rate of 4.3 in 1992–94 and to 3.4 in 1995. Western Australia consistently recorded the lowest rate over the period. The Western Australian rate of 3.5 deaths per 100,000 in 1980–82 decreased to 2.6 by 1992–94. Further disaggregation by type of firearm deaths at the State and Territory level is not possible due to the small number of deaths.

Capital cities, other urban, and rural areas

The analysis of firearm deaths by capital cities, other urban areas and rural areas is only possible from 1986 onwards as the estimated resident population at the Statistical Local Area (SLA) level, are available only from that year. The data have been classified according to the place of usual residence of the deceased. In the earlier periods, the standardised death rates and also the proportion of firearm deaths, were highest in the capital cities, followed by rural areas. Over the period, the standardised death rate declined more rapidly in capital cities than in rural areas. As a result in 1992–94 these two areas recorded the same death rate of 3.9. In 1995 this trend appears to have continued, although the 1995 rate may be affected by random fluctuations in deaths.

6 FIREARM DEATHS BY GEOGRAPHIC AREA

	Capital city		*Other urban*		*Rural*	
Period	Rate	%	Rate	%	Rate	%
Three year averages						
1986–88	5.5	45.2	2.6	21.1	4.1	33.7
1989–91	4.5	42.6	2.1	20.3	3.9	37.1
1992–94	3.9	40.5	1.9	19.7	3.9	39.8
Latest calendar year						
1995	1.7	41.3	3.3	18.6	4.9	40.1

(a) Percentage of total number of firearms deaths.
(b) Average standardised rates per 100,000 of the mid-year population. 1995 rate is for single year.

TYPE OF FIREARM REPORTED

Based on the information given on the death certificate, deaths are classified according to the following weapon types: hand gun, shotgun, hunting rifle, military firearm, and other firearm. The other firearm category includes those firearm deaths where the information given on the death certificates was not adequate to determine the specific weapon type.

Of the total firearms deaths registered during the reference period, in 3% of cases the firearm type involved was not specified on the death certificate, while in about 34% of the cases the information given on the death certificate was inadequate to ascribe a specific weapon type and hence these have been classified as other firearms (see paragraph 6 of the Explanatory Notes).

Among those deaths where the firearm involved was identified on the death certificate, the hunting rifle was the weapon most commonly reported. About 63% of firearm deaths where type of firearm was identified involved a hunting rifle and 30% involved a shotgun. The number of firearm deaths involving hand guns was about 5%, perhaps reflecting the longstanding legal restrictions on hand guns (dating from the 1930s). Among the deaths for which the weapon involved is known, the majority (54%) were suicides involving a hunting rifle while a further 24% were suicides with shotguns.

7 TYPE OF FIREARM DEATH, BY TYPE OF FIREARM INVOLVED 1980–95

	Accidents	*Suicides*	*Homicides*	*Total(a)*	*Proportion(b)*
Type of firearm	no.	no.	no.	no.	%
Hand gun	21	226	92	355	5.3
Shotgun	75	1 589	326	2 018	30.2
Hunting rifle	182	3 620	368	4 218	63.2
Military style	5	52	27	85	1.3
Total(c)	283	5 487	813	6 676	100.0

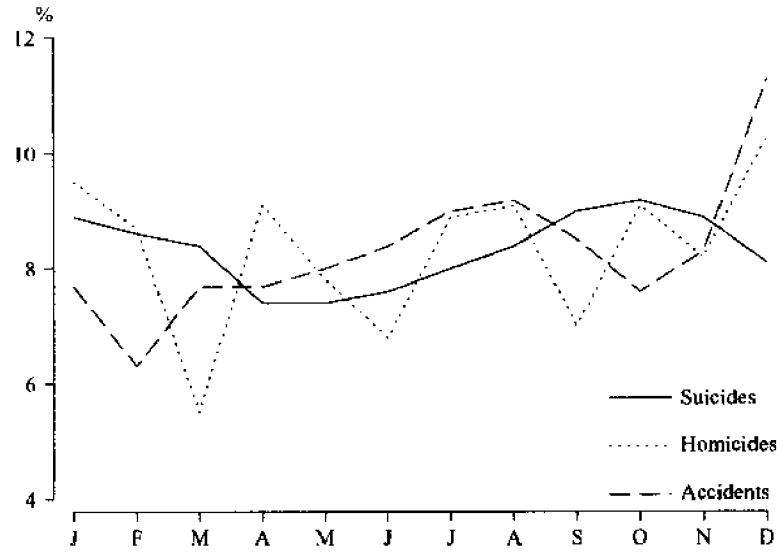
(a) Includes deaths due to legal intervention, and other deaths, which are not shown separately.
(b) Percentage of total deaths (6,676) where the firearm type involved was identified.
(c) Firearms deaths where type of firearm involved was identified on the death certificate.

MONTH OF OCCURRENCE

Total firearm deaths aggregated for the 16-year period showed a largely uniform distribution by month, with approximately 8% of deaths occurring in each month. (For meaningful comparison, number of deaths have been adjusted to 30 day months). However, the proportion of deaths was slightly lower from April to July, and slightly higher proportions were recorded from September to March. This reflects the pattern of firearm suicides, which are the major component of firearm deaths.

For firearm accidents and firearm homicides the monthly variations were less clear. Such variations were largely random, and the percentage of deaths fluctuated erratically across calendar months. However, a slightly higher percentage of firearm homicides (11.5%) and firearm accident deaths (10.1%) occurred in December than in other months.

PROPORTION OF FIREARM DEATHS BY MONTH OF OCCURRENCE, 1980–95



DETAILED MORTALITY TABLES

8 FIREARM DEATHS: NUMBER AND RATE(a), BY SEX

	Number of deaths			*Standardised death rate*		
Year	*Male*	*Female*	*Persons*	*Male*	*Female*	*Persons*
1980	611	89	700	8.7	1.3	4.9
1981	555	77	632	7.8	1.1	4.4
1982	631	70	701	8.7	1.0	4.7
1983	577	77	654	7.8	1.0	4.3
1984	593	94	687	7.9	1.2	4.5
1985	625	85	710	8.1	1.1	4.5
1986	614	82	696	7.9	1.1	4.4
1987	626	85	711	8.0	1.1	4.4
1988	613	82	695	7.5	1.0	4.2
1989	518	51	569	6.3	0.6	3.4
1990	545	69	614	6.5	0.8	3.8
1991	566	63	629	6.7	0.7	3.6
1992	561	61	622	6.5	0.7	3.6
1993	481	41	522	5.5	0.5	2.9
1994	474	55	529	5.4	0.6	3.0
1995	432	47	479	4.8	0.5	2.6

(a) Standardised per 100,000 of the 1991 population (see paragraph 9 of the Explanatory Notes).

9 COMPARISON OF CRUDE FIREARMS DEATH RATE(a) WITH AGE-STANDARDISED RATE(b), BY SEX

	Males		*Females*		*Persons*	
Year	*Crude*	*Standardised*	*Crude*	*Standardised*	*Crude*	*Standardised*
1980	8.3	8.7	1.2	1.3	4.8	4.9
1981	7.5	7.8	1.0	1.1	4.2	4.4
1982	8.3	8.7	0.9	1.0	4.6	4.7
1983	7.5	7.8	1.0	1.0	4.2	4.3
1984	7.6	7.9	1.2	1.2	4.4	4.5
1985	7.9	8.1	1.1	1.1	4.5	4.5
1986	7.7	7.9	1.0	1.1	4.3	4.4
1987	7.7	8.0	1.0	1.1	4.4	4.4
1988	7.4	7.5	1.0	1.0	4.2	4.2
1989	6.2	6.3	0.6	0.6	3.4	3.4
1990	6.4	6.5	0.8	0.8	3.6	3.8
1991	6.6	6.7	0.7	0.7	3.6	3.6
1992	6.4	6.5	0.7	0.7	3.6	3.6
1993	5.5	5.5	0.5	0.5	3.0	2.9
1994	5.3	5.4	0.6	0.6	3.0	3.0
1995	4.8	4.8	0.5	0.5	2.6	2.6

(a) Rate per 100,000 estimated mid-year population.
(b) Standardised per 100,000 of the 1991 population (see paragraph 9 of the Explanatory Notes).

10 FIREARM DEATHS BY TYPE OF DEATH

Type and period	Number of deaths			Average standardised death rates(a)		
	Male	Female	Persons	Male	Female	Persons
			ACCIDENTS			
Three year aggregates						
1980–82	136	10	146	0.6	n.p.	0.3
1983–85	90	17	107	0.4	n.p.	0.2
1986–88	74	11	85	0.3	n.p.	0.2
1989–91	74	4	78	0.3	n.p.	0.2
1992–94	54	8	62	0.2	n.p.	0.1
Latest calendar year						
1995	15	—	15	0.2	—	0.2
			SUICIDES			
Three year aggregates						
1980–82	1 438	114	1 552	6.8	0.5	3.6
1983–85	1 459	126	1 585	6.5	0.6	3.5
1986–88	1 529	111	1 640	6.5	0.5	3.4
1989–91	1 356	85	1 441	5.4	0.3	2.8
1992–94	1 276	63	1 339	4.9	0.2	2.5
Latest calendar year						
1995	365	23	388	4.1	0.3	2.1
			HOMICIDES			
Three year aggregates						
1980–82	187	109	296	0.8	0.5	0.7
1983–85	203	106	309	0.9	0.5	0.7
1986–88	197	123	320	0.8	0.5	0.7
1989–91	151	92	243	0.6	0.4	0.5
1992–94	152	84	236	0.6	0.3	0.4
Latest calendar year						
1995	46	21	67	0.5	0.2	0.3
			TOTAL(b)			
Three year aggregates						
1980–82	1 797	236	2 033	8.4	1.1	4.7
1983–85	1 795	256	2 051	7.9	1.1	4.5
1986–88	1 853	249	2 102	7.8	1.0	4.3
1989–91	1 629	183	1 812	6.4	0.7	3.5
1992–94	1 516	157	1 673	5.8	0.6	3.1
Latest calendar year						
1995	432	47	479	4.8	0.5	2.6

(a) Standardised rates per 100,000 of the mid-year population (average rate for a three-year period, except for 1995). See paragraph 9 of the Explanatory Notes.

(b) Due to the small number of cases reported, deaths classified as due to legal intervention and other causes are not show separately. However the total inludes all deaths.

11 NUMBER OF FIREARMS DEATHS BY AGE AND SEX(a)

Period	Age group (years) 0–14	15–24	25–34	35–44	45–54	55–64	65+
				MALES			
Three year aggregates							
1980–82	41	444	415	284	211	195	205
1983–85	34	480	384	289	211	189	208
1986–88	33	416	402	292	233	206	271
1989–91	18	411	363	286	193	161	197
1992–94	13	328	292	236	236	188	223
Latest calendar year							
1995	1	75	91	74	65	55	71
				FEMALES			
Three year aggregates							
1980–82	15	45	59	44	41	14	18
1983–85	16	61	60	49	42	16	12
1986–88	15	76	57	48	30	11	12
1989–91	11	42	52	35	20	11	12
1992–94	12	29	41	27	31	10	7
Latest calendar year							
1995	1	10	11	8	10	5	2
				PERSONS			
Three year aggregates							
1980–82	56	489	474	328	252	209	223
1983–85	50	541	444	338	253	205	220
1986–88	48	492	459	340	263	217	283
1989–91	29	453	415	321	213	172	209
1992–94	25	357	333	263	267	198	230
Latest calendar year							
1995	2	85	102	82	75	60	73

(a) Excludes two firearm deaths where age was not specified.

12 AGE-SPECIFIC FIREARMS DEATH RATES(a) BY SEX

Period	Age group (years) 0–14	15–24	25–34	35–44	45–54	55–64	65+
			MALES				
Three year averages							
1980–82	0.7	11.2	11.1	10.2	9.1	9.8	11.2
1983–85	0.6	11.9	10.0	8.9	9.0	8.8	10.5
1986–88	0.6	10.0	10.0	8.1	9.3	9.3	12.3
1989–91	0.3	9.7	8.6	7.4	7.0	7.3	8.1
1992–94	0.2	7.8	6.9	5.9	7.5	8.5	8.4
Latest calendar year							
1995	0.1	5.4	6.4	5.3	5.5	7.1	7.4
			FEMALES				
Three year averages							
1980–82	0.3	1.2	1.6	1.6	1.9	0.7	0.7
1983–85	0.3	1.6	1.6	1.6	1.9	0.7	0.4
1986–88	0.3	1.9	1.4	1.4	1.3	0.5	0.4
1989–91	0.2	1.0	1.2	0.9	0.8	0.5	0.4
1992–94	0.2	0.7	1.0	0.7	1.0	0.5	0.2
Latest calendar year							
1995	0.1	0.8	0.8	0.6	0.9	0.7	0.2
			PERSONS				
Three year averages							
1980–82	0.5	6.3	6.4	6.0	5.6	5.1	5.1
1983–85	0.4	6.8	5.8	5.3	5.5	4.7	4.7
1986–88	0.4	6.0	5.7	4.8	5.4	4.9	5.4
1989–91	0.3	5.5	4.9	4.2	3.9	3.9	3.7
1992–94	0.2	4.3	3.9	3.3	4.3	4.5	3.7
Latest calendar year							
1995	0.1	3.2	3.6	2.9	3.2	3.9	3.3

(a) Age-specific death rate per 100,000 of the mid-year population (average rate for a three-year period, except for 1995). See paragraph 10 of the Explanatory Notes.

13 FIREARM DEATHS BY STATE OR TERRITORY OF USUAL RESIDENCE

Period	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
				NUMBER OF DEATHS					
Three year aggregates									
1980–82	651	526	411	157	131	93	47	17	2 033
1983–85	640	514	465	140	113	106	43	30	2 051
1986–88	605	541	499	145	131	106	50	25	2 102
1989–91	491	379	500	153	119	110	38	22	1 812
1992–94	501	335	401	149	130	106	36	15	1 673
Latest calendar year									
1995	147	100	128	41	30	17	13	3	479
				STANDARDISED DEATH RATE(a)					
Three year aggregates									
1980–82	4.3	4.5	6.1	4.0	3.5	7.6	14.2	n.p.	4.7
1983–85	4.0	4.3	6.4	3.4	2.7	8.3	10.8	4.1	4.5
1986–88	3.6	4.3	6.4	3.4	3.0	8.0	12.2	3.3	4.3
1989–91	2.8	2.9	5.8	3.5	2.5	8.1	8.2	2.5	3.5
1992–94	2.8	2.5	4.3	3.3	2.6	7.6	7.3	n.p.	3.1
Latest calendar year									
1995	1.9	1.9	3.4	2.3	1.6	3.1	7.2	n.p.	2.6

(a) Standardised rates per 100,000 of the mid-year population (average rate for a three-year period, except for 1995). See paragraph 10 of the Explanatory Notes.

14 YEARS OF POTENTIAL LIFE LOST(a) DUE TO FIREARM DEATHS, EXTERNAL CAUSES(b) AND ALL CAUSES

	Number			*Rate*		
Year	*Firearm deaths*	*External causes*	*All causes*	*Firearm deaths*	*External causes*	*All causes*
1980	26 806	288 758	1 063 523	181	2 058	7 578
1981	23 764	271 099	1 039 170	167	1 904	7 298
1982	26 435	285 964	1 065 221	183	1 976	7 359
1983	24 109	261 606	1 010 583	164	1 784	6 893
1984	25 949	243 597	974 507	175	1 643	6 573
1985	27 373	266 861	1 023 229	182	1 778	6 816
1986	25 204	268 380	997 921	166	1 763	6 557
1987	24 697	267 624	983 572	160	1 734	6 371
1988	26 213	284 274	1 012 836	167	1 813	6 460
1989	21 152	267 825	994 428	143	1 599	5 977
1990	23 047	258 297	965 428	143	1 599	5 977
1991	22 934	250 108	937 178	140	1 530	5 734
1992	21 916	240 061	930 077	133	1 453	5 627
1993	17 285	230 383	907 133	104	1 382	5 442
1994	18 455	227 351	902 219	110	1 351	5 361
1995	15 834	239 980	902 632	93	1 410	5 302

(a) See Technical Note.
(b) Accidents, poisonings, violence.

EXPLANATORY NOTES

SCOPE AND COVERAGE

1 This report contains statistics on deaths whose underlying cause was recorded as being firearm-related, compiled from data supplied to the ABS by the State and Territory Registrars of Births, Deaths and Marriages.

2 The Ninth Revision of the International Classification of Diseases (ICD–9) of the World Health Organisation (WHO) has been used to classify deaths in Australia since 1979. Accidental and violent deaths are classified according to the external causes classification of ICD–9. This classifies cause of death according to the circumstances of the accident or violence which produced the fatal injury rather than according to the nature of the injury. This report includes all firearm deaths classified by the ICD–9 as follows (relevant ICD–9 detailed code is given in parenthesis):

- Accidents caused by firearm missiles: by Hand gun (E922.0), Shotgun (E922.1), Hunting rifle (E922.2), Military firearms (E922.3), Other firearm (E922.8) and Unspecified firearm (E922.9);
- Suicides and self-inflicted injuries by firearms: By Hand gun (E955.0), Shotgun (E955.1), Hunting rifle (E955.2), Military firearms (E955.3), and Other and unspecified firearm (E955.4);
- Assault (homicides) by firearms: by Hand gun (E965.0), Shotgun (E965.1), Hunting rifle (E965.2), Military firearms (E965.3), and Other and unspecified firearm (E965.4);
- Legal intervention by firearm (E970); and
- Injury undetermined whether accidentally or purposely inflicted: Hand gun (E985.0), Shotgun (E985.1), Hunting rifle (E985.2), Military firearms (E985.3) and Other and unspecified firearm (E985.4)

DATA SOURCE

3 The registration of deaths is the responsibility of the individual State and Territory Registrars of Births, Deaths and Marriages. As part of the registration process, information as to the cause of death is supplied by the medical practitioner certifying the death or by a coroner. Guidelines for the provision of cause of death information are made available to medical practitioners by the ABS. Other information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred. This information is provided to the ABS by individual Registrars for compilation into aggregate statistics shown in this publication.

DATA QUALITY

4 In general, about 96% of all deaths are registered in the year in which they occur. As the circumstances and cause of deaths involving firearms are determined only after a coronial inquest, a larger proportion of these deaths tends to be registered in the following year or even later. A comparison of firearm-related deaths registered in each year during the reference period, showed that the proportion of deaths that were registered in the year in which they occurred was 83%, while 16% of deaths were registered in the following year. Some deaths, slightly less than 1%, were registered two or more years after the death.

5 In compiling death statistics, the ABS employs a variety of quality control measures to ensure that the statistics are as reliable as possible. These measures include: seeking further information where necessary to enable accurate classification of the underlying cause of death; check-coding of cause of death; detailed computer editing of data; and checks on the statistical output, at the individual record and aggregate levels. However, it

is acknowledged that the quality of the data can be affected by circumstances beyond the control of the ABS.

6 Among the total death certificates (10,150) processed by the ABS during the 16-year period from 1980–95, where the underlying cause of death was identified as firearm-related, 37% did not contain adequate information to determine accurately the type of firearm involved in the death. This proportion varied widely across the States and Territories, implying a problem in completing death certificates in some areas. The proportion of aggregated firearm deaths for which the type of weapon involved was not known, was as high as 61% in the Australian Capital Territory, and exceeded 50% in both South Australia and Western Australia. This proportion was the lowest in Tasmania where only 12% of firearms deaths involved an undetermined weapon type. The table below shows the proportion of registered deaths in each State and Territory, in which the type of firearm involved was not specified, over the reference period.

PROPORTION OF FIREARM DEATHS WHERE FIREARM TYPE WAS NOT SPECIFIED, BY STATE AND TERRITORY, 1980–95

NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
45.7	16.0	27.2	56.9	57.3	11.7	41.9	60.7	34.2

GEOGRAPHICAL CLASSIFICATIONS

7 Statistics for States and Territories and urban/rural areas shown in the publication have been compiled according to the State and Territory of usual residence of the deceased irrespective of where in Australia the death occurred or registered. Statistics compiled according to the geographic area of registration are, however, available on request.

DEATH RATES

8 The death rates were calculated using the resident population by age-group and sex, estimated for each year by the ABS.

9 Three forms of death rates have been used in this report: crude death rates, age-specific death rates and standardised death rates. All these rates are made cause specific in that they are compiled for firearm deaths. These three types of death rates are briefly described below.

- ***Crude death rate*** refers to the total number of deaths registered during a calendar year per 100,000 of the mid-year population. Only firearm deaths were considered in the compilation of crude death rates.
- ***Age-specific death rates*** have been computed by dividing the number of firearm deaths occurring in a particular age group by the estimated mid-year population of that age group. These rates are expressed as per 100,000 population. The average age-specific death rates presented in this report have been derived for average periods of three years by dividing the average number of deaths in each age group which occurred in a three-year period by the mid-year population of the middle year. For example, the average number of firearm deaths recorded for the 1980–82 period, for a given age group, were divided by the 1981 mid-year population of that age group and multiplied by 100,000.
- ***Standardised death rates*** are used to facilitate comparison of the death rates being studied. They have been standardised for age, a technique applied to eliminate the influence of differences in the age structure of the population. Age-standardised death rates indicate the overall death rates that would have prevailed in a standard population, if it had experienced, at each age group, the death rates of the population being studied. The standard population used in these calculations is the 1991 total Australian population. The average standardised death rates were

derived by applying average age-specific death rates described above to the standard population.

POPULATIONS

10 The crude and age-specific death rates and years of potential life lost shown in this publication have been compiled using estimates of resident populations based on 1991 population census final data. The population estimates for the year 1994 have been revised also, using final 1991 census data.

RELATED PUBLICATIONS

11 Other ABS publications which may be of interest include:

Australian Social Trends (4102.0) — issued annually

Births, Australia (3301.0) — issued annually

Causes of Death, Australia (3303.0) — issued annually

Deaths, Australia (3302.0) — issued annually

Suicides, Australia 1982–1992 (3309.0) — issued irregularly

Trends in Mortality (3313.0) — issued irregularly

Women's Health (4365.0) — issued irregularly

ADDITIONAL STATISTICS AVAILABLE

12 Tables containing more detailed cause of death information by sex and/or age group at death are available on hard copy and microfiche from any ABS office. These tables are available on a State or Territory of usual residence or State or Territory of registration basis.

13 In addition, information on other particulars of the deceased is available (see unpublished statistics on causes of death). Users who are interested in obtaining tabulations of cause of death by any of these particulars can be provided with the information in one or more of the following forms: photocopy, magnetic tape and electronic media, computer printout and clerically-extracted tabulation. Generally, a charge is levied for providing unpublished information.

EFFECTS OF ROUNDING

14 Where figures have been rounded, discrepancies may occur between totals and sums of the component items.

TECHNICAL NOTE — YEARS OF POTENTIAL LIFE LOST

Estimates of years of potential life lost (YPLL) were calculated for deaths of persons aged 1–75 years based on the assumption that deaths occurring between ages 1–76 years are untimely.

$$YPLL = \Sigma_x (D_x (76 - A_x))$$

A_x = Adjusted age at death. As age at death is only available in completed years the midpoint of the reported age was chosen (e.g. age at death 34 years was adjusted to 34.5)

D_x = Registered number of deaths at age x due to a particular cause of death

YPLL was standardised for age using the following formula:

$$YPLL_s = \Sigma_x (D_x (76 - A_x) C_x)$$

where the age correction factor C_x is defined for age x as:

$$C_x = \frac{N_{xs}}{N_s} \cdot \frac{1}{N_x} \cdot N$$

N = Number of persons aged 1–75 years in the actual population

N_x = Number of persons aged x years in the actual population

N_{xs} = Number of persons aged x years in the standard population

N_s = Number of persons aged 1–75 years in the standard population

The Australian population at 30 June 1991 was chosen as the standard population.

UNPUBLISHED STATISTICS ON CAUSES OF DEATH

GENERAL

Causes of death data are available from calendar year 1964, in a variety of forms through our special data service. Please note that for comparability purposes the data conform to the different revisions of the International Classification of Diseases (ICD), namely:

— ICD 7 1964–67
— ICD 8 1968–1978
— ICD 9 1979 to the present

Documentation is available detailing the relationship between the ninth revision of the ICD and earlier revisions (ICD 7 and ICD 8). Detailed data tables excluded from the national cause of death publication since 1984 are available on microfiche or through our special data service.

- State or Territory of registration of the death
- Month and year of registration of the death
- Place of usual residence of deceased — State or Territory
  — Statistical Division
  — Statistical Local Area
- Occupation of deceased
  From 1990
  Males and Females aged 15 years and over
  — Pre-1990
  Males aged 15–64 years only
  — 1985–90
  Females aged 15–59 years only
- Sex of deceased
- Age of deceased
  — in completed days at under 1 week
  — in completed days at under 1 month
  — in completed months at under 1 year
  — in completed years at other ages
- Date of death of deceased
- Country of birth of deceased
- Duration of residence in Australia (where deceased is not Australian born)
- Marital status of deceased
- Number of issue of deceased
- Aboriginality (for all States except Queensland)
- Post–mortem indicator
- Drowning indicator (from 1992)
- AIDS indicator (where AIDS is mentioned on the Death Certificate, whether the underlying cause or not)
- Certifier of cause of death (Doctor or Coroner)
- Cancer indicator (where Cancer is mentioned on the Death Certificate, whether the underlying cause or not)

TABLES ON MICROFICHE

TABLE	DESCRIPTION
UR1	Deaths by State/Territory of usual residence by cause of death (Short List) by sex by 5 year age groups.
UR2	Deaths by State/Territory of usual residence by cause of death (ICD–3 digit) by sex.
UR3	Deaths by State/Territory of usual residence by cause of death (ICD–3 digit) by sex by 5 year age groups
RG1	Deaths by State/Territory of registration by cause of death (Short List) by sex by 5 year age groups
RG2	Deaths by State/Territory of registration by cause of death (ICD–3 digit) by sex
RG3	Deaths by State/Territory of registration by cause of death (ICD–3 digit) by sex by 5 year age groups

STANDARD CAUSE OF DEATH TABLES	TABLE	DESCRIPTION OF TABLE
	COD 1	Causes of death (ICD–3 digit) by age by sex by State/Territory of usual residence
	COD 2	Causes of death (ICD–3 digit) by age by sex State/Territory of registration
	COD 3	Causes of death (ICD–3 digit) (Short List) by occupation by sex by age
	COD 4	Causes of death (ICD–3 digit) (Short List) by country of birth by sex by age
	COD 5	Causes of death (ICD–3 digit) by month by State
	COD 6	Causes of death (ICD–3 digit) (Short List) by marital status by sex by age

For more information . . .

The ABS publishes a wide range of statistics and other information on Australia's economic and social conditions. Details of what is available in various publications and other products can be found in the ABS Catalogue of Publications and Products available from all ABS Offices.

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Produced by the Australian Government Publishing Service
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2439700001808
ISBN 0 642 23270 9

Recommended retail price: $15.00

ABS Catalogue No. 4397.0 **Firearms Deaths, Australia 1980–95**