Morbidity of Vietnam veterans

Suicide in Vietnam veterans' children
Supplementary report no. 1

The Australian Institute of Health and Welfare is Australia's national health and welfare statistics and information agency. The Institute's mission is to improve the health and well-being of Australians by informing community discussion and decision making through national leadership in developing and providing health and welfare statistics and information.

Morbidity of Vietnam veterans

Suicide in Vietnam veterans' children
Supplementary report no. 1

Australian Institute of Health and Welfare
Canberra

AIHW cat. no. PHE 25

A complete list of the Institute's publications is available from the Publications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, or via the Institute's web site (http://www.aihw.gov.au).

ISBN 1 74024 060 X

Suggested citation

Australian Institute of Health and Welfare (AIHW) 2000. Morbidity of Vietnam veterans. Suicide in Vietnam veterans' children: Supplementary report no. 1. AIHW cat. no. PHE 25. Canberra: AIHW.

Any enquiries about or comments on this publication should be directed to:

Phil Trickett
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6244 1097
Fax: (02) 6244 1166

Published by Australian Institute of Health and Welfare

Printed by National Capital Printing; Acrobat conversion by Green Words & Images, Canberra

REPATRIATION COMMISSION

17 July 2000

The Hon Bruce Scott MP
Minister for Veterans' Affairs and
Minister Assisting the Minister for Defence
Parliament House
CANBERRA ACT 2600

Dear Minister

As Chairman of the Advisory Committee for the validation of the results of the Vietnam Veterans' Health Study, I am pleased to forward the report entitled 'Morbidity of Vietnam Veterans: A Study of the Health of Australia's Vietnam Veteran Community. Supplementary Report 1. Suicide in Vietnam Veterans' Children' for your consideration.

In Volume 3 of the Health Study, we reported to you on the validation of the findings of Volume 1 concerning the deaths of veterans' children. The validation recommended that suicide in veterans' children be further investigated, and the result be drawn to the attention of the Vietnam Veterans' Counselling Service. This report is the fulfilment of that recommendation. It takes the findings of Volume 3 and provides an analysis of the 111 'validated' suicides, examining patterns using factors such as time, method, age, sex and location.

The information in this report is sensitive, and its release has the potential to cause distress. Should they wish, veterans, their spouses or partners and children can contact the Vietnam Veterans Counselling Service on the free call number:

Sydney and northern New South Wales	1800 043 503
Northern Queensland	1800 019 332
All other places	1800 011 046

The release of the report may also raise queries as to the response that has been put in place for the children of veterans as a result of the Health Study. For convenience I have outlined the response in Annex A to this letter.

I wish to thank the Australian Institute of Health and Welfare and the Advisory Committee for the Vietnam Veterans' Health Study for their work in producing this report.

Yours sincerely

Paul Stevens

Paul Stevens
Chairman, Morbidity of Vietnam Veterans Study
Advisory Committee and
Commissioner, Repatriation

ANNEX A

RESPONSE TO HEALTH STUDY FINDINGS ON SUICIDE IN CHILDREN

The Department of Veterans' Affairs, through the Vietnam Veterans' Counselling Service (VVCS), began implementing a response to the high reported rates of suicide identified in Volume 1 of the Vietnam Veterans' Health Study shortly after the release of that volume in 1998.

The approach taken by the Counselling Service has been to complement and build on the strategies developed in the National Suicide Prevention Strategy and related suicide prevention strategies in the States. This linkage to community suicide prevention programs is important as young people are most likely to use these services as a first line of support. The VVCS has also established links with services such as the 'Kids Line' phone counselling service and the 'Reach Out' site on the internet, to inform them about the specific needs of veterans' children.

The Commonwealth will soon release a major report on a national framework for the prevention of suicide and self-harm. As a result of the Study, this report will list Vietnam veterans' children in the at-risk category, ensuring that the needs of this group are included in the development of new suicide intervention strategies.

In response to the Health Study findings the VVCS has trialed new programs for adolescent and adult children of Vietnam veterans and increased its number of therapeutic and psycho-educational groups for veterans and partners. It has increased its counselling coverage in the last twelve months with the expansion of its Country Outreach Program.

In addition, an Australia-wide satellite broadcast was held in February 2000 for medical and allied health providers to educate them about the effects of war trauma on veterans, with a focus on the health of their families, in particular, risk in adolescents and young adults. A video of the broadcast is being made available to national offices of ex-service organisations.

Educational workshops on suicide awareness and prevention commenced in May 2000 conducted for the veteran community and health providers. These are being conducted nationally, with the support of Suicide Prevention Australia.

To assist families in understanding the potential effects of war-caused trauma, an educational booklet entitled *Posttraumatic Stress Disorder and War-related Stress – Information for Veterans and their Families* has been forwarded to all veterans with posttraumatic stress disorder (PTSD) accepted by the Department. There has been a positive response to this from the veteran community. An information letter sent out with this booklet informed veterans of the availability of another booklet aimed at adolescent and adult children, entitled *I thought it was just me…* This booklet is produced by the VVCS and deals with the effects of PTSD on families.

In response to all volumes of the Vietnam Veterans' Health Study, the May 2000 Federal Budget provided reinforcement for these initiatives by providing, in addition:

- Extension of counselling through the VVCS to children up to their 36th birthday.
- Access to counselling through the VVCS for ex-partners who have lived with a Vietnam veteran within the past five years.
- Over 100 additional VVCS lifestyle, psycho-educational and therapy group programs for veterans, partners and children.
- Extension of access to the Veterans' Children Education Scheme for children in the at-risk of suicide category, and the provision of two bursaries per State per annum to assist some children in need in their transition to tertiary study.
- Free psychiatric assessment for Vietnam veterans' adult children up to their 36th birthday.

Contents

List of tables

List of figures

Acknowledgments

The Department of Veterans' Affairs funded this report as a response to *Morbidity of Vietnam Veterans: A Study of the Health of Australia's Vietnam Veteran Community: Volume 3 Validation Study*. The authors of this report are Michelle McPherson, Phil Trickett, Polly Wallace and Paul Jelfs.

The AIHW would like to thank Major General Paul Stevens AO, Mrs Kay Grimsley, Mr Dominic Melano and Mr Tim Sealey from the Department of Veterans' Affairs, Dr Ros Woodward from the Vietnam Veterans Counselling Service (VVCS), Associate Professor Graham Martin from Flinders University, and the Study Advisory Committee for their input into the report.

Introduction

In *Morbidity of Vietnam Veterans: A Study of the Health of Australia's Vietnam Veteran Community* (DVA 1998) it was reported that children of Vietnam veterans had a substantially higher rate of suicide than that experienced by the general Australian community. This report was based on a self reported survey of 49,944 male veterans about their own and their children's health. The elevated suicide rate in the veterans' children was subsequently confirmed by the Validation Study (AIHW 1999) conducted by the Australian Institute of Health and Welfare (AIHW), which validated a range of reported conditions from the Morbidity Study (DVA 1998).

The Validation Study estimated that the number of suicides of veterans' children (estimated validated) was more than three times the number of suicides expected if veterans' children had experienced suicide rates at the same level as the general Australian community (expected validated) (Table 1). Deaths of veterans' children from illness and accident were also higher than expected.

Table 1: Number of veterans' children's deaths by validation status

Condition	Validated	Not validated	Not able to be validated	Estimated validated [(a)]	Expected (confidence interval)
Died due to accident/other	219	43	528	660	365 (328–402)
Died due to illness	504	33	469	944	805 (749–861)
Died from suicide	111	4	123	230	75 (58–92)
Total	**834**	**80**	**1,120**	**1,834**	**—**

(a) Derived by allocating the number 'not able to be validated' to either 'validated' or 'not validated' according to the proportion in each of these categories.

Note: Confidence intervals are at the 95% level.

Source: AIHW (1999).

Confirmation of the high rate of suicide in veterans' children led the Validation Study report to recommend that: **'suicide in veterans' children be further investigated and the result drawn to the attention of the Vietnam Veterans Counselling Service'** (AIHW 1999:47).

Such an investigation is important in providing information to the Department of Veterans' Affairs, in particular the Vietnam Veterans Counselling Service, and Vietnam veterans support groups so that strategies can be developed and put in place to reduce the risk of future suicides among veterans' children.

This report is in response to the above recommendation, and provides an analysis of the suicides of Vietnam veterans' children by a range of demographic characteristics captured on death certificates. Patterns of suicide over time as well as the distribution by sex, age at death, birth cohort, suicide method and geographic distribution within Australia are examined.

Methods

In the Validation Study the 111 'validated' suicides were confirmed by matching information provided by the veteran about the child's name, birth year, sex and State/Territory of residence to the National Death Index (NDI) to confirm that the cause of death was suicide. The NDI contains identifiable information for all deaths occurring in Australia from 1980, as contained on death certificates.

The 230 'estimated validated' number of suicides was based on the assumption that the number of suicides 'not able to be validated' should be allocated to either 'validated' or 'not validated' according to the number in each of these categories. This assumption was based on the overwhelming confirmation of suicides of veterans' children, where veterans had reported such events in the Morbidity Study. The 'not able to be validated' cases refer to reported cases from the Morbidity Study where the veterans did not respond to the Validation Study or were unable to be contacted.

In this report a number of key demographic variables were extracted from the NDI to enable an analysis of the demographic characteristics of those veterans' children who suicided. The data items used are age at death, sex, birth date, Statistical Local Area of usual residence, and suicide method.

In the following section the suicide rates for veterans' children are based on the 230 'estimated validated' suicides from Table 1. In the other sections, characteristics are discussed for the 111 'validated' suicides from the Validation Study. These cases represent those children who have been successfully matched to death records and therefore have information available from the NDI. An implicit assumption of this discussion is that the characteristics identified for the 111 'validated' suicides reflect the characteristics of all 230 estimated veterans' children suicides.

Further analysis of Validation Study results

Sex distribution

The sex distribution of suicides of veterans' children is strongly male dominated, as 90 of the 111 (81%) validated suicides were males. This is identical to national patterns, where 81% of suicides in the 10–39 age group between 1986 to 1997 were males.

Total suicide rate

On average, between the years 1988 and 1997, children of Vietnam veterans committed suicide at a rate three times higher than children in the general population (Table 2). Pre 1988 rates have not been included because of the very small numbers of suicides (17 deaths between 1980 and 1987) and the corresponding small veterans' children population at risk in these years. Substantial annual fluctuations have occurred in suicide rates for the veterans' children population between 1988 and 1997, due to the relatively small numbers of deaths involved. However, no evidence of any change in pattern since 1988 is apparent.

Table 2: Estimated suicide rates of veterans' children compared with the Australian population, ages 10–39 years[(a)]

Year	Veterans' children[(b)] (suicides per 100,000)	Total Australia[(c)] (suicides per 100,000)	Ratio of veterans' children rate to total Australia rate
1988	47.1	14.9	3.2
1989	27.3	13.8	2.0
1990	43.5	14.5	3.0
1991	41.6	15.8	2.6
1992	60.0	14.9	4.0
1993	77.9	13.2	5.9
1994	34.6	14.5	2.4
1995	38.5	15.6	2.5
1996	48.6	15.6	3.1
1997	27.6 [(d)]	17.8	1.5 [(d)]
Average 1988–1996	**46.6**	**14.8**	**3.2**

(a) Refers to the estimated validated suicides between 1988 and 1997.
(b) Substantial annual fluctuations occur in these rates because of the relatively small numbers of deaths. Rates are calculated by adjusting age-standardised rates based on 111 validated suicides by a factor of 230/111 to reflect the 'estimated validated' number of suicides.
(c) Source: AIHW National Mortality Database.
(d) The data for 1997 do not include veterans' children suicides for much of the second half of that year, as the 1997 Morbidity Study was conducted in the middle of 1997.

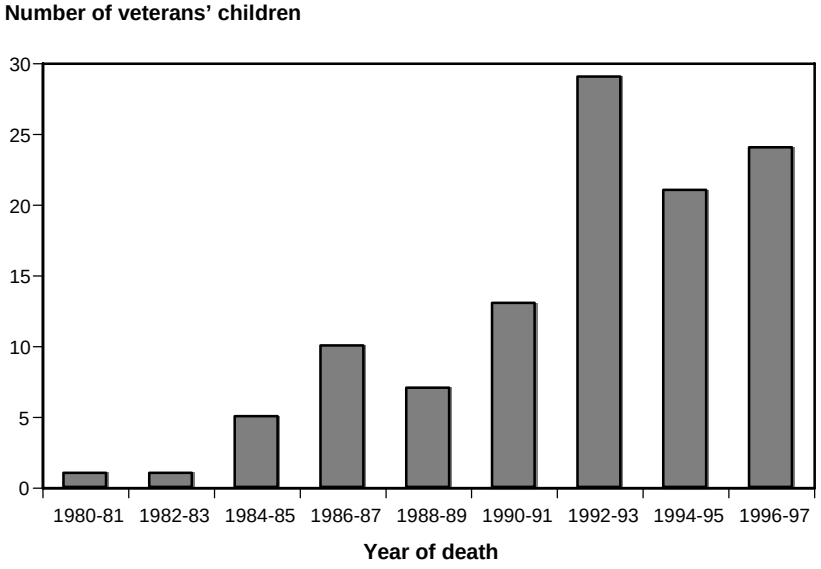
Year of death

The number of suicides of veterans' children increased slightly between 1986 and 1990, and sharply from 1990–1991 (Table 3, Figure 1). Suicides peaked in the 1992–1993 period, with the number in the 1990s being substantially higher than in the 1980s. This is consistent with the national pattern which is also increasing with time, from 1,982 suicides in 1986 to 2,723 in 1997 (Dunn et al. (forthcoming)). However, the major factor in this increase in the annual number of suicides of veterans' children in the 1990s is that most reached at-risk ages of adulthood in this decade.

Table 3: Number of suicides of veterans' children by year of death[(a)]

Year of death	Number of suicides
1980–1981	1
1982–1983	1
1984–1985	5
1986–1987	10
1988–1989	7
1990–1991	13
1992–1993	29
1994–1995	21
1996–1997	24
Total	**111**

(a) Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).



Note: Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).

Figure 1: Number of suicides of veterans' children by two-year interval of death, 1980–1997

Birth cohorts

Australia's involvement in the Vietnam War occurred during the period from May 1962 to July 1973 (DVA 1997). The great majority (92%) of veterans' children who committed suicide were born during or shortly after this period. The few who were born before the war were all over the age of 25 when they died, whereas children born during or immediately after the war who suicided have to date mostly not reached that age (Table 4).

A comparison between the birth cohorts and corresponding ages of death in the veterans' children indicates the patterns of suicides thus far (Table 4). The lightest grey area of this table shows the ages through which the veterans' children have passed and thus these numbers are final. The darkest grey areas are the age groups the children are currently passing through, and the age groups marked with a dash have not yet been reached by the veterans' children.

Table 4 shows that the large number of children born in 1973–1978 are currently in or entering the age groups 20–24 and 25–29, where they will be at increasing risk of suicide. This is because if they follow the patterns of the earlier birth cohorts, suicides in these groups would increase substantially over the next ten years. The total number of children in this birth cohort (30,052) is just over one and a half times those born in the previous cohort period 1967–1972 (18,096). This indicates that there is a possibility of the 19 suicides which have so far occurred at ages 20–24 rising to around 48 (just over one and a half times the 29 suicides). The children born in
1967–1972, who are now in the 25–34 age group, have a similar risk. These patterns also need to be considered for those children who were born after 1979, as they move into the age groups of increased risk.

Table 4: Number of suicides of veterans' children at 1997 by year of birth and age at death[(a)]

	Age at death							
Year of birth	**10–14**	**15–19**	**20–24**	**25–29**	**30–34**	**35–39**	**Total**	**Total children[(b)]**
Pre 1961	0	0	0	2	2	2	6	279[(c)]
1961–1966	0	1	5	5	4	0	15	739[(c)]
1967–1972	0	10	29	14	0	—	53	18,096
1973–1978	3	15	19	—	—	—	37	30,052
1979–1984	0	0	—	—	—	—	0	14,493
After 1985	0	—	—	—	—	—	0	6,654
Not stated								550
Total	**3**	**26**	**53**	**21**	**6**	**2**	**111**	**70,863**

☐ Age groups complete ▒ Currently in this age group — Not reached this age group

(a) Refers to 111 validated suicides.
(b) Total children reported by the veterans in the Morbidity Study (DVA 1998).
(c) These groups are incomplete as the Morbidity Study only asked for the number of children born after the veterans' return from Vietnam. The children born prior to the veterans' return were incorrectly reported.

Source: Vietnam Veteran Validation Study database (1999).

Age at death

Most suicides in veterans' children to date have occurred between the ages of 15 and 29 (Table 5). The differences in suicide age patterns between veterans' children and the overall Australian population occur in the age groups beyond 25 years because many of the veterans' children have not yet reached these age groups. Based on the age pattern of all suicides it might be expected that as the veterans' children age, the numbers of suicides will follow the national pattern and increase in the 25 and over age groups.

Table 5: Number of suicides of veterans' children by age at death compared with total Australia 1986–1997[(a)]

Age	Number of suicides	Total Australia 1986–1997
10–14	3	109
15–19	26	1,761
20–24	53	3,383
25–29[(b)]	21	3,251
30–34[(b)]	6	3,013
35–39[(b)]	1	2,788
40–44[(b)]	1	2,478
Total	**111**	**16,783**

(a) Refers to 111 validated suicides.
(b) Most of the veterans' children have not yet passed through these age groups, and the numbers of suicides in these age groups are expected to increase over the next decade.
Source: Vietnam Veteran Validation Study database (1999); AIHW National Mortality Database.

Suicide method

The suicide method in this section is derived from information from death certificates and coroner's reports, as coded by the Australian Bureau of Statistics.
The three most common methods of suicide among veterans' children are hanging, strangulation and suffocation (34%); poisoning by other gases and vapours (25%); and firearms and explosives (18%) (Table 6, Figure 2).

Suicide methods differ markedly between the sons and daughters of veterans. Poisoning is the most common method for daughters whereas hanging and firearm related methods are most common for the sons of veterans.

The most common methods of suicide for sons of veterans are:

- hanging, strangulation and suffocation (39%);
- firearms and explosives (22%); and
- poisoning by other gases and vapours (21%).

The most common methods of suicide for daughters of veterans are:

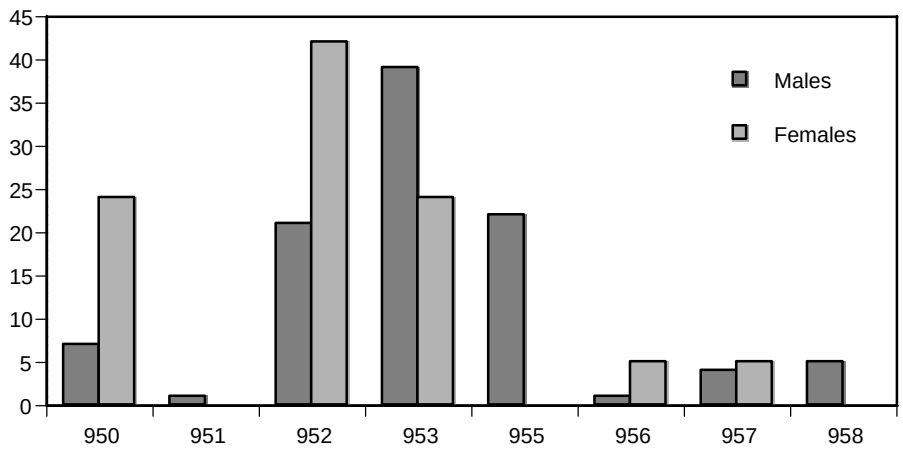
- poisoning with other gases and vapours (42%);
- poisoning by solid or liquid substances (24%); and
- hanging, strangulation and suffocation (24%).

A comparison between veterans' children suicides and all Australian suicides shows that veterans' children have a higher percentage of suicides by poisoning by other gases and vapours, and a lower percentage from poisoning by solid or liquid substances (Table 6). This is due to the much higher percentage of female suicides of veterans' children from poisoning by other gases and vapours (42% compared with 16%). For all other suicide methods, there is little difference in the percentages between veterans' children and the total Australian population.

Table 6: Percentage of suicides of veterans' children by suicide method compared with the Australian population distribution in 1997[(a)]

Suicide method	Males (%)	Females[(b)] (%)	Total (%)
Poisoning by solid or liquid substances	7 (10)	24 (31)	10 (14)
Poisoning by gases in domestic use	1 (0)	0 (0)	1 (0)
Poisoning by other gases and vapours	21 (20)	42 (16)	25 (19)
Hanging, strangulation and suffocation	39 (33)	24 (25)	34 (32)
Firearms and explosives	22 (23)	0 (8)	18 (20)
Cutting and piercing instruments	1 (0)	5 (1)	2 (1)
Jumping from a high place	4 (5)	5 (8)	5 (5)
Other and unspecified means	5 (7)	0 (8)	5 (7)
Total	**100**	**100**	**100**

(a) Refers to 111 validated suicides.
(b) The number of veterans' daughters is small, and caution should be used in any interpretation of these data.
Note: The figures in brackets are the percentage of suicides by method in total Australia in 1980–1997 for ages 10–34, weighted according to the number of veterans' children suicides occurring in each year (AIHW National Mortality Database).
Source: Vietnam Veteran Validation Study database (1999).



950 Poisoning by solid or liquid substances
951 Poisoning by gases in domestic use
952 Poisoning by other gases and vapours
953 Hanging, strangulation and suffocation
955 Firearms and explosives
956 Cutting and piercing instruments
957 Jumping from a high place
958 Other and unspecified means

Note: Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999); WHO (1977).

Figure 2: Percentage of suicides of veterans' children by suicide method and sex

Geographical distribution

Analysis of the geographical distribution of suicides of veterans' children provides an opportunity to identify unusual distributions and allow for targeting of interventions. This section provides a breakdown of suicides of veterans' children by State or Territory of usual residence, and by metropolitan, rural and remote area of usual residence as indicated on the death certificate.

State and Territory

The State and Territory distribution of suicides of veterans' children is shown in Table 7 and Figure 3. This geographical distribution is compared with that for all suicides in Australia for the period 1980–1997 (weighted according to the number of veterans' children suicides occurring in each year), and with the distribution of the veteran population and the total Australian population. This provides information on whether the distribution of suicide of veterans' children differs between States and Territories.

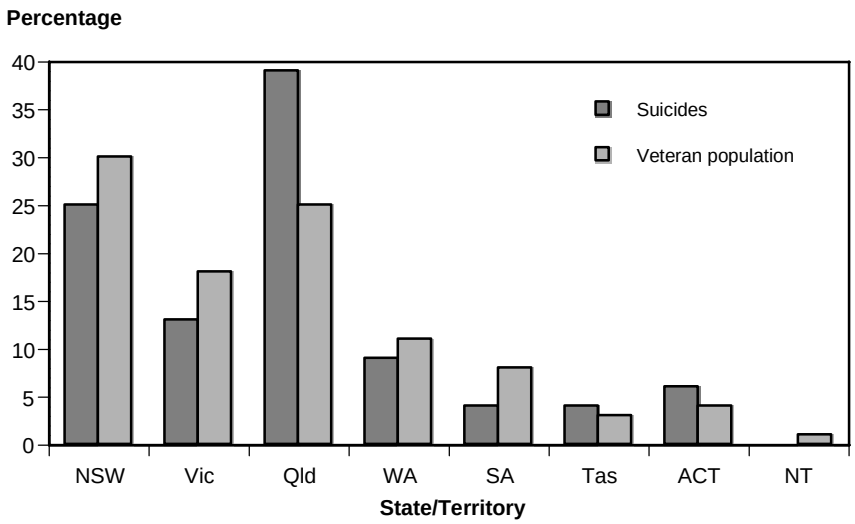
The distribution of the veterans' population is used as a proxy for the distribution of the veterans' children, as specific data on the geographical distribution of all veterans' children are not available. However, the likelihood of veterans' children moving away from their parents given the current age of the veterans' children population should also be considered in interpreting these data.

Table 7: Percentage of suicides of veterans' children by State and Territory compared with the percentage of suicides in Australia (1980–1997) and the veteran and Australian population distribution (1997)[(a)]

State/Territory of death	Percentage distribution of suicides of veterans' children (%)	Percentage distribution of all suicides in Australia (%)[(b)]	Veteran population distribution in 1997 (%)[(c)]	Australian population distribution in 1997 (%)
NSW	25	32	30	33
Vic	13	24	18	25
Qld	39	20	25	18
WA	9	10	11	10
SA	4	8	8	8
Tas	4	3	3	3
ACT	6	2	4	2
NT	0	1	1	1
Total	**100**	**100**	**100**	**100**

(a) Refers to 111 validated suicides.
(b) Refers to those aged 10–34, weighted according to the number of veterans' children suicides occurring in each year between 1980 and 1997 (AIHW National Mortality database).
(c) The veteran population was derived from the electronic files from the Morbidity Study (DVA 1998).
Source: Vietnam Veteran Validation Study database (1999); ABS (1999).

The difference in the distribution of veterans' children committing suicide between the States and Territories largely reflects the distribution of veterans throughout Australia. There is a higher percentage of suicide in veterans' children in Queensland and Australian Capital Territory and a lower percentage in New South Wales and Victoria, compared with the distribution of all suicides in Australia. This pattern can partially be explained by the distribution of veterans throughout Australia. There is a higher proportion of veterans in Queensland and Australian Capital Territory, than for the total population. Correspondingly, there is a higher proportion of suicide in veterans' children in Queensland and Australian Capital Territory than for all suicides. The reverse is true for New South Wales and Victoria where there are smaller percentages of veterans than for the total Australian population and a correspondingly lower proportion of veterans' children suicides in these States than for all suicides.



Note: Refers to the 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).

Figure 3: Percentage of suicides of veterans' children and veteran population in 1997 by State and Territory of death

Rural, remote and metropolitan area

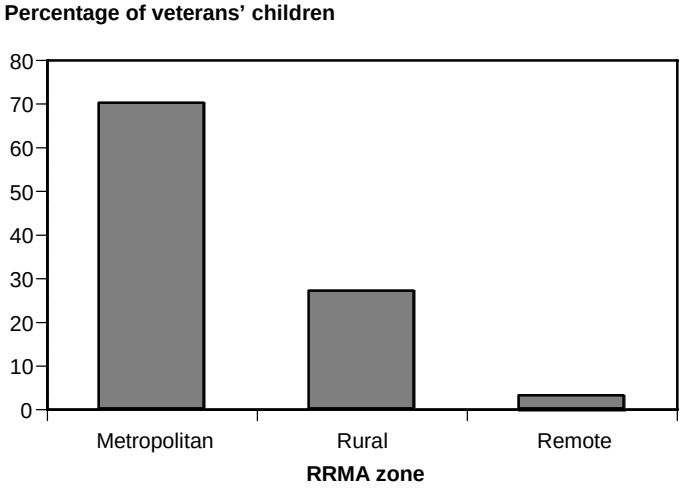
One method of grouping suicides is according to the Rural, Remote and Metropolitan Areas (RRMA) classification using place of usual residence on the death certificate. This classification is based on Statistical Local Areas (SLAs) and allocates SLAs to one of seven categories based primarily on population numbers and an index of remoteness (DPIE & DHSH 1994).

The percentage of suicides among veterans' children in metropolitan, rural and remote areas is 70%, 27% and 3% respectively (Table 8, Figure 4). This is almost identical to the national pattern of 71%, 25% and 4% respectively.

Table 8: Number and percentage of suicides of veterans' children by RRMA category compared with total Australia [(a)]

RRMA zone	RRMA category	Number of suicides	Per cent of suicides[(b)]	Total Australia 1986–1996 (%)[(c)]
Metropolitan areas	Capital cities	64	61	64
	Other metropolitan areas	10	9	7
Rural zones	Large rural centres	8	8	6
	Small rural centres	7	7	6
	Other rural areas	13	12	13
Remote zones	Remote centres	2	2	1
	Other remote areas	1	1	3
Not stated	—	6	—	—
Total	**—**	**111**	**100**	**100**

(a) Refers to 111 validated suicides.
(b) The percentages have been adjusted for the 'not stated' responses.
(c) Total Australia refers to suicides for those aged 10–34 (Strong et al. 1998).
Source: Vietnam Veteran Validation Study database (1999).



Note: Refers to 111 validation suicides.
Source: Vietnam Veteran Validation Study database (1999).

Figure 4: Percentage of suicides of veterans' children by RRMA zone

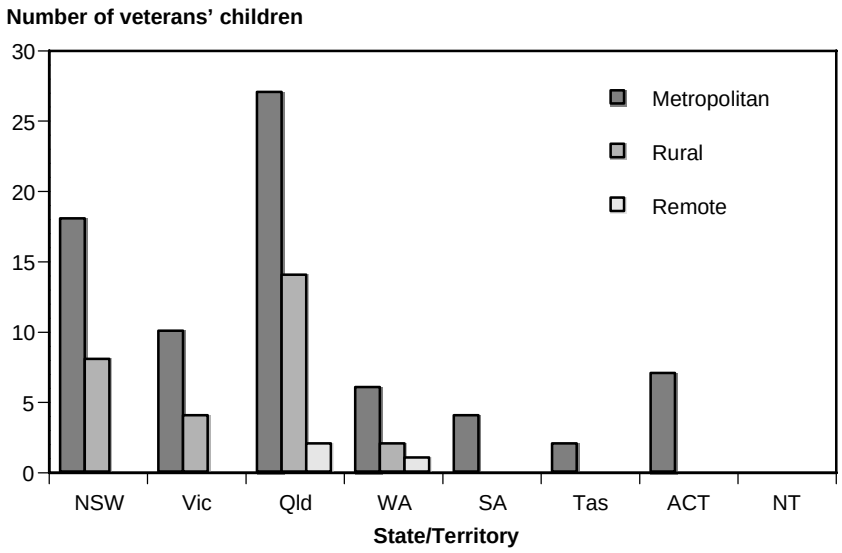
RRMA zone by State/Territory

The breakdown of RRMA zones by State and Territory shows that the majority of the rural suicides took place in Queensland, New South Wales and Victoria, and to a lesser extent Western Australia (Table 9, Figure 5). Suicides are mostly concentrated in the metropolitan zone of all States, with the few suicides in the remote zone located in Queensland and Western Australia.

Table 9: Number of suicides of veterans' children by State and Territory of death and RRMA zone[(a)]

State/Territory of death	Metropolitan	Rural	Remote	Not stated	Total
NSW	20	8	0	0	28
Vic	10	4	0	0	14
Qld	27	14	2	1	44
WA	6	2	1	1	10
SA	4	0	0	0	4
Tas	2	1	0	1	4
ACT	7	0	0	0	7
NT	0	0	0	0	0
Total	**76**	**29**	**3**	**3**	**111**

(a) Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).



Note: Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).

Figure 5: Number of suicides of veterans' children by State and Territory of death and RRMA zone

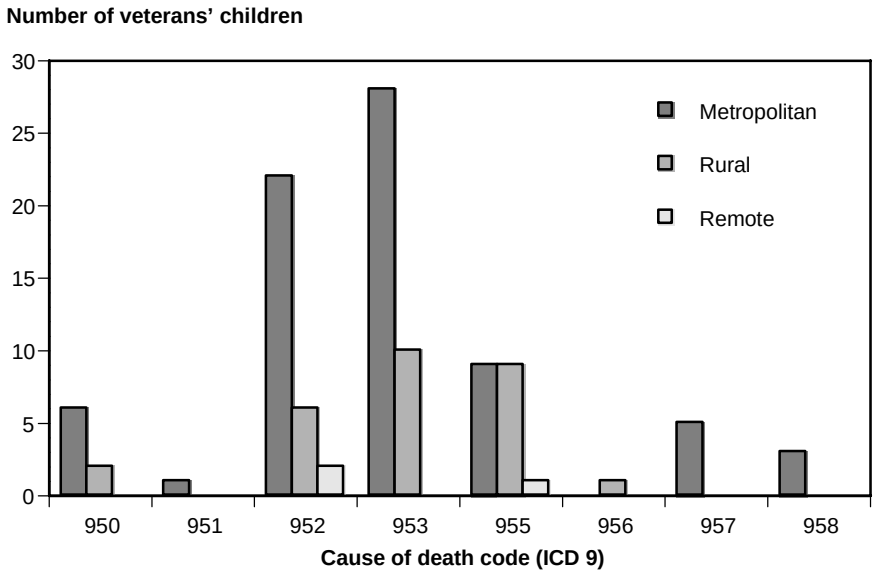
RRMA zone by suicide method

Hanging, suffocation and strangulation were the most common suicide methods in both metropolitan and rural areas, followed by poisoning by other gases and vapours (Table 10, Figure 6). The most common suicide method in remote areas was poisoning by other gases and vapours, accounting for two of the three suicides. However, caution should be used in interpreting these data because of the small numbers. Firearms and explosives is a major suicide method in both the rural and remote zones, contributing to one-third of suicides in each of these zones.

Table 10: Number of suicides of veterans' children by suicide method and RRMA zone[(a)]

Suicide method	Metropolitan	Rural	Remote	Not stated	Total
Poisoning by solid or liquid substances	7	3	0	1	11
Poisoning by gases in domestic use	1	0	0	0	1
Poisoning by other gases and vapours	22	6	2	0	28
Hanging, strangulation and suffocation	29	10	0	0	39
Firearms and explosives	9	9	1	0	20
Cutting and piercing instruments	0	1	0	0	2
Jumping from a high place	5	0	0	0	5
Other and unspecified means	3	0	0	2	5
Total	**76**	**29**	**3**	**3**	**111**

(a) Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999).



950 Poisoning by solid or liquid substances
951 Poisoning by gases in domestic use
952 Poisoning by other gases and vapours
953 Hanging, strangulation and suffocation
955 Firearms and explosives
956 Cutting and piercing instruments
957 Jumping from a high place
958 Other and unspecified means

Note: Refers to 111 validated suicides.
Source: Vietnam Veteran Validation Study database (1999), WHO (1977).

Figure 6: Number of suicides of veterans' children by method and RRMA zone

Conclusion

Veterans' children have three times the suicide rate of the general community (AIHW 1999). Age-standardised suicide rates for the years 1988–1997 show no evidence of change in pattern over this period.

The number of suicides of veterans' children at present is comparatively high, with the number of suicides in the 1990s substantially higher than in the 1980s. This is largely due to the majority of veterans' children reaching the high risk age groups in the 1990s. The sex distribution of suicides of veterans' children is strongly male dominated.

Veterans' children have a higher proportion of suicide from poisoning by gases and vapours, and from hanging, strangulation and suffocation than the corresponding Australian total population. However, they have a lower proportion of suicides by firearms and explosives than the corresponding Australian total population.

The State and Territory distribution of veterans' children suicides largely reflects the distribution of veterans throughout Australia, with the exception of Queensland, which appears to have a veterans' child suicide rate exceeding that expected given the proportion of the veteran community living in Queensland. The national distribution of these suicides across metropolitan, rural and remote areas is almost identical to the national pattern. However, Queensland appears to have a higher risk in rural areas than for other States and Territories.

The suicide method differs slightly between metropolitan, rural and remote areas. Hanging, strangulation and suffocation is the most common method in metropolitan and rural areas. However, suicide from firearms and explosives is more prevalent in rural areas than metropolitan areas. The number of suicides in remote areas is very small, with two of the three caused by poisoning by other gases and vapours.

A comparison between successive birth cohorts by age at death indicates that the high numbers of suicides would continue for a number of years if the pattern of previous cohorts is followed. This is because almost all of the veterans' children are presently passing through ages at high risk of suicide. Those born since 1973 are particularly at risk, as they move into these high-risk ages. As such, appropriate strategies need to be put in place to arrest the numbers of suicides likely to occur over the next 20 years.

References

Australian Bureau of Statistics (ABS) 1999. Australian demographic statistics, March quarter 1999. ABS Cat. No. 3101.0. Canberra: ABS.

Australian Institute of Health and Welfare (AIHW) 1999. Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community. Volume 3 Validation study. Canberra: AIHW.

Commonwealth Department of Veterans' Affairs (DVA) 1997. The nominal roll of Vietnam veterans August 1997. Canberra: DVA.

Commonwealth Department of Veterans' Affairs (DVA) 1998. Morbidity of Vietnam veterans: A study of the health of Australia's Vietnam veteran community. Volume 1 Male Vietnam veterans survey and community comparison outcomes. Canberra: DVA.

Department of Primary Industries and Energy & Department of Human Services and Health (DPIE & DHSH) 1994. Rural, remote and metropolitan areas classification. 1991 Census edition. Canberra: AGPS.

Dunn C, Boland J, Jelfs P, Magnus P & Waters A (forthcoming). Mortality surveillance, Australia 1986–1997. Canberra: AIHW.

Strong K, Trickett P, Titulaer I & Bhatia K 1998. Health in rural and remote Australia. Canberra: AIHW.

World Health Organization (WHO) 1977. International classification of diseases, 9th revision. Geneva: WHO.