

ISSUES OF SUICIDE PREVENTION: 'YOU CANNOT COUNSEL THE DEAD'

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SUICIDE PREVENTION ENDEAVOURS MAY BE DIVERSE. THIS PAPER DISCUSSES issues of primary and secondary prevention. Australia compared with other nations has an alarmingly high rate of young male suicide and, with this in mind, secondary preventative strategies that rely on impinging on the availability of culturally accepted relatively lethal methods of suicide are examined. Political pitfalls are highlighted before specific attention is given to suicide by drug overdose and firearms. Young Australian males have high rates of firearm suicide which coincide with findings from North America. It is suggested that tightening of firearm legislation might reduce overall suicide rates. It is noted that addressing social problems relevant to suicide is of undisputed importance but this should be combined with more direct practical measures to reduce death rates.

Issues of Prevention

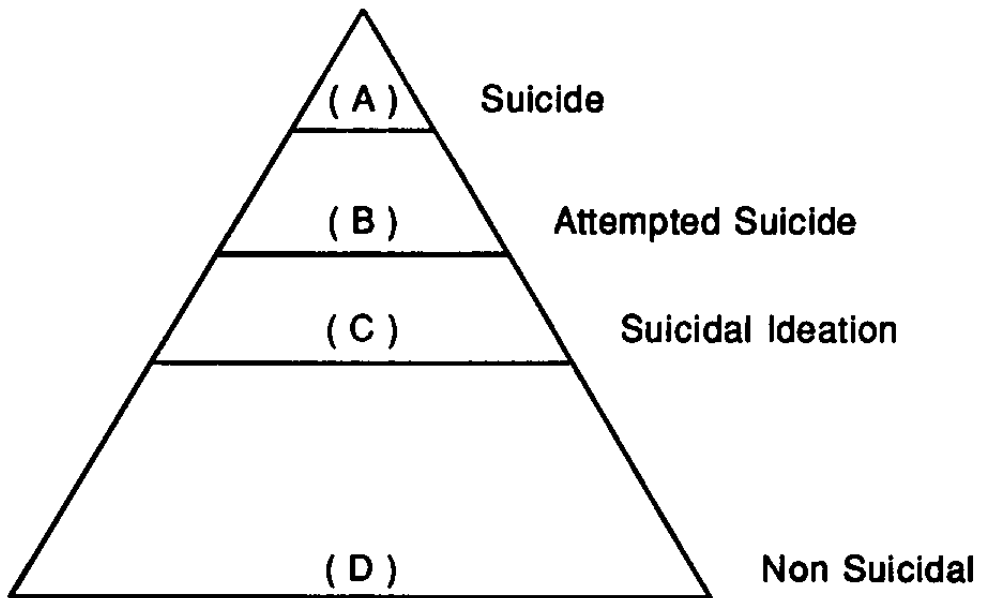
Primary prevention is the ideal of many areas of health care. It involves preventing individuals from developing the condition by modifying the risk to which the individual is exposed. The mental health field has a disappointing record in this area. All too often good ideas regarding primary prevention are later shown not to work. Secondary prevention has fared better—in this an individual may have reached a suicidal state but he is identified and assisted before significant harm develops. Put alternatively, primary prevention could prevent the initial occurrence of suicidal ideation or behaviour; secondary prevention could prevent non-lethal suicidal behaviour from progressing to death—either by removing the means for committing suicide or providing a therapeutic intervention (Shaffer 1990).

An illustrative, if imperfect, model of suicide prevention is shown in Figure 1. At the apex of this pyramid lie individuals who die by suicide. Beneath in order of descent lie attempted suicides; those with suicidal ideation and finally the remainder of the population who have no ideas regarding killing themselves. Let us suppose we wanted to design a strategy to prevent suicides—at what level might one intervene? The answer is at any level.

An intervention at the base of the pyramid might include educating a total population or generation, for example schoolchildren. They might be educated in stress management, coping with suicidal ideas or both. For this intervention to be effective, its effect must be resilient enough to permeate up the pyramid all the way to the apex—suicides. In other words, the education has to reach someone who, without it, would otherwise have belonged to the population at the top. Clearly, the intervention must touch many individuals who will not be at risk.

Figure 1

Suicide Pyramid



An alternative approach would be to intervene at the very peak: for example, by taking individuals who are in the process of dying by suicide and bring them back from the brink of death by effective medical resuscitation. Indeed, this is one of the few suicide prevention strategies that is likely to have substantially reduced suicide rates (Brown 1979). However, it would not solve needy psychological or social problems. Some of you may feel such interventions cheat by colluding with a wider social system that chooses to neglect the needy and produce a cheap fix to an embarrassing problem. There is some truth in this sentiment. However, the value of life must not be dismissed while pursuing causes in the name of social justice. Saving the life of someone who has just taken a potentially lethal overdose is every bit as important as resuscitating the victim of a motor vehicle accident. Anyone who has counselled families who have just lost loved ones by suicide will appreciate this.

Turning back to the pyramid, interventions may occur at any level between the two extremes. The medical system has conventionally provided services for attempted suicides and those with suicidal ideation. There is some wisdom in intervening at these levels in that it focuses efforts on high-risk groups. However, this pyramid is a misleading sham. It is not drawn to scale. For line (A) to be one inch or two-and-a-bit cm, line (B) should be over a

foot or 30 cm, line (C) considerably longer and line (D) should stretch for approximately 250 metres. When this is borne in mind, the huge potential costs in terms of resources become evident—and the realisation that these may never be delivered on a wide scale. Also, the possibility that an individual not at risk might be turned into a suicide becomes more apparent. Interventions strong enough to reach the apex may carry this risk when such large numbers of individuals not at risk are introduced to the concept of suicide.

International Data

The major concern of this conference and worldwide must be the recent rise in suicides in males aged between 15 and 29 years. For most countries, young male suicides greatly outnumber female suicides—in Australia, this is so by 5:1 (Diekstra 1989). Of 19 countries surveyed by Diekstra (1989), Australia has the second highest rate for young male suicides (*see* Table 1). However, for the 30 to 59 age group it ranks only 12th and for the 60+ age group it ranks 13th (Diekstra 1989).

There are many perils in the interpretation of international data because of different data collection systems (Sainsbury & Jenkins 1982). Generally, national suicide data range from approximate to gross underestimations. But we can safely say that, while the world should be concerned regarding the young, Australia should be doubly concerned. Before leaving this table, notice also that, apart from having a high young male rate, the other unusual feature is that the rate is uniform across older groups. Inspection further of Diekstra's data reveals that there are three other countries that have both high youth rates and a relatively uniform distribution—Canada, the USA and New Zealand. What might this mean? We shall return to this later.

Methods of Suicide

In a critical review of the impact of different interventions on suicide rates, Brown (1979) found little evidence to support suggestions that conventional services lower rates. He did suggest that it is highly likely that improved medical resuscitation of the self-poisoned has influenced suicide rates. In addition, he cited evidence regarding the detoxification of domestic gas in the UK. Domestic gas had accounted for 40 per cent—almost half of UK suicides—until the coal gas was phased out in the 1960s (Hassal & Trethowan 1972; Kreitman 1976). The following decade saw a sustained reduction in suicide rates by about 20 per cent. Note the elimination of a method accounting for 40 per cent of suicides achieved a 20 per cent reduction. This is consistent with the notion that approximately half switch to another mode of death while a half fail to kill themselves. There was some criticism of the UK findings as no reduction was demonstrated in The Netherlands following detoxification. This criticism is easily dismissed when it is realised that gassing accounted for only 7 per cent of suicides in The Netherlands prior to detoxification (Shaffer 1990). It would be very hard to demonstrate a significant fall with such numbers. Incidentally, Whitlock in Brisbane suggested that detoxification did achieve a reduction in mortality there. More importantly, he described a reduction in drug related fatalities following restrictions on the prescription of barbiturates—a highly lethal group of drugs (Whitlock 1975).

Table 1

**Male Suicide Rates per 100,000 1970 and 1985-86
by country and age**

Country	1970			1985-86		
	15-29	30-59	60+	15-29	30-59	60+
Hungary	33.2	70.6	131.3	33.5	98.3	156.9
Australia	15.3	29.1	33.2	26.1	22.3	28.6
Canada	17.1	27.1	23.9	25.6	26.2	28.2
Denmark	15.3	44.7	50.0	24.3	47.1	72.5
Belgium	8.8	27.0	76.0	22.7	38.6	85.8
France	11.3	32.2	68.5	22.7	41.5	93.7
USA	16.2	25.4	39.3	22.6	23.6	43.4
West Germany	22.8	39.5	67.7	19.7	32.3	59.2
New Zealand	11.1	21.2	26.8	19.6	18.5	33.1
Japan	16.5	20.8	70.2	18.4	40.3	64.7
Czechoslovakia	32.5	52.3	87.9	18.1	43.4	79.7
Ireland	2.8	5.0	4.2	15.9	15.9	16.1
Scotland	6.7	14.9	20.8	15.8	23.4	21.1
Bulgaria	9.8	16.2	82.5	14.0	22.8	102.5
Singapore	10.4	21.3	98.4	12.7	18.1	99.4
Venezuela	14.6	17.4	19.1	10.9	13.4	23.4
England & Wales	6.7	13.0	21.4	10.5	16.7	19.9
Netherlands	6.0	14.1	35.1	10.0	17.7	37.7
Mexico	3.1	3.4	5.8	4.3	4.1	9.6

Source: Diekstra 1989

In looking at the methods of suicide in Australia (*see* Table 2), it is clear that secondary prevention efforts could be focused on the four principal methods—firearms, hanging, motor vehicle exhaust gas and drug overdose.

Hanging may seem a daunting prospect to limit by decreasing availability. In part, it is, but if it is understood that many hangings occur in institutions—such as gaols and psychiatric units—opportunities for prevention become readily apparent (Dooley 1990; Hurley 1989). Improved monitoring and better design regarding potential anchor sites might prove effective (Jordan et al. 1987).

Non-domestic gas deaths are mainly motor vehicle exhaust gas deaths. Between 1961 and 1981, 10.6 per cent of suicides were by non-domestic gases. During this period, the proportion of deaths by this method climbed and continues to do so (Australian Bureau of Statistics 1983; 1988). Decreasing the carbon monoxide (CO) oxidising capacity of engines, designing slot shaped exhaust pipes (incompatible with hoses) and an automatic idling stopping device (dependent on time and ambient carbon monoxide concentration), have been suggested as preventative strategies (Lofling et al. 1989). The reduction of CO content in exhaust gas in the USA following the introduction of emission control standards in 1968 was associated with a significant although complex fall in overall suicide rates by this method (Lester 1989).

Table 2

Methods of Suicide: Australia 1968-81

	All ages %	Under 25 Years
Firearms and explosives	26.8	36.6
Solid (drug) and liquid substances	33.2	21.0
Hanging, strangulation, suffocation	12.8	12.0
Non-domestic gases and vapours	10.6	11.2
Other/unspecified	4.0	3.55
Submersion (drowning)	4.0	1.4
Gases in domestic use	3.4	2.9
Jumping from high places	3.2	4.5
Cutting and piercing instruments	2.0	0.5

The comparatively low rates of suicides by drowning is most likely a function of the high degree of proficiency of swimming in Australia—making such a method less attractive and more difficult.

Jumping from heights is a localised problem in cities with high bridges or cliffs. A recent study (Cantor & Hill 1990) in Brisbane compared subjects jumping from two adjacent bridges over the Brisbane River. The two bridge populations differed with regard to marital status, employment status, extent of previous psychiatric treatment, time since last contact with caregivers, place of residence and time of day (of jump). The highly significant differences of the two populations suggests that those prevented from jumping from one bridge by, for example a barrier, in the main would not jump from the other bridge.

That only 0.4 per cent of suicides were by domestic gas testifies to the likely impact of detoxification of gas in Australia. Between 1966 and 1971, the rate of this method fell from 7.9 per cent of all suicides to 2.3 per cent (Australian Bureau of Statistics 1983).

Self-cutting by young people is the second most common method of attempted suicide or parasuicide presenting to hospitals after drug overdoses. Yet it accounts for only 0.5 per cent of suicides. This belies the importance that reduction of suicide rates by reduction of the availability of a method requires that method to be relatively lethal. Availability and relative lethality are two essential ingredients. The full equation is that for any given method of suicide to be a major problem the method must be not only available and relatively lethal but must be culturally accepted. Self-incineration and ingestion of pesticides are common methods of suicide in the Third World but appear distasteful to western cultures—reflected in very low rates by these methods.

The Politics of Intervention

For a major intervention to decrease the impact of a certain method of suicide, careful planning is necessary. Firstly, does the method constitute a significant problem? Secondly, is there the political and community goodwill to support such an intervention? For example, suicide proofing of prison cells might be politically well received—it is a relatively easy partial solution to an embarrassing problem. However, if the intervention was delivered clumsily, without appreciation of other issues, it might not be well-received by, for example, Aboriginal communities, who might be concerned that it might divert a government response from needy social issues. A third principle to consider is whether there is a powerful third party with a financial or other interest in opposing the intervention. It seems that caregivers

tend to be extremely naive with regard to this point. The Golden Gate Bridge in San Francisco has witnessed over one thousand suicides yet, after decades of campaigning for a barrier, there still is none—in possibly the most litigious culture in the world . . . Why? Will the motor vehicle industry rally to a call for exhaust modifications to reduce suicides? One would have to be joking. However, for other reasons, for example pollution, those interested in suicide prevention might then join this momentum.

Drug and Firearm Suicides in Australia

Two other issues to be addressed are lethal drugs used for overdoses and secondly firearms. Note (*see* Table 3) that to a certain extent these methods are sex specific—overdoses female, firearms male.

An intervention regarding overdoses has a useful head start as it causes embarrassment to the medical profession, some of whom will be readily supportive of change and others, though more resistant, at least do not have a financial interest in blocking change. With firearms, the problem is severe and has some community concern from other sources, for example, those concerned about other forms of violence. However, it evokes considerable resistance from highly organised and heavily financially backed opposition groups. In addition, one in three households in Australia already possess firearms (Harding 1981) so change may be resisted.

Finally, firearms may be a symbol to some of power and masculinity so the threat of reduction of this may evoke unusually strong resistance.

Table 3

Methods of Suicide, Australia, by sex 1968-81 for persons under 25 years

	Male %	Female %
Firearms and explosives	44.3	11.1
Solid (drug) and liquid substances	11.0	57.4
Hanging, strangulation, suffocation	13.4	7.1
Non-domestic gases and vapours	12.7	5.3
Jumping from high places	3.4	8.4
Other/unspecified	3.5	3.8
Gases in domestic use	2.5	4.3
Submersion (drowning)	1.2	2.0
Cutting and piercing instruments	0.5	0.6

Overdoses

Let us turn first to a survey of drug suicides in Brisbane (Cantor 1989) (*see* Table 4) covering the years 1979 to 1987. Note that psychotropic drugs accounted for 84 per cent of single substance deaths, emphasising the contribution of psychological disorders to suicide. The barbiturate group accounted for more than one-third of single substance deaths. Chloral hydrate, a rather unpleasant hypnotic that happens to be cheap, was by far the most common individual compound accounting for 13 per cent of single substance

deaths. Barbiturate deaths have declined since the late 1960s coinciding with the substitution of safer benzodiazepines, better prescribing practices for depressed patients and legislative restrictions on the prescription of barbiturates (Whitlock 1975). Nevertheless, continued pressure regarding barbiturates seems warranted.

Table 4

Suicide by overdose: Brisbane 1979-87
TCA = Tricyclic antidepressants
NSAID = Nonsteroidal anti-inflammatory drugs

N	Barbiturates	Chloral	TCA Hydrate	Benzo Diazepines	Opiates	Other	Multiple
368	114 (41%)*	50 (18%)*	37 (13%)*	12 (4%)*	21 (7.5%)*	45 (14%)	89

* Percentage of single substance deaths—alcohol not counted

Before this survey was conducted, other persons in Queensland were concerned about chloral hydrate and combined efforts have resulted in state hospitals agreeing to limit its prescription to specialists only—a move that should result in a major decline in its use.

Antidepressants are the next group that warrants close consideration. It seems likely that, with better recognition of depressive illnesses, more antidepressant drugs will be (appropriately) prescribed. Tricyclics are the predominant antidepressant group worldwide, particularly so in Australia. New drugs are subject to much more rigorous screening before being allowed into this country than the established drugs were. Tricyclics are highly dangerous in overdose, the newer antidepressants are very much less so. However, some have rare but serious side effects. Already many researchers are suggesting that the risk of these newer antidepressants may be heavily outweighed by the risk of fatal overdose from the older tricyclics (Farmer & Pinder 1989; Henry 1989; Montgomery et al. 1989; Vuori et al. 1989; Retterstol 1989). To a large extent, Australia has slept on this issue. Hence, we have only one new antidepressant which the NHS benefits limit to use for depression accompanied by cardiovascular or bladder disease. Curiously, its overwhelmingly safer use in those likely to overdose is not an indication acceptable for NHS benefits.

Firearms

For some time it has been recognised that firearms are frequently used for suicide by Australian males (Farmer & Rhode 1980; Snowdon 1979). The use of firearms in Australia is disproportionate to its overall rate—a comment that applies also to the USA. The firearm suicide rate in Australia has been found to be ten times that of the UK (Farmer & Rhode 1980).

As a result of growing concern about firearms in Australia, the author, in conjunction with Terry Lewin from Newcastle, undertook a detailed analysis of firearm suicides over the period 1961-85 using data from the Australian Bureau of Statistics (Cantor & Lewin 1990). Although the study focused largely on national data, a limited regional analysis was undertaken comparing Queensland with the rest of Australia. Queensland was singled out as, along with Tasmania, there were no legislative restrictions on rifles and shotguns (Fine 1985); also it had a comparatively high percentage of household gun ownership (*see* Table 5). Unlike Tasmania, Queenslanders were more likely to possess rifles as opposed to other

long arms—most firearm suicides in Australia involve rifles (Wilson 1983). Reasons for firearm ownership in Queensland were more dubious with it being the state most commonly to own firearms for self-protection or no specific reason.

A multiple regression based analysis of the data was undertaken. Suicide rates were examined with regard to age, sex, years and regions, with comparisons of firearm and non-firearm deaths.

The first finding to note was that a greater proportion of all suicides were committed by firearms by the under 20s than any other age group—for both sexes. It was also evident that a greater proportion of suicides in all age groups were committed in the 1980s compared with previous decades. Youth suicide rates in Australia have risen over the last two decades but youth firearm suicide rates have risen even more steeply.

Table 5

**Firearms availability and Australian suicide rates
1975-77**

State	Guns per 1000 Persons	Percentage of Gun-owning Households	Suicide Rate per 100,000 pa	Suicide by firearms (%)	
				Male	Female
NSW	189	25.4	10.74	30.2	7.7
Vic.	145	27.4	9.46	34.9	7.0
Qld	179	28.9	12.97	44.1	6.7
SA	162	26.5	11.35	45.0	13.0
WA	136	19.5	9.91	21.1	1.2
Tas.	211	31.7	10.24	44.4	10.5
NT	Not known	Not known	11.00	53.9	42.9
ACT	As NSW	As NSW	9.55	28.2	—
Australian Total	167	26.3	11.15	35.0	7.6

Source: Richard Harding (1981)

American findings have been very similar with an increase in age adjusted rate of firearm suicide for the period 1953-78 of 4.9 to 7.1 per 100,000 (Boyd 1983). The Americans also found a similar disproportionate rise in young males (Boyd & Muscicki 1986). Canadian studies also emphasise high firearm suicide rates in younger people (Stenning & Moyer 1981; Tonkin 1984). Australia, USA, Canada and New Zealand are all new countries of pioneering backgrounds, with similar cultural attitudes to the physical aspects of masculinity and widespread availability of firearms (reservation is expressed regarding availability in New Zealand due to the author's lack of data). Could it be that this partly explains the similar age patterns mentioned before of suicide in those countries—that is, high young male rates with a relatively uniform distribution across all adult age groups?

The limited regional analysis (Cantor & Lewin 1990) supported the hypothesis that Queensland's loose firearm legislation, high household prevalence of rifles and different attitudes to firearm ownership was associated with a higher rate of firearm suicide. It must be conceded that other potential explanations for this regional difference have not been examined.

Firearm Legislation

Would tightening firearm legislation, combined with education to change cultural attitudes to firearms, be effective at reducing suicide rates? Burvill (1980) suggested that the elimination of a lethal method was unlikely to achieve a sustained reduction of suicide. In the UK, the use of motor vehicle exhaust gas has risen between 1975 and 1980 and may, in part, be a substitution for domestic gas (McClure 1984). Detoxification of gas in the United Kingdom may have been effective, if inadvertently, at reducing suicide rates for more than a decade.

Research of the impact of firearm legislation on suicide is inconclusive. Gun lobby groups tend to present selected and biased data. It should be appreciated that findings regarding legislation and homicide are not of great relevance to suicide. In addition, most studies have been conducted in the USA where firearm ownership is more prevalent and where 'stricter' gun legislation usually refers to restriction on hand guns with little or no restriction on rifles (Westmeyer 1984). In Australia, handguns are already severely restricted (Fine 1985) with the current legislative reforms aimed at rifles and shot guns.

Bearing in mind reservations about applicability to Australia, some American findings will be mentioned. American States with stricter gun control laws in 1968 were found to have lower male suicide rates in 1969-71 and smaller increases in male suicide rates over a ten-year period (Lester & Murrell 1980). However, recently no change was found in the prevention of suicides involving guns following strengthening of hand gun laws in Maryland, South Carolina and Utah (Lester 1988). Nevertheless, a strong association between pistol prevalence and white male suicide rates was found in another study of nine US census divisions (Markush & Bartolucci 1985).

Canada's recent reforms may be most applicable to Australia. In 1977, comprehensive legislation was introduced (Scarff 1983). Firearms acquisition certificates became required for all weapons. Registration certificates, in addition, are now required for restricted weapons and some weapons are prohibited to individuals. Sentences for firearms offences were made more severe; prohibition orders for individuals deemed unsuitable for firearm ownership were introduced; seizure of weapons was made easier, safe handling and storage of firearms was promoted and, finally, businesses dealing in firearms were required to obtain a permit renewable annually. Following legislation, there has been a modest decline in the firearm suicides (Scarff 1983). The balance of evidence appears to support such legislative efforts.

Conclusion

Suicide prevention should occur at multiple levels of the suicide pyramid, from education regarding coping skills through counselling services for the vulnerable, through issues addressed in this paper, right up to continued efforts with regard to medical resuscitation. All counsellors of those considering suicide should be urged routinely to inquire regarding possession of firearms and lethal tablets and to encourage their dismantling, safe storage or disposal. The bottom line is that you cannot counsel or provide any other helpful intervention to dead people.

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