



No. 116

Firearm-related Violence: The Impact of the Nationwide Agreement on Firearms

Jenny Mouzos

It has been almost two years since each State and Territory in Australia implemented the Nationwide Agreement on Firearms. In 1997, Australia recorded 85 fewer firearm-related deaths than in 1996 (50 fewer if one excludes the victims of Port Arthur from the 1996 total). However, as a result of the many issues associated with evaluation research, it is still too soon to determine definitively whether Australia's uniform firearms laws have achieved their aim in reducing firearm-related violence and misuse.

The findings outlined in this paper from a preliminary analysis of data on causes of death and official crime statistics seem to indicate that, nationally, there has been a decline in firearm-related deaths in 1997, mostly due to a decline in the rate of suicides and accidents. This reduction has occurred in each State and Territory, with the exception of NSW and Victoria. There is also preliminary evidence that in some cases, for example suicide and armed robbery, firearms may be being displaced by other methods or weapons. Without an outcome evaluation that also takes into account socio-demographic factors, we cannot determine more conclusively the impact of the new firearms restrictions. In the meantime, the Australian Institute of Criminology will continue to monitor firearm-related violence and misuse.

Adam Graycar
Director

Following the deaths by semi-automatic firearms of 35 people at Port Arthur, Tasmania, on 28 April 1996, many Australians have asked whether, and how, a re-occurrence of such events could be prevented. This same question was asked at a special meeting of the Australasian Police Ministers' Council (APMC) on 10 May 1996, when a Commonwealth proposal for a national gun control strategy was tabled for consideration. In the words of Australian Prime Minister John Howard: "It took an act of savagery unprecedented in peacetime to produce a coalition of interest unprecedented in peacetime—in its breadth, its depth and its strength to resolve" (cited in Gordon 1996).

Disasters have prompted significant policy change in such areas as coalmine safety, automotive safety and earthquake preparedness. In these and many other instances, the policy changes occurred only after significant loss of human life (Spitzer 1995). The Port Arthur massacre was not the first such incident in recent years to produce revision of a country's firearms laws. Three other multiple killings with firearms in Australia and at least four other similar events abroad were catalysts for firearm control efforts. After the 1987 Hoddle and Queen Street shootings in Victoria, restrictions on semi-automatic long-arms were tightened, and the National Committee on Violence was established. In its report, *Violence: Directions for Australia*, 25 measures for further controls on firearms were recommended. However, very few were adopted by any State or Territory. Similarly, in response to the Strathfield killings in 1991, military-style semi-automatic rifles were prohibited from sale in all jurisdictions except Tasmania and Queensland.

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An important event which led to further firearms restrictions occurred at Hungerford, Berkshire, in the UK in August 1987. In response to the killing of 16 people by Michael Ryan, the British Government banned the private ownership of most self-loading rifles and shotguns in Britain through the introduction of the Firearms (Amendment) Act 1988.

Similarly, in 1989, Patrick Purdy killed 5 children and injured 30 others at his old elementary school in Stockton, California, before committing suicide. At this incident, he is said to have fired 105 rounds from an AK-47 military-style semi-automatic rifle with a 75-round drum magazine. These killings contributed to the eventual ban, on 13 September 1994, on the importation into the USA of newly manufactured assault rifles. However, this ban did not prevent the possession or sale of any such weapons already in the country, including the large numbers stockpiled by dealers before the enactment of the bill (McCarron 1994). On 6 December of the same year, at Montreal's Ecole Polytechnique, 14 women were shot dead. Exactly one year later, on 6 December 1995, the Canadian Parliament passed the Gun Control Bill C-68 which, most importantly, required the registration of all firearms.

On 13 March 1996, a few weeks before the Port Arthur incident, the Dunblane Primary School massacre occurred, when Thomas Hamilton murdered 16 children and their teacher. This led the British Government to open a public inquiry into the circumstances leading up to, and surrounding, the shootings and how the public could be safeguarded against the misuse of firearms. This inquiry resulted in a ban on all handguns of a higher calibre than .22, and a ban on people keeping any handguns in the home (Scottish Office 1996).

In accord with previous responses to mass shootings that have occurred in Australia and abroad, the Port Arthur tragedy became the catalyst for a quantum leap in firearms regulation.

National Firearms Monitoring Program (NFMP)

At the APMC meeting, representatives of all Australian governments agreed to a 10-point plan for the regulation of firearms. This became known as the Nationwide Agreement on Firearms, which effectively banned self-loading rifles and self-loading and pump-action shotguns; introduced a nationwide registration of firearms; and introduced stringent limitations to firearm ownership (namely, minimum age of 18 years and satisfactory reason and fitness for ownership). A 12-month firearms amnesty and compensation scheme (the gun buy-back scheme) were also introduced. A further resolution from the APMC sought the assistance of the Australian Institute of Criminology (AIC) to monitor the effects of the new firearms controls. In response, the AIC has established the National Firearms Monitoring Program (NFMP), whose aim is to identify the immediate and longer-term effects of the implementation of the new controls. Although the NFMP is still in its infancy, data have been compiled on the number and rate of incidents of firearm-related violence and misuse, both before and after the implementation of the Nationwide Agreement on Firearms.

However, prior to examining any data, it is important to identify any potential limitations or weaknesses associated with it. This paper discusses some of the difficulties inherent in evaluation research, with specific focus on the Nationwide Agreement on Firearms. It also reports the findings of a preliminary analysis of data on causes of death and official crime statistics, aimed at determining whether the new firearms regulations have resulted in any changes in the incidence of firearm-related violence and misuse.

Methodological Issues in Evaluating the Impact of the New Firearms Restrictions

There are a number of issues associated with determining whether the implementation of the new fire-

arms restrictions has had any impact on the incidence of firearm-related violence and misuse.

When examining firearm incidents (excluding accidents), it is necessary to address the question of displacement. That is, substitution of other methods may occur if firearms are less accessible than other weapons. If displacement is observed, then there may not be net saving in lives (for example) because the offender has substituted another method of killing. The issue of displacement applies primarily to analysis of changes in suicides and offences such as homicides and robberies. The implication for evaluation is straightforward. Any statistical analyses of changes in death rates must include both those resulting from homicides and suicides involving all weapons, as well as firearm-related deaths. If the overall rate has remained relatively stable or has increased over the period under review, while the rate due to firearms has decreased, then displacement may have occurred (Department of Justice Canada 1996).

It is also important to note that any observed changes in the incidence of firearm-related violence cannot be attributed exclusively to the implementation of the new firearms regulations. The use of firearms to inflict harm on others or oneself depends on factors of the most varied nature. A broad range of biological, psychological and social factors operate at the micro- and macro-social levels that affect the incidence and prevalence of violence (McDonald & Brown 1997). In the specific case of violent crimes such as homicide and robbery involving the use of firearms, these and other factors may vary over time, and within and between jurisdictions.

There is also the possibility that any decline in the rate of firearm-related violence and misuse may be due to long-term patterns rather than to any effect produced by the introduction of the new firearms restrictions.

Examining the effect of the new firearms regulations on a national basis is further complicated by three facts:

- Prior to the implementation of the new firearms restrictions,

Table 1: AUSTRALIA, Deaths from Firearm-related Violence and Misuse: Number and Rate per 100 000 Population for Each Type, 1993–97

Type of Death	1993		1994		1995		1996		1997	
	No.	Rate								
Accident	18	0.10	20	0.11	15	0.08	30	0.17	19	0.10
Suicide	435	2.46	420	2.38	389	2.20	384	2.17	331	1.79
Homicide	64	0.36	79	0.45	67	0.38	*104	*0.59	79	0.43
Legal Intervention	3	0.02	7	0.04	6	0.03	0	0.00	7	0.04
Unknown	6	0.03	6	0.03	3	0.02	5	0.03	2	0.01
Total	526	2.98	532	3.01	480	2.72	523	2.96	438	2.36

* Includes the victims of Port Arthur

Source: Adapted from ABS *Causes of Death* (several years)

there was little uniformity in the firearms laws of Australia's six States and two Territories. Some had very restrictive laws governing ownership and use of firearms, with well-developed registration and licensing systems; some had more relaxed laws and no registration.

- Secondly, each State and Territory implemented the firearms legislation at different times. For example, the NSW *Firearms Act 1996* (with amendments) came into force on 16 December 1996; WA *Firearms Act 1973* (with amendments) came into force on 22 January 1997. The Victorian *Firearms Act 1996* in its entirety was not proclaimed until 29 April 1997. By May 1997 each State and Territory had implemented the new firearms regulations.

- Each State and Territory differed in their levels of enforcement of the new legislation.

The implementation of legislation has significant implications for each jurisdiction in relation to resource allocation, communication within police services and mecha-

nisms of control and enforcement. As a consequence, without a properly designed evaluation study, it will be very difficult to isolate the effect that legislative changes may have on the incidence of firearm-related violence.

In addition, any definitive assessment of the impact of the new firearms regulations can only be undertaken after data on the occurrence of firearm-related incidents are available for an appropriate period after the enactment of the new legislation. For example, a Canadian evaluation of the 1977 Firearms Control legislation was conducted 16 years post-implementation in 1993 (Department of Justice Canada 1996). A Danish evaluation of the Firearms Act 1985, conducted two years after implementation, found that it was too early to demonstrate any effects (Thomsen & Albrektsen 1991).

Preliminary Assessment of the Impact of the Nationwide Agreement on Firearms

Bearing in mind the limitations already mentioned, this section discusses the preliminary findings

of an assessment of the impact of the Nationwide Agreement on Firearms on the incidence of firearm-related suicide, firearm-related accidents and the firearm-related offences of homicide and robbery.

Nationwide levels of firearm-related violence and misuse

Official statistics on causes of death (ABS various years) show that 2499 firearm-related deaths occurred between 1993 and 1997 in Australia. Table 1 shows the numbers and rates per 100 000 population of firearm-related deaths by type of incident. Of all firearm-related deaths for this period, 78 per cent were suicides, 16 per cent were homicides, 4 per cent were classified as accidents and 1 per cent involved unknown intent. On average, 500 people died from firearm-related violence each year during the 1993–97 period.

There are significant gender differentials in firearm-related mortality. Males accounted for over 90 per cent of all firearm suicides and accidents, and 67 per cent of victims of firearm homicides recorded during this period.

There was a substantial reduction in the number of firearm-related deaths from 1996 to 1997. If the Port Arthur deaths are excluded from the analysis, the total number of deaths declined from 488 in 1996 to 438 in 1997, and the total death rate declined from 2.76 per 100 000 total population in 1996 to 2.36 in 1997. However, the firearm-related homicide rate increased slightly from 0.39 per 100 000 total population in 1996 to 0.42 per 100 000 total population in 1997.

The death rates during 1997 for homicide and legal intervention were quite similar to those observed during previous years. The reduction in the prevalence of firearm-related deaths observed in 1997 was mostly due to a decline in the rate of suicides and accidents.

Jurisdictional differences

Previous research indicates that there are significant jurisdictional differences in firearm-related mortality (Harrison et al. 1997, Carcach & Grabosky 1997). Variation in the degree of leniency of the firearms laws in each jurisdiction may be one of the reasons underlying

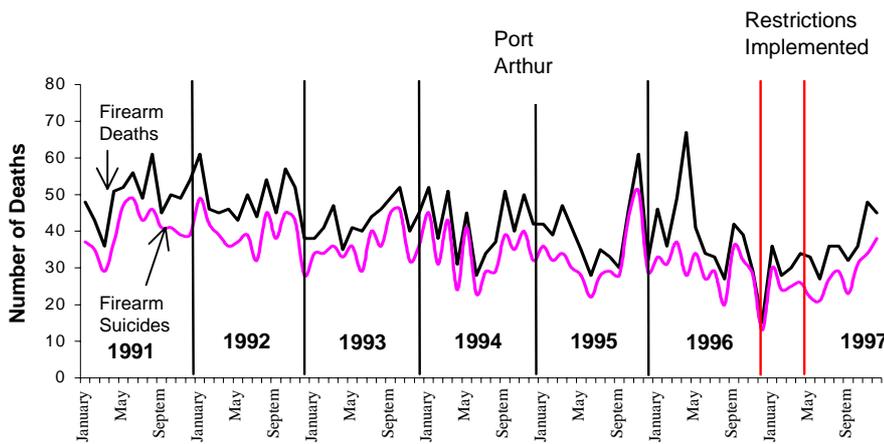
Table 2: AUSTRALIA, Firearm-related Deaths in Each Jurisdiction: Number and Rate per 100 000 Population, 1993–97

	1993		1994		1995		1996		1997	
	No.	Rate								
NSW	173	2.88	149	2.46	148	2.42	138	2.22	143	2.28
Vic.	111	2.48	103	2.30	99	2.19	94	2.06	100	2.17
Qld	118	3.79	135	4.34	128	4.12	148	4.76	110	3.23
WA	42	2.50	46	2.74	28	1.67	40	2.38	25	1.39
SA	41	2.81	48	3.27	43	2.93	34	2.31	29	1.96
Tas.	31	6.57	35	7.40	18	3.80	*50	*10.54	19	4.01
ACT	4	1.34	3	1.00	4	1.34	6	1.94	3	0.97
NT	6	3.51	13	7.61	12	7.03	13	7.61	9	4.81
Australia	526	2.98	532	3.01	480	2.72	523	2.96	438	2.36

* Includes the victims of Port Arthur

Source: Adapted from ABS *Causes of Death* (several years)

Figure 1: AUSTRALIA, All Firearm-related Deaths and Firearm-related Suicides, 1 January 1991 – 31 December 1997



Source: Adapted from ABS *Causes of Death*

ing such differences.

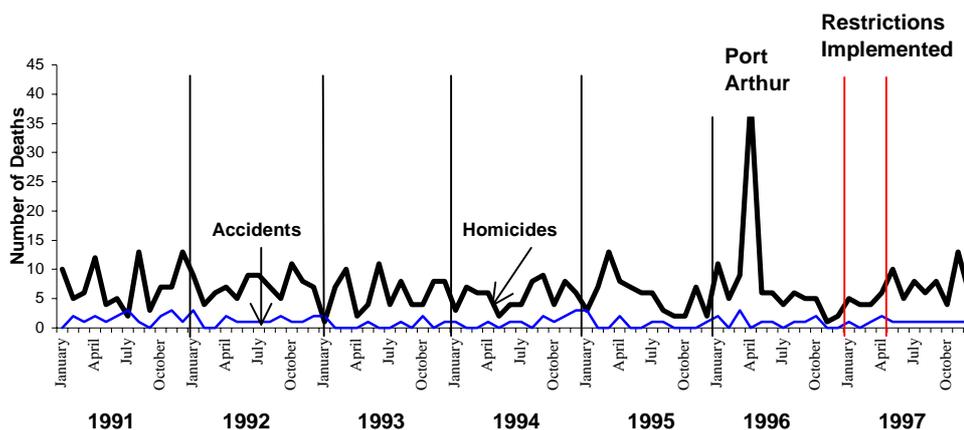
Table 2 shows the numbers and rates of firearms deaths for Australia and each State and Territory for the 5 years from 1993 to 1997. The two States with the most permissive laws prior to 1997, Tasmania and Queensland, have consistently higher rates of firearm-related deaths than the national average. The firearm-related death rate for Tasmania increased from 3.80 in 1995 to 10.54 in 1996 as a result of the Port Arthur incident. If the Port Arthur incident were excluded from the figures in 1996, the rate for Tasmania would be 3.16. The Northern Territory also has a relatively high firearm-related mortality rate but, due to its small population (187 132 in 1997), its rate is not directly comparable to those for the rest of Australia. Note that, compared to other States, Tasmania also has a small population.

Table 2 also shows that, compared to 1996, and with the exception of NSW and Victoria, there was a reduction in firearm-related mortality in each State and Territory in 1997. Nationally, there were 85 fewer firearm-related deaths in 1997 than in 1996 (50 fewer if one excludes the 35 Port Arthur victims from the 1996 total).

Figure 1 shows the close correspondence between firearm-related suicides and all firearm-related deaths. Apart from the month of April 1996, when the Port Arthur incident took place, the trend in the time series for all firearm-related deaths is dominated by the trend in firearm-related suicides.

The number of firearm-related suicides exhibited a downward trend after December 1991 and until December 1996. Note that the trend seems to have reversed, starting from January 1997. At this

Figure 2: AUSTRALIA, Monthly Firearm-related Homicides and Monthly Accidental Firearm Deaths, 1 January 1991 – 31 December 1997



Source: Adapted from ABS *Causes of Death*

stage it is impossible to ascertain whether the declining incidence of firearm-related suicides during 1992–96 was due to the tightening in firearm laws in most States since 1991, or if it was simply a depression in a long-term cycle.

Figure 2 depicts the number of firearm-related homicides and accidental firearm deaths for each month from 1 January 1991 until 31 December 1997. Accidental firearm deaths have remained relatively stable until the latter half of 1997, when they reached a plateau of about one per month.

With regards to firearm-related homicides, Figure 2 shows that yet again, the Port Arthur incident is most visible in the firearm-related homicide trend line. The graph suggests that the Port Arthur incident was an isolated event with no impact on the long-term behaviour of firearm-related homicide. The graph in Figure 2 also suggests that there has been a small but sustained increase in the number of firearm-related homicides since 1994. Note that for the period 1991–93, the number of firearm-related homicides exhibited a weak downward trend. This raises the issue as to whether more recent behaviour is part of a long-term cycle rather than being the result of short-term influences.

One way to verify this contention is by looking at the contribution that offences committed using firearms make to the total number of offences. Table 3 shows the percentage of victimisations where a firearm was used for the offences of robbery and homicide for the period 1993 to 1997.

Nationally, the percentage of homicides committed with a firearm has fluctuated during the period 1993 to 1997; while firearm robberies as a percentage of total robberies have declined over the same period, although increasing slightly from 1996 to 1997 (see Table 3).

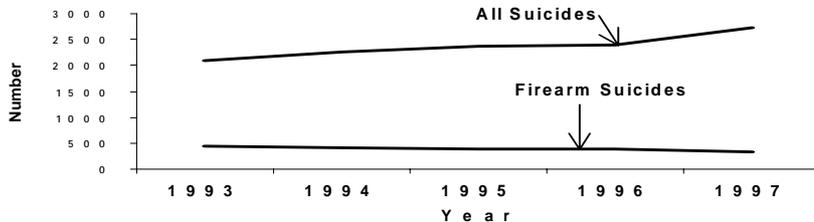
In summary, the preliminary results seem to indicate that there has been an observed decrease in firearm-related violence and misuse, especially in firearm-related suicides. The next section examines more closely firearm-related suicides and robbery with the use of a firearm and outlines

Table 3: AUSTRALIA, Percentage of Victimisations Using a Firearm For the Offences of Robbery and Homicide, 1993–97

Offence	1993	1994	1995	1996	1997
Homicide	18.5	16.3	17.9	28.7	21.1
Robbery	15.5	13.0	12.5	9.6	10.3

Source: ABS National Crime Statistics, 1993–97

Figure 3: AUSTRALIA, Number of Suicides and Firearm-related Suicides, 1993–97



Source: Adapted from ABS Causes of Death

some of the implications associated with the preliminary findings.

Directions for Further Research

Firearm-related suicide

Suicide is the dominant type of firearm-related mortality. Based on the data examined thus far, it would be naïve to expect that the new firearms restrictions alone could sufficiently address the problem of suicide in the community, as firearms represent only one means to an end. A number of researchers have addressed this issue both at the national and international level. In summary, the consensus appears to be that restricting firearm availability does result in fewer suicides (Spitzer 1995; Clarke & Lester 1989). In Australia, Cantor and Slater (1995), who examined the effect of the Queensland *Weapons Act 1990*, also found that tightening firearm

control legislation may reduce suicide rates, especially among young men.

These findings aside, others have concluded that firearm availability bears no significant relationship to the overall suicide rate in the adult population. That is, when firearms are less available, the suicide-prone simply turn to other means (Lester 1988).

In Australia, between 1986 and 1995 the use of firearms to commit suicide declined by over a third, suicides by hanging, strangulation and suffocation increased by 85 per cent (Mukherjee 1997). The key policy question then is whether restricting the availability of firearms in itself decreases the likelihood of suicide. That is, if firearms were not available, would individuals simply turn to other means (substitution or displacement)?

Looking back at Table 1, the figures showed a decline in the number of firearm-related suicides from 435 in 1993 to 331 in 1997. In contrast, Figure 3 shows that the

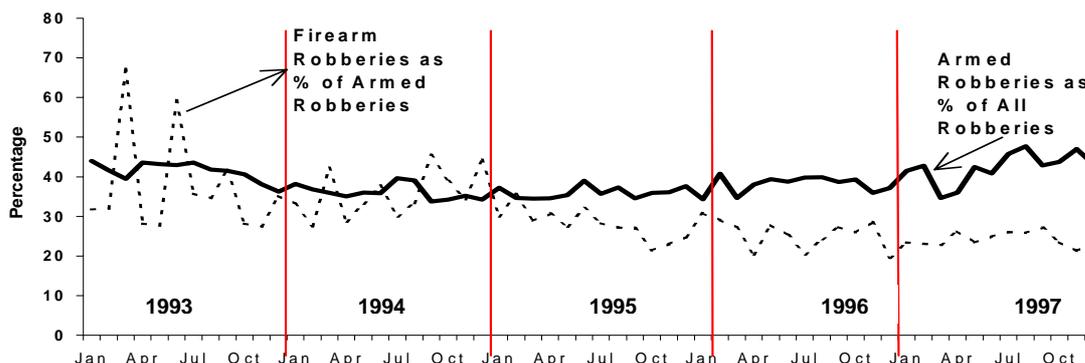
total number of suicides is increasing (2393 in 1996 to 2723 in 1997). Of the 2723 suicides in 1997, only 331 (12 per cent) involved the use of a firearm. The implications of these results are twofold: firstly, the availability of firearms is but one component of a larger problem, and secondly, there may be evidence of substitution in means used to commit suicide.

Among the common methods of attempting suicide, firearms are more likely to prove fatal. In the United States, about 90 per cent of firearm suicide attempts are successful, compared with about 80 per cent for hanging, 77 per cent for death from carbon monoxide (usually car exhaust), 70 per cent from drowning and 23 per cent from poisoning (Kleck 1991). There is a lack of availability of comparable data in Australia, so it is not possible to examine the fatality rates of attempted suicides according to each method.

Firearm-related robbery

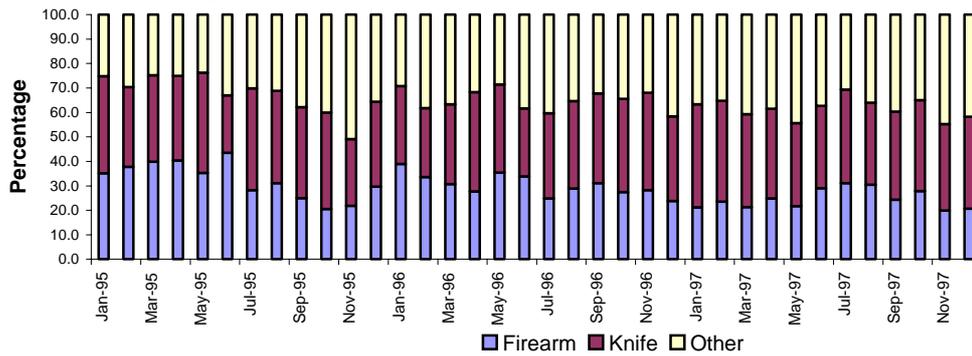
Official statistics indicate that between 33 and 48 per cent of all robberies recorded by police are committed using firearms. Figure 4 shows firearm robbery as a percentage of total robbery in Australia from 1993 to 1997. Figure 4 also shows that the contribution of firearm robbery to total armed robbery in Australia from 1995 onwards has decreased. In contrast, armed robbery as a percentage of all robberies in Australia has increased over the 5-year period (1993–97). This suggests the possibility of firearms being substituted by other types of weapons, for example knives, in the commission of armed robbery.

Figure 4: AUSTRALIA, Comparison of Robbery with Firearms to All Robbery, 1993–97



Source: Adapted from ABS Recorded Crime 1993 to 1997

Figure 5: NEW SOUTH WALES, Firearm, Knife and Other Weapon Robberies as a Percentage of All Armed Robberies, January 1995 to December 1997



Source: Adapted from *New South Wales Recorded Crime Statistics 1995–1998*

In order to examine this suggestion, data on the composition of robberies involving the use of a weapon (firearm, knife and other weapons) would need to be analysed. Such data were only available for New South Wales.

Figure 5 shows the percentage of firearms, knives and other weapons used in all armed robberies in New South Wales from January 1995 to December 1997. This figure further shows that the percentage of robberies involving the use of knives has remained relatively constant across the period under review. However, there is a declining trend in the percentage of robberies involving the use of a firearm, and this has been accompanied by increases in the percentage of robberies involving other weapons (i.e. those other than knives and firearms).

The findings derived from Figure 5 provide some insight into the complexities of assessing whether there have been any changes over time in firearm-related offences and how these changes could be interpreted. As previously stated, it is not simply a question of determining whether there have been any changes and attributing those changes to the new firearms restrictions because, as we have seen, without thorough exploration of the data, premature conclusions may be reached.

Conclusion

There are many factors to be considered when attempting to assess the impact of the implementation of any new legislation. Overall, based on the preliminary findings

outlined in this paper, we have observed a decline in firearm-related death rates (essentially in firearm-related suicides) in most jurisdictions in Australia. We have also seen a declining trend in the percentage of robberies involving the use of a firearm in Australia. Explanations for these declines are not yet available, and it will be some time before the impact of the uniform legislation can be thoroughly assessed.

In order to determine more definitively the impact of the Nationwide Agreement on Firearms, it is necessary to develop an outcome evaluation of the new firearms reforms. This evaluation will ideally be conducted at least five years post-implementation, and will require, in addition to time series analysis, the construction of structural models that would be able to evaluate the impact of the legislation on firearm-related deaths and offences once all other factors (social, demographic, economic and institutional) have been taken into account.

It is only after such an evaluation that we may determine more conclusively the degree to which the Nationwide Agreement on Firearms is meeting its objectives.

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