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*The debate around measures to prevent mass shootings has largely focussed on the effectiveness of firearm controls. Specific mass shooting events in the UK, Canada and Australia were followed by increased restrictions on firearm access and use while in countries such as the US, the response was less conclusive. Various examinations of the impact of firearm controls on firearm deaths have produced inconclusive results and, in particular, made little mention of the impact on the prevalence of mass shootings.*

*This paper compares the incidence and characteristics of mass shooting events in Australia and the US in the period 1981 and 2013. The authors suggests that it is a complement of actions introduced with the Australian firearm reforms of 1996 and 2002 – particularly around access to specified firearm models and legislated methods to identify firearm licence owners at risk of harm or of harming – that have, for Australia at least, provided the stronger preventative response.*

## Mass shootings and firearm control: comparing Australia and the United States

Samantha Bricknell, Frederic Lemieux and Tim Prenzler

Mass shootings, symbolised by events at Dunblane (United Kingdom), Port Arthur (Australia), Utøya (Norway) and Columbine, Virginia Tech and Newtown (United States), are largely characterised as the death and wounding of multiple victims from gunshot wounds over the course of a single shooting episode (adapted from Fox & DeLateur 2014). On most occasions, a single perpetrator is responsible for the shootings, although there are rare instances (such as at Columbine) where multiple offenders are involved.

The nature of mass shooting events - the large number of deaths and injuries, the identity of the victims (in many cases, children and young people), the types of firearms used and the frequently indiscriminate intent of the perpetrator – has invariably opened up debate around public access to firearms, in particular select fire and semi-automatic long-arms and high-powered, concealable handguns. In some countries, such as Canada, the United Kingdom (UK) and Australia, that debate generated action in the form of prohibition or tightened restriction on access to specific firearm models, safe storage provisions, stricter screening tests of license applicants, and firearm registration and certification systems. Among other countries, such as the United States (US) and in Norway, the intensive debate about strengthening firearm controls largely ended in less definitive, if not muted responses.

Motives for acts of violence such as mass shootings are almost unknowable, as many of the offenders' commit suicide or are killed by law enforcement before they are apprehended. However, broader examinations of discrete mass shooting incidents are increasingly focused on issues such as social isolation and disaffection, economic problems, mental health and the 'challenging setbacks [experienced by offenders] in important social, familial and vocational domains' (see, for example, Bowers, Holmes & Rohm 2010; Ferguson, Coulson & Barnett 2011; McPhedran & Baker 2011). These issues form the basis of current discussions on the

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momentum behind mass shootings, along with the perennially contested factors of firearm availability and ownership.

Despite ongoing debate around the efficacies of firearm control (see below for a summary of these), much of the academic literature has to date overlooked the phenomenon of mass shootings. This paper adds to the currently small composition of studies, by comparing the incidence of mass shootings in Australia and the US over a 33 year period (1981–2013), in relation to the advent (or lack thereof) of strengthened firearm regulations. It also contrasts the characteristics of mass shooting events in the two countries to provide further context to where and how firearm controls and other protective factors may or could be effective.

## **Firearm regulations in Australia and the US**

### **Firearm reforms in Australia**

Firearm regulation in Australia is largely the responsibility of the states and territories. Each jurisdiction has its own distinct firearms statute and accompanying regulations that prescribe:

- processes around the acquisition of licenses and permits, registration of firearms, and safe keeping and storage of firearms; and
- offences related to breaches of these provisions, including unauthorised acquisition, possession, supply, manufacture and modification of firearms and ammunition.

Commonwealth firearms legislation pertains to the import and export of firearms and Criminal Code offences on cross-border trafficking of firearms.

A number of critical amendments were made to Australia's firearm laws in the 1980s and early 1990s, with some states (primarily Victoria) strengthening their firearm registration schemes to include long-arms (previously, only handguns needed to be registered) and restricting

access to certain high-powered and so-called 'military-style' firearms. These changes were introduced following mass shooting events in Hoddle Street and Queen Street in Melbourne, and Strathfield in Sydney.

The most significant reforms to Australia's firearm laws however, commenced in the late 1990s, also in response to shooting incidents. The first of these incidents, at Port Arthur in Tasmania where 35 people were killed, led to the National Firearms Agreement (NFA) (1996), initiated by then Prime Minister John Howard, which called for the adoption of consistent firearm legislation in all states and territories to ensure a uniform approach to the regulation of firearms. Among the recommendations in the Agreement were:

- restricted legal possession of automatic and semi-automatic long-arms (where possession is restricted to specified occupational and official purposes such as large animal welfare or destruction);
- nationwide registration of all firearms, with the establishment of an integrated licensing and registration scheme;
- the need to demonstrate 'genuine reason' to obtain, possess or use a firearm (and where 'personal protection' would not be considered such a reason);
- uniform standards for firearm security and storage; and
- established grounds on which a licence can be refused or cancelled and where firearms can be seized (eg conviction for an offence involving violence in the previous five years, contravention of firearm law, subject to an Apprehended Violence Order, Domestic Violence Order or other restraining order) (APMC 2002).

Recommendations from the NFA, which were introduced into state and territory firearm laws in stages, were accompanied by a 12-month national amnesty and compensation buyback scheme enacted through the *National Firearm*

*Implementation Act 1996* (Cth). Around 660,000 newly restricted firearm models were surrendered between 1 October 1996 and 30 September 1997 as part of the amnesty, as well as around 60,000 non-restricted firearms.

A second phase of major reforms followed the Monash University shootings in 2002, during which two people were killed and five injured. While the offender used one handgun during the event, he was found to be carrying an additional four on his person and had another two at his residence. All of these were legally purchased.

The National Handgun Control Agreement (2002) emerged from the subsequent APMC review of handgun regulations, which contained 28 resolutions aimed at restricting the importation, availability and use of handguns, specifically high-powered and easily concealable models.

The 2002 Agreement also contained a resolution on reporting provisions for health care workers. It was recommended that such persons be indemnified from criminal or civil liability if they disclosed their concerns 'that a person may pose a danger if in possession of a firearm or applying for a firearm licence' (APMC 2002: 4).

### **Firearms regulations in the US**

In the US, the possession of firearms is considered a right protected by the second amendment of the US Constitution. With the exception of convicted offenders, US citizens and residents are protected against perceived 'unnecessary burdens' regarding the lawful acquisition, possession, or use of firearms (18 U.S.C. §921(a)(3)). A 2012 report published by the Congressional Research Service estimated that the number of firearms privately owned by Americans varied between 270 million and 310 million. Moreover, the number of handguns privately owned by Americans was estimated at 110 million. The rate of private ownership was estimated at 101.5

firearms per 100 inhabitants (Krouse 2012).

The possession and sale of firearms in the US are regulated at the federal, state and local levels. At the federal level, there are two major statutes that regulate firearms: the National Firearms Act of 1934 and the Gun Control Act of 1968, as amended by the Brady Handgun Violence Prevention Act of 1993. These laws provide some restrictions regarding the accessibility of machine-guns, sawn-off shotguns and rifles, silencers, and armour-piercing ammunition without appropriate licensing and registration (Krouse 2012). The acquisition of semi-automatic weapons firearms is authorised without any restrictions. Federal regulations also require background checks for all unlicensed individuals seeking to purchase a firearm from federal firearms licensees and ban juvenile handgun possession.

However, federal firearm regulations have recognised limitations and loopholes, including the fact that private sales are not subject to background checks. In 1994, a federal legal initiative was introduced to ban semi-automatic weapons and large capacity magazines. For a period of ten years, the Federal Assault Weapons Ban prohibited 18 semi-automatic firearm models considered by firearm control advocates as dangerous and preferred by violent criminals (Koper et al. 2004). The ban expired in 2004 as the US Congress did not renew the regulation.

At the state and local levels, governments can enact regulations that impact licensing, registration, permits, self-defence rules, transportation and possession of firearms in specific locations. For example, a large number of states and cities have prohibited the possession of firearms in certain spaces such as courthouses and college campuses (ie gun free zones). However, firearm regulations vary tremendously from one state to another; for example

some states prohibit concealed weapons and others allow open carry handguns without permits. A few states allow clients in establishments that serve alcohol to carry loaded firearms while most prohibit this practice. Several state legislatures have declared federal laws inapplicable to firearms made and kept in the state.

### Firearm controls and firearm deaths

The effect of firearm controls on firearm deaths (both accidental and non-accidental) has produced lively discussion in politics, the media, the academic literature, and among firearm interest groups (both pro- and anti-firearm). The academic literature, particularly that from the US, is quite prolific, supplemented by assessments from Australia and Canada. These studies, however, have produced mixed, if not contradictory results (eg Altheimer & Boswell 2012).

Some North American studies have suggested that the introduction or tightening of firearm controls led or acted to maintain declines in firearm deaths (see, for example, Blais et al 2011, cited in Langmann 2012; Bridges 2004; Bridges & Kunselman 2004; Cook 1983; Fleegler et al. 2013; Gagne et al 2010; cited in Langmann 2012; Hoskin 2001; Lemieux 2014; Rosengart et al. 2005). Others found no significant effect, and in some cases a counter-effect (ie an increase in some types of firearm death), following the strengthening of firearm controls (Kleck 1983; Kleck & Patterson 1993; Langmann 2012; Mauser & Holmes 1992; Tomislav et al 2013).

However, to produce a conclusive interpretation of these findings, is hindered by the variable foci of these studies, in particular the nature of the controls under consideration. Depending on the study in question, controls have referred to the passage of individual or complementary legislative reforms and differential concepts of what constitutes 'gun availability'.

The series of Australian studies examining the effect of firearm controls on firearm deaths are more uniform in their approach, in that they focus on the same *complement* of reforms (ie those borne from the National Firearms Agreement 1996 and the National Handgun Control Agreement 2002). Nevertheless, the findings and explanations from these studies, like those from the US and Canada, are similarly at variance.

Studies that dispute a relationship between Australian firearm reforms and firearm violence largely come from McPhedran and Baker (see, for example, Baker & McPhedran 2006; McPhedran & Baker 2008; McPhedran et al. 2010), supported by Lee and Suardi (2008). From these analyses, it was concluded there was little evidence that firearm reforms (including the firearm buyback) produced any significant effect on firearm homicide or firearm suicide.

Conversely, analyses from Chapman et al (2006), Leigh & Neill (2010; 2007) and Ozanne-Smith et al (2004), described significant declines in firearm deaths, particularly firearm suicide. Chapman et al (2006) examined rates of firearm homicide and suicide between 1979 and 2003 and described an 'accelerated' rate of decline after 1996 (ie after the introduction of the reforms). While there had been a steady decline in firearm homicide and suicide before 1996 (around 3 percent a year), the rate of decline was more than double (7.5% and 7.4% respectively) after the introduction of the reforms. From 1979 to 1996 there were on average 92.9 firearm homicides per annum. This fell to 55.6 from 1997 to 2003.

Leigh and Neill (2007), in their critique of Baker and McPhedran (2006), argued that a statistically significant decrease in firearm suicide and homicide followed the 1996–1997 firearm buyback (see below). A follow-up study compared state/territory rates of firearm death against buyback rates (Leigh & Neill

2010). The estimated decrease in firearm suicide (74%) was more pronounced in states and territories where the buyback rate was greater, with evidence (albeit less conclusive) this was also the case for firearm homicide.

Ozanne-Smith et al (2004) examined the impact on firearm deaths in Victoria at two different junctures of firearm legislative reform. The first coincided with changes to Victorian firearm legislation in 1998 in response to the Hoddle and Queen Street mass shootings, in which restrictions were placed on the acquisition of semi-automatic long-arms. The second followed nationwide amendments following the NFA in 1996.

The study found that a statistically significant decrease in firearms deaths occurred in Victoria compared with the rest of Australia, between 1979–87 and 1988–96 (ie pre- and post-Victorian firearm legislative reform). For the periods between 1988–96 and 1997–2000, the decrease in firearm deaths was significant for the rest of Australia relative to Victoria. These results suggested that the major impact on firearm deaths in Victoria was a response to the first wave of reforms, with the rest of Australia 'catching up' once reforms were enacted in the remaining jurisdictions (Ozanne-Smith et al 2004).

It is worth noting that an appraisal of individual analyses has formed the basis of some of the argument and counterargument in the Australian literature about the effect of firearm reforms on firearm deaths. While it is not the purpose of this paper to assess the validity of the statistical methods used in these studies, some recognition of the limitations of the data and the analytical techniques is recommended. These limitations, identified by some of the commentators referred to above, include the small number of incidents (particularly homicide), the variable nature of the data, the absence of a control group and the consequent, apparent 'fragility' of some/all

of the tests applied. It is acknowledged that association at best might be discerned using these data, even if the actual effect cannot be agreed upon.

## Method

A mass shooting was defined for the purposes of this paper as an incident that:

- resulted in the death by gunshot wound of four or more persons; and
- perpetrated either at the same site or at multiple sites without interruption ie not including the time taken to travel between sites.

There is definitional variation as to the number of victims killed for an event to be considered a mass murder – ranging from two (eg Lester et al 2005) up to five injured, with at least three not surviving (Dietz 1986). The threshold of four or more fatalities was selected for this study given that it is a common number of fatalities in mass shooting events in the US, and has been adopted by the Federal Bureau of Investigation (Behavioral Analysis Unit 2008; FBI 2014).

The definition adopted here has the advantage of being conservative and includes cases that are not likely to be contested. At the same time, it could be said to significantly understate the problem. A full study of mass shootings arguably should include cases with smaller numbers of fatalities and refer to injuries as well (see Lemieux 2014).

## Australian data

Data on Australian mass shootings were drawn from two sources. The primary source was the Australian Institute of Criminology's National Homicide Monitoring Program (NHMP). The NHMP is a collection of data on incidents, victims and offenders of homicides in Australia, largely drawn from offence records provided by Australian state and territory police services. At the time of analysis, the NHMP compromised data on homicides

from 1989–90 (the first year of collection) to 2012–13.

A total of five mass shooting incidents were identified from the dataset based on the definition applied, with a total of 58 victims deceased from gunshot wounds.

These data were supplemented by data supplied or published on Australian mass shooting incidents preceding 1989–90 (Alpers unpublished; McPhedran & Baker 2011). A total of seven valid events, involving the death of 39 victims from gunshot wounds, were identified from these sources for the period 1981 to 1988.

There was some variation between the two primary sources of data as to the level of detail on incident characteristics. Data that could be obtained from both sources included: location of incident, the type of firearm used in the homicide, mental health status of the offender and relationship between victims and offender.

## US data

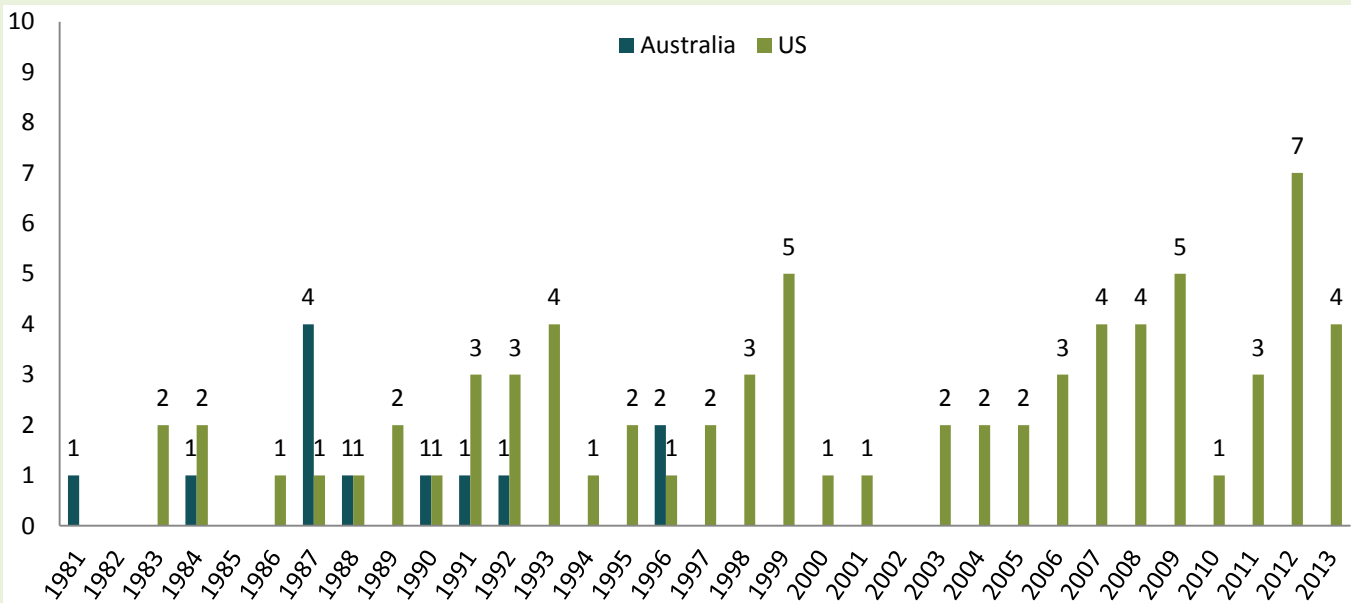
There is currently no official repository of data on mass shootings in the US. The US data were triangulated from three sources:

- data collected by Mother Jones (a non-profit news organisation) as part of an investigation into mass shootings from 1982 to 2012 (see Follmann 2013);
- an analysis of mass shootings prepared for a report on behalf of Mayors Against Illegal Guns (2014); and
- a report prepared for the New York Police Department on 'active shooters' (Kelly 2012)

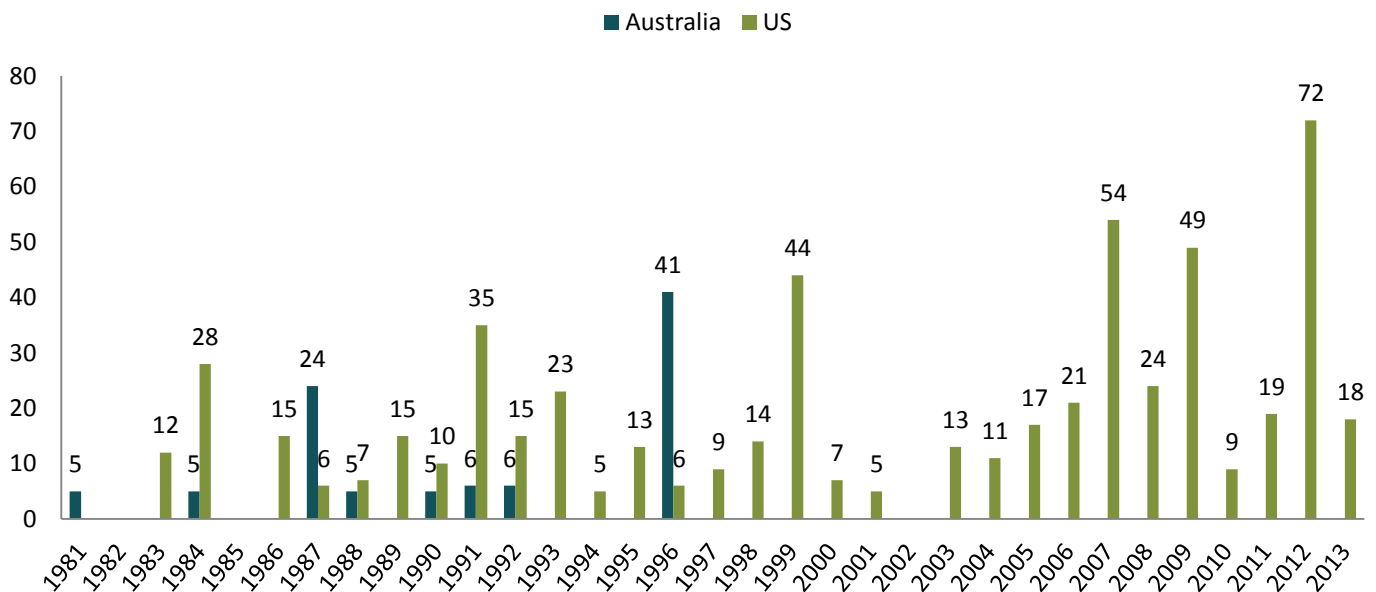
The resultant dataset comprises records on 73 mass shooting incidents with a total of 1,090 victims (576 fatalities and 514 injured). Information in the dataset includes the geographic and site location of the incident, number and types of firearms used, offender characteristics (age, sex, mental health status) and offender outcome.



**Figure 1 Incidents of mass shooting, Australia and the United States, 1981–2013 (n)**



**Figure 2 Number of deaths from gunshot wounds from mass shootings, Australia and the United States, 1981–2013 (n)**



**Limitations to the data**

The very small number of Australian mass shooting cases, and the large number of US cases, limited the treatment of all cases to simple, descriptive statistics. Differences in the availability and comparability of contextual information collected in the Australia and US data sources also limited the extent inter-country comparisons could be made.

**Mass shootings – comparing prevalence and characteristics**

The number of mass shootings in Australia and the US, and the total deaths from these events, are shown in Figures 1 and 2. Twelve mass shooting incidents occurred in Australia in the 33-year period between 1981 and 2013, with the death of 97 people from gunshot wounds (average

victimisation rate 0.41 per 100,000 population). The largest number of victims from a single incident was the 35 people killed at Port Arthur, Tasmania in 1996. Excluding this incident, there were an average 5.6 victims (range = 4–8) per mass shooting event.

Over the same time period, 73 mass shooting incidents occurred in the US. A total of 576 people died from gunshot

wounds (with an average victimisation rate of 1.81 per 100,000). In 12 incidents, 10 or more people died and in four incidents, there were 20 or more victims. The US experienced at least one mass shooting in all but four of the 33 years between 1981 and 2013, with an average 2.2 mass shootings a year. For Australia, the average was 0.4 per year.

The increase in mass shooting incidents in the US between the 1980s (n=9) and 1990s (n=25) was sustained into the 2000s (n=24), and again into the early 2010s (n=15). A 'moderate' decrease in mass shootings coincided with the 1994–2004 Federal Assault Weapon Ban (Lemieux 2014).

In contrast is the clustering of all Australian mass shooting incidents in eight of the fifteen years to the mid-1990s. There were no mass shootings from 1996 to 2013 (but see Discussion). In the US, since 1996, there were 49 incidents with a total of 386 fatalities.

### Characteristics of mass shootings

As noted in the Method, the variable detail available in the Australian and US datasets prevents a comprehensive comparison of mass shooting events between the two countries. Among the data that can be compared is information on the location of the incident, the types of firearms used and the offender status. However, due to the disproportion in the number of incidents between the two countries, any patterns described here should be treated as illustrative only.

#### Location and relationship to victims

Two-thirds of mass shootings (66.7%, n=8) in Australia took place in a domestic setting, in all cases the home of one or more of the victims (see Table 1). Only nine percent (n=6) of US mass shootings, however, were exclusively located in this setting, four of these in the victim's private residence.

The majority of US mass shootings occurred in the current or previous

**Table 1 Location of mass shootings in Australia and the US, 1981–2013**

	Australia		US	
	n	%	n	%
<b>Residential</b>				
Victim's home	8	66.7	4	5.6
Other <sup>a</sup>	0	0.0	2	2.8
Total residential	8	66.7	6	8.5
<b>Community</b>				
Education <sup>b</sup>	0	0.0	13	18.3
Places of worship	0	0.0	2	2.8
Street/footpath	1	8.3	1	1.4
Transport	0	0.0	1	1.4
Total community	1	8.3	18	25.4
<b>Retail</b>				
Shopping mall/stores	1	8.3	5	7.0
Cafes/restaurants	0	0.0	8	11.3
Total retail	1	8.3	13	18.3
<b>Recreational<sup>c</sup></b>				
	1	8.3	6	8.5
<b>Other</b>				
Own workplace	0	0.0	22	32.0
Other <sup>d</sup>	1	8.3	6	8.5
Total other	1	8.3	28	39.4
Total	12	100.0	71	100.0

a: Includes nursing home (n=1) and hotel (n=1)

b: Four of the 13 US mass shootings at educational settings were preceded by shootings at residential locations

c: Includes tourist attraction (n=1); movie theatre (n=1), music theatre (n=1), nightclub/rave party (n=2), spa (n=1) and field/nature (n=1)

d: Other includes administrative offices

Note: Excludes two US incidents in which location(s) was not specified

Source: NHMP 1989–90 to 2010–12 [computer file]; Follmann 2013; Kelly 2012; Mayors Against Illegal Guns (2014)

workplace of the offender (n=22, 32.0%) or at educational facilities, primarily high schools and universities/colleges (n=13, 18.3%). In all but two of the 13 mass shootings at schools, the offender was a previous or current student. Further, four of these incidents were preceded by the offender killing family members at their homes. As the majority of victims in these cases were killed at the educational institutions, these shootings were categorised to this setting.

Just over one in ten US mass shooting incidents occurred at a café or restaurant (n=8, 11.3%) and just under one in ten at a government administrative or similar building (n=6, 8.5%). In half of the latter incidents the offender had had previous

dealings with the government or private entities housed in these locations.

Additional narrative from Australian cases showed that the offender in all but one of the eight domestic-located mass shootings was the estranged or ex-intimate male partner of one of the victims. Other victims in these incidents included children (n=5 incidents), relatives of the victim and/or offender (n=6) and friends/acquaintances of the victim/offender (n=2). The offender did not know the victims in the four, public-located incidents.

The US data do not permit establishing the nature of the relationship between the offender and the victims but a review of media reports attached to these incidents revealed there was familiarity between the

offender and some of his/her victims in at least some of these cases. For example, events recorded as occurring in a residential setting generally involved the death of family members. Further, in a number of public mass shootings, particularly those in 'workplaces', the offender knew one or more of the victims. However, it is not possible to definitively state that the victims were deliberately targeted or just happened to be familiars at the location the offender chose to target.

### Firearms used

Another difference between mass shootings in Australia and the US is the type of firearms used. Information on firearms employed in crime is sometimes rudimentary. Indeed firearms data collected in the NHMP provide only basic firearm type descriptions, as does the pre-NHMP data sourced elsewhere. Nonetheless, data were sufficient to establish a difference between the general type of firearms used in mass shootings in Australia compared with the US.

Long-arms were the sole or primary firearm used in 11 of the 12 Australian mass shootings between 1981 and 2013 where firearm data was available (n=11; 91.7%). In the US, the majority of mass shootings were committed with a handgun. Single or multiple handguns (either semi-automatic pistols or revolvers) were used in almost half of the 73 mass shootings in the US (n=36; 49.3%). In another third (n=25; 34.2%), the offender had a combination of handguns and long-arms in their arsenal.

A semi-automatic rifle was the primary firearm used in the four public-located Australian mass shootings, and was also commonly employed in US mass shootings. From the data available, however, it appears that the firearms used in the domestic-located incidents in Australia were not semi-automatics. The absence of further detail prevents identifying whether these firearms would

be considered less restricted models under the post-NFA classification system.

Data (at least from the US) qualify the study published by Libby and Corzine (2007) which concluded that: [...] all basic weapon types significantly increased lethality. Various situational and contextual variables such as incident circumstance and victim-offender

relationship affected chances of death as well. Automatic weapons were not found to significantly increase lethality when compared to their semiautomatic counterparts.

When considering that many US active shooters were using semi-automatic long-arms and handguns, the number of firearms was the most important factor to explain the number of victims – with contextual and situational circumstances.

### The offender

The offender in the Australian and US mass shootings described here was invariably male (just one female) with an average age of 35.3 years (range 13–66 years). Over half of the offenders in US mass shootings were determined to have had a mental health or psychiatric condition (n=41; 56%). Of the 12 Australian offenders, five were known to have had a mental illness. The mental health status of four of the offenders was unknown or had not been recorded. Seven of the 12 Australian offenders committed suicide before they were apprehended.

The licensed status of the Australian offenders is not clear. The five mass shooting cases drawn from the NHMP returned an 'unknown' response to licence status. However, of the eight cases provided by Alpers (unpublished), seven of the offenders were determined to have held firearm licences at the time of the incident, and one was not.

### Discussion and conclusion

For both Australia and the US, the enactment of restrictive firearm regulations coincided with a noticeable decline in mass shootings incidents and fatalities. However, despite legislative initiatives and contrary to the situation in Australia (but see below), mass shootings continued to occur in the US during the 10 year-period that the US Federal Assault Weapons Ban was effective (1994–2004).

This difference between Australia and the US regarding the impact of firearm reforms can be explained by several factors. First, the rate of firearm ownership in the United States is significantly higher than Australia (101.5 compared to 12.1 per 100 population) and, unlike the firearm reforms in Australia, the US Federal Assault Weapons Ban was not accompanied by significant firearms buy-backs initiatives at the national level (ie it was mainly a city initiative), maintaining the availability of numerous banned firearms in the population.

Second, firearm regulations with a narrow focus such as the US Federal Assault

**Table 2 Firearm types used in mass shootings in Australia and the US, 1981–2013**

Firearm type	Australia		US	
	n	%	n	%
Long-arm(s) only	11	91.7	9	12.3
Handgun(s) only	0	0.0	36	49.3
Long-arm(s) and handgun(s)	0	0.0	25	34.2
Not stated	1	8.3	3	4.1
Total	12	100.0	73	100.0

Source: NHMP 1989–90 to 2010–12 [computer file]; Follmann 2013; Kelly 2012; Mayors Against Illegal Guns (2014)

Weapons Ban, which was aimed at 18 types of assault firearms and reducing the number of ammunition per magazine, seem to produce limited effects on relatively rare violent incidents like mass shootings. In Australia, firearm reforms saw restrictions placed on all semi-automatic firearms, unless required for approved occupational or official purposes.

Third, and probably the most critical factor, is the legal perspective on firearm access that differentiates both countries. In Australia firearm ownership is considered a privilege granted by the State, while in the United States firearm ownership is a right guaranteed by the Constitution. Not only does this difference impact the capacity of lawmakers to legislate effectively on firearms but it also expresses a deep-rooted cultural as well as a historical distinction in the population's perceptions of firearms.

The circumstances of the mass shooting events considered here reveal that in the majority of cases, the offenders shot (if not targeted) persons they were familiar with and/or operated in a known environment such as a primary residence, school or workplace. In several cases, offenders had previously made verbal or written threats but these exchanges were either ignored or undocumented. Further, 56 percent of US offenders and 41 percent of Australian offenders were known to have had mental health issues. These facts raise questions about whether some of these mass shootings could have been averted if noticeable warning signs were (or could have been) acted upon by relatives, neighbours, teachers, co-workers, health professional and/or law enforcement.

This question is important since, in both countries, many of the offenders used firearms that were ostensibly legal and, therefore, *existing* firearm regulations were not effective preventive measures in and of themselves. Laws can help in

considerably reducing the availability of firearms frequently used in mass shootings but, in isolation and particularly in countries such as the US, where regulations are less restrictive and not uniformly distributed, may not prevent motivated offenders from taking action. Therefore, in addition to legal initiatives, schools and workplaces in the US, for example, are developing physical and situational measures to dissuade offenders, protect soft targets and ultimately prevent mass shootings from taking place.

For Australia, the response and outcome has needed to be different. The firearm reforms implemented in the wake of Port Arthur were done in part to prevent such events from occurring in the future. To the extent that no *public* mass shootings involving the use of semi-automatic firearms, characterised by the Port Arthur, Hoddle and Queen Streets and Strathfield incidents, have occurred since 1996 suggest a genuine preventative contribution from tighter firearm regulations.

The impact of stricter firearm regulations on the second, more common category of mass shootings in Australia – the domestic-based events that did not involve highly restricted firearms – may have been achieved in combination with other reform-based mechanisms. Of potential relevance are (a) the amendments to state and territory firearm laws around the circumstances (specifically the application of an apprehended or domestic violence protection order) in which a firearm licence is not granted or is revoked and (b) provisions regarding the disclosure of mental health status of firearm licence applicants/holders by health professionals. It is not the intent of this paper to suggest that domestic mass shooting events are invariably preceded by family or domestic violence and/or the offender has a history of mental illness. The fact that *some* (but not all) of the Australian cases referred to in this paper were characterised as such

indicates that powers to remove firearms from *identified* at-risk individuals may contribute to preventing these kinds of mass shootings from taking place.

In 2014, Australia experienced its first mass shooting since Port Arthur (Partridge 2004); in the US there were at least six in the first seven months of the year (Mayors Against Illegal Guns 2014). The incident in Australia was, like most Australian mass shootings since 1981, a domestic-based event whereas the US shootings involved again a range of domestic and public settings. These and the cases discussed in this paper demonstrate some of the differences in the incidence and characteristics of mass shootings between and within the two countries. The nature of these events also suggests the effect of the scope and specific features of firearm reforms on the incidence of certain categories of mass shooting. Firearm controls, such as those that exist in Australia, which restrict access to specific firearms and contain firearm access to persons at risk of committing harm, are an arguably important means of prevention. Recognising and responding better to the precedents to these crimes offers the opportunity to complement the effect of these controls.

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**Samantha Bricknell is the Research Manager of the Violence and Exploitation Research Program at the AIC.**

**Frederic Lemieux is a Professor of Criminal Justice and Program Director of graduate and undergraduate programs in security and public safety at the George Washington University.**

**Tim Prenzler is a Professor in the School of Criminology and Criminal Justice; and the Australian Research Council Centre of Excellence in Policing and Security, at Griffith University**