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Lessons From Australia's National Firearms Agreement

Daniel W. Webster, ScD, MPH

Australia's political and policy response to a mass shooting in Tasmania in 1996 when an assailant used an assault rifle to murder 35 people and wound 19 others¹ stands in stark contrast to the experience in the United States with such events.



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The mass shooting in Tasmania led to public outcry, and Australia's political parties came together to pass and implement a comprehensive set of gun regulations appropriately titled the National Firearms Agreement (NFA). In the United States—where the firearm homicide rate in 2013 was nearly 23 times higher² than the firearm homicide rate Chapman et al³ report in this issue of *JAMA* for Australia (3.54 vs 0.15 per 100 000 population)^{2,3}—mass shootings occur on an all too regular basis with no definitive response from Congress. Australia's political parties, led by conservative-leaning Prime Minister John Howard, forged compromise to address a critical public safety problem. The US Congress did not advance laws to address important weaknesses in federal gun policies following horrific tragedies, including the murder of 20 children in Newtown, Connecticut, in 2012. Following the recent attack in June 2016 that killed 49 people at an Orlando, Florida, nightclub, Congress is expected to vote on gun safety measures (as of June 20, 2016), although whether any new laws will be advanced remains unknown.

The study by Chapman et al³ in this issue of *JAMA* evaluated whether enactment of Australia's NFA was followed by changes in firearm-related fatalities. The authors provide con-

vincing evidence that the new policies enacted in 1996 appear to have helped prevent future mass shootings; in the 17 years before enactment of these policies (1979-1996), 13 mass fatal shootings (defined as ≥ 5 victims, not including the perpetrator) occurred in Australia, whereas in the 20 years since the law was put into place (1997-2016), there has not been a single fatal mass shooting.³

The authors describe Australia's 1996 NFA as "sweeping uniform gun laws" but only note specifically the ban and buy-back of semiautomatic long guns. The NFA also mandated licensing of all firearm owners and registration of firearms. To obtain a license to possess a firearm in Australia, a person must document a "genuine need," have no convictions for violent crimes within the past 5 years, have no restraining orders for violence, demonstrate good moral character, and pass a gun safety test.⁴ The NFA created uniform standards for securing firearms to prevent theft or misuse, record-keeping for firearms transfers, purchase permits, and minimum waiting periods of 28 days. Some states or territories had some or all of these regulations before the NFA of 1996. However, throughout Australia, prior to the 1996 NFA, there were substantial restrictions and regulations on the purchase, possession, and storage of handguns.⁴ Only security guards and pistol club members could own handguns, and all handguns and handgun transfers had to be registered with the police.⁴

Estimating the effect of public policies on public safety is incredibly challenging, particularly when the policies are national in scope. Evaluating the effects of local initiatives or state

policies provides researchers with opportunities to identify comparison jurisdictions that did not adopt the policy in question and contrast the changes that occurred where the policy was introduced with changes during the same time period in places that did not adopt the policy. Chapman et al³ provided no comparison jurisdiction for Australia's experience with lethal gun violence during the study period, perhaps because there was no adequate comparison.

The principal points of comparison in the report by Chapman et al,³ in addition to the fatal mass shootings, are prelaw vs postlaw trends in firearm homicides and suicides and the same changes in trends for nonfirearm homicides and suicides. Comparisons for policy studies designed to assess evidence of causation, however, should have similar prepolicy trends as was observed for the outcome the policy was designed to affect, as this would suggest that similar determinants are involved in the intervention and comparison populations.⁵ Chapman et al used nonfirearm homicide and suicide rates as a point of comparison for firearm homicides and suicides, but during the prelaw period, mean annual rates of nonfirearm homicides and suicides were increasing (+2.1% per year) whereas mean annual rates of firearm homicide and suicide were trending downward (-3% per year). Thus, the utility of comparisons between shifts in trends for firearm and nonfirearm mortality for purposes of causal inferences relevant to Australia's NFA is questionable. However, the data do allow rejection of the hypothesis that Australia's gun restrictions were associated with method substitution (ie, similar increases in nonfirearm homicides and suicides as decreases in firearm homicides and suicides) because nonfirearm mortality declined following the law.

Chapman et al³ also demonstrate that the postlaw mean rate of decline in firearm suicide rates (4.8% per year) was greater than the mean rate of decline in that outcome prior to the law (3.0%). There was a similar, in percentage terms, greater mean rate of decline in firearm homicides after the gun reforms (5.5%) than occurred before the law (3.1%). The statistical tests comparing these trends, however, are only meaningful if it is assumed that, had there been no policy change in 1996, trends in firearm homicide and suicide would have stayed the same as in the years prior to the law. That is a questionable assumption. Had Australia not implemented the 1996 NFA and its firearm homicide trends changed in ways similar to what occurred in neighboring New Zealand, the United States, or Canada beginning in 1997, Australia may have experienced a much slower rate of decline followed by a plateau or increase in firearm homicide rates rather than the more rapid decline the country experienced after adopting the restrictions on semiautomatic long guns and other increased gun regulations. Similarly, firearm suicide rates in New Zealand and Canada did not decrease more rapidly beginning in 1997 as did Australia's rates, and the United States has experienced noteworthy increases in firearm suicide rates for 2007-2014.⁶ In short, the statistical comparisons in the rate of change in Australia's firearm homicide and firearm suicide rates between prelaw and postlaw periods could significantly understate the association between the policy change and the decline in firearm mortal-

ity if the Australia's counterfactual for firearm mortality was to mimic trends in these other countries.

What is most clear from the current study is that Australia's NFA coincided with an elimination of mass killings with firearms. It is difficult to pinpoint precisely which aspect of the policy contributed to this success, but the substantial reduction in the population's exposure to semiautomatic long guns capable of accepting large-capacity magazines (LCMs) for ammunition is likely to have been key. Examinations of fatal mass shootings in the United States have found that when assault weapons or pistols with LCMs are used in these shootings, the number of victims shot is about 2.5 times higher than in mass shootings with other firearms.^{7,8}

In the United States, assault weapons and LCMs figure prominently in public mass shootings that do not involve more common types of crime, accounting for 64% of the incidents (35/55) and 81% of the victims (688/851).⁸ There was a federal ban on the sale of assault weapons and LCMs from 1994 to 2004, but the law was written in a way that made it possible for gun manufacturers to perform slight modifications to make military-style weapons legal for sale. Importantly, the US law did not follow Australia's NFA model and ban the possession of assault weapons or LCMs and recover the weapons purchased before the ban.

There has been a surge in sales of semiautomatic assault-style rifles during the past decade.⁹ The mean number per month of victims of mass shootings with assault weapons or pistols with LCMs has increased more than 3-fold (1.1 to 3.8) from the period the ban was in effect (September 13, 1994, to September 13, 2004) to the nearly 12 years since the ban expired, including the worst mass shooting in US history in which 49 individuals were murdered and 53 others wounded in an Orlando, Florida, nightclub on June 12, 2016.⁸

The nature of the policy change in Australia in 1996 and the available data to evaluate its relationship with firearm fatalities are such that it is not possible to derive a precise measure of its potential benefit on public safety. However, a reasonable interpretation of the data from the study by Chapman et al³ is that Australia's restrictions on guns enacted in 1996 likely spared the country from a significant number of fatal mass shootings, which had been occurring at a rate of almost 1 fatal mass shooting per year. The observed changes in nonfirearm homicides and suicides that coincided with the law make it difficult to interpret the accelerated reductions in firearm homicides and suicides after the 1996 NFA because prelaw trends in rates for fatal shootings were different than rates for firearm homicide and suicides. That the rate of reductions in firearm homicides and suicides accelerated and strengthened following the 1996 NFA represents suggestive evidence, although not proof, that the gun-related reforms and measures enacted in Australia were directly related to meaningful reductions in homicides and suicides.

What can the United States take away from the experience of Australia's NFA and the findings reported by Chapman et al?³ Political, cultural, and legal challenges make it highly unlikely that the United States would implement comparable policies. Yet the experience in Australia over the past 2 decades since enactment of the NFA provides a useful

example of how a nation can come together to forge life-saving policies despite political and cultural divides. Australia has comprehensive regulations to limit the misuse of handguns as well as long guns that are more restrictive than anywhere in the United States, even in those communities with the strictest gun laws. If US firearm homicide rates were only 10 times as high as firearm homicide rates in Australia, rather than 23 times as high,² there would be substantially fewer homicides.

There is evidence that some US policies at the state level (eg, handgun purchaser licensing, gun restrictions for domes-

tic violence offenders, gun restrictions for violent misdemeanants, gun safe storage laws) are associated with reductions in firearm-related violence and fatalities.¹⁰⁻¹³ Research evidence should inform the way forward to advance the most effective policies to reduce violence. However, research alone will not be enough. Australian citizens, professional organizations, and academic researchers all played productive roles in developing and promoting evidence-informed policies and demanding that their lawmakers adopt measures to prevent the loss of life and terror of gun violence. Citizens in the United States should follow their lead.

ARTICLE INFORMATION

Author Affiliation: Johns Hopkins Bloomberg School of Public Health, Center for Gun Policy and Research, Baltimore, Maryland.

Corresponding Author: Daniel W. Webster, ScD, MPH, Johns Hopkins Bloomberg School of Public Health, Center for Gun Policy and Research, 624 N Broadway, Room 593, Baltimore, MD 21205-1996 (dwebster@jhu.edu).

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