

Improving the Potential Effectiveness of Gun Buyback Programs

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Background

Since the tragic mass shooting in Newtown CT, dozens of cities and towns throughout the U.S. have implemented gun buyback programs to remove guns from their communities. Gun buybacks involve a government or private group paying individuals to turn in guns they possess. Participants turning in guns are paid via cash disbursements, gift cards, or some other compensation. To encourage participation by criminals, these programs do not require participants to identify themselves and do not maintain any records of the individuals who turned in firearms. The recovered guns are then destroyed. For instance, at the end of July 2013, the Los Angeles County Sheriff's Department and several local police departments oversaw the destruction of some 5495 firearms recovered from recent buybacks in several jurisdictions including Los Angeles, Santa Monica, Inglewood, and Culver City.¹ The participating agencies claimed record numbers of gun recoveries in the wake of the Newtown tragedy.

Gun buybacks, amnesties, and exchange programs have wide appeal for communities affected by gun violence, for understandable reasons. The theoretic premise of gun buybacks is that these programs will reduce the number of firearms available to criminals, those with mental illnesses, and other high-risk individuals who may harm themselves or others with a gun. Moreover, these programs arguably empower participants and supporters to take an active role in the fight against gun violence and, as a result, believe that they are making a difference in their communities.

Responding to the Research Evidence

Early studies in the U.S. identified shortcomings that limit the potential effectiveness of gun buybacks.²⁻⁴ First,

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the recovered firearms were disproportionately old, broken, of low caliber and ammunition capacity, and differed from the firearms most frequently used in crime. Moreover, many of the individuals who turned in firearms were middle-aged gun owners and not older adolescents and young adults, who are at highest risk for involvement in criminal activity.

The typical gun buyback program yields less than 1000 guns.⁵ Relative to the existing stock of some 300 million firearms in civilian hands, the small scale of these programs also makes it difficult to generate the desired effects on the availability of guns to criminals and others. As such, it is not surprising that impact evaluations have failed to find any link between gun buyback programs and subsequent decreases in gun violence. In 2005, the National Academies' Committee to Improve Research Information and Data on Firearms concluded that the theory underlying gun buyback programs is flawed and that the empirical evidence demonstrates the ineffectiveness of these programs.⁵

Outside the U.S., there have been a small number of very large-scale gun buybacks in response to high-profile mass murders with firearms. After a lone gunman killed 35 people in Tasmania in 1996, for example, the Australian government prohibited particular kinds of long guns and provided funds to buy back all such firearms in private hands. Some 640,000 firearms, representing about 20% of the estimated civilian stock of firearms, were bought by the government at an average price of \$350 per long gun.⁶ (The 640,000-firearm estimate may be too low; other investigators have suggested that more than 1 million firearms were recovered.)

The most comprehensive long-term evaluation of the Australian gun buyback found that the program led to substantial decreases in gun suicide and gun homicide rates.⁶ Notably, the states with the largest numbers of firearms that were bought back experienced the largest decreases in gun deaths. The evaluation concluded that by withdrawing firearms from the civilian stock on such a large scale, Australia had saved itself 200 gunshot deaths and \$500 million (U.S. dollars) in costs each year. No mass murders have occurred in that country since the program was completed.

In the U.S., gun buyback program implementers have responded to the existing empirical evidence by developing strategies to increase the likelihood that

high-risk guns are turned in by high-risk individuals. These strategies have included targeted advertising to young people in urban neighborhoods affected by high levels of gun violence and graded incentives to encourage the recovery of handguns and assault weapons. The current paper reports the effects of such measures on the nature of firearms recovered in buybacks in Boston MA.

The Boston Experience

For the current paper, official data were acquired on the characteristics of firearms recovered from two gun buybacks in Boston. The first program, implemented in 1993 and 1994, was similar in nature to typical gun buybacks operating in the U.S. during that time period. The second program, implemented in 2006, included several new programmatic elements designed to increase the recovery of handguns possessed by young people in high-risk neighborhoods. Simple descriptive measures were used and the significance of differences was assessed using the two-proportions *z*-test.

In 1993 and 1994, with rates of firearm-related violence at historic highs, a nonprofit crime-prevention agency conducted buybacks with the Boston Police Department (BPD) and the Suffolk County District Attorney. These two buybacks offered \$50 per gun and recovered 2158 guns. The Bureau of Alcohol, Tobacco and Firearms (ATF) attempted to trace the chain of ownership, from manufacturer to first retail purchaser, of 1566 (72.6%) of these firearms: all 1288 firearms from 1993, but only the first 278 (31.9%) of 870 firearms from 1994. BPD and ATF stopped comprehensive tracing efforts after finding that many firearms were not traceable. Only 11% (173) of 1566 recovered guns submitted for tracing were successfully traced to the first retail purchaser. BPD noted that licensed gun dealers from the suburbs used the event to clear their inventories of second-hand firearms that were worth less than the \$50 incentive.

Boston experienced another concerning increase in gun violence during the early to mid-2000s. The yearly number of fatal and nonfatal shootings increased by almost 41% from 268 victims in 2004 to 377 victims in 2006. In response, Boston Mayor Thomas M. Menino, BPD, and numerous faith-based and community organizations launched the “Aim for Peace” gun buyback program in 2006. It included four new programmatic elements designed to increase the number of handguns brought in from neighborhoods suffering from high levels of violence:

1. \$200 Target gift cards were given for each handgun. Rifles and shotguns were accepted, but no incentives were provided.
2. Individuals who turned in firearms had to prove that they were Boston residents before receiving a gift card.

The names of participants were not associated with any recovered guns or recorded in any way.

3. As in 1993–1994, BPD district stations served as gun drop-off locations. However, recognizing that some residents may not be comfortable walking into a police station with a gun, BPD also set up drop-off operations at eight community locations, such as churches and nonprofit organization offices, in neighborhoods with high rates of gun violence.
4. A sophisticated communications campaign sought to engage Boston’s youth via an Internet podcast, more than 30 billboards in strategic locations frequented by city youth, and saturation advertising on city buses, subway cars, train stations, and bus stops.

The program operated from June 12 through July 14, 2006, and recovered 1019 firearms; ATF attempted to trace all of them.

Just over half of the 1993/1994 firearms were handguns, and there were relatively few of the higher-powered, semiautomatic pistols used in youth gun violence (Table 1). The 2006 buyback netted significantly more handguns and in particular semiautomatic pistols in .380, 9 mm, .40, and .45 calibers. Although similar portions of guns purchased in the 1993/1994 and 2006 buybacks had obliterated serial numbers, a much higher proportion of the 2006 buyback guns were successfully traced by ATF. These traced firearms were more likely to have been purchased within 3 years of their first retail sale and more likely to have originated from dealers in southern states along Interstate 95—both of which are indicators of illegal gun trafficking.⁷ Increasing the number of recovered guns with these indicators provides law enforcement agencies with additional opportunities to identify and apprehend gun traffickers. Limitations to data specificity prevented an exact count of recovered assault-type weapons; they were uncommon throughout.

The available data suggest that improvements in the guns recovered were driven by changes in buyback design features rather than secular changes in the underlying distribution of crime guns during the intervening years. In 1993 and 1994, the BPD submitted 1637 recovered crime guns to ATF for tracing: 75.8% were handguns and 48.4% were traceable. In 2006, the BPD submitted 554 recovered crime guns to ATF for tracing: 89.5% were handguns and 53.9% were traceable. The 2006 buyback guns more closely resembled the stock of crime guns. The BPD did not examine ballistic images of any bullets or cartridge casings generated by test-firing the 2006 buyback guns. Thus, it is not possible to determine whether any of the recovered firearms had been previously used in a violent crime.

The level of assaultive gun violence in Boston decreased after the 2006 gun buyback. The number of

Table 1. Characteristics of firearms purchased in Boston gun buybacks, % unless otherwise indicated

	1993/1994	2006	% difference
Firearms, <i>n</i>	1556	1019	
Handgun	56.1	85.7	+29.6*
Semiautomatic pistol	17.1	34.7	+17.6*
.380, 9 mm, .40, and .45 caliber	1.9	26.1	+24.2*
Obliterated	4.3	4.1	−0.2
Traceable	11.1	33.9	+22.8*
≤ 3 years from retail sale	4.1	9.2	+5.1*
First sold at retail in Interstate-95 states	15.7	18.8	+3.1*

Note: The significance of differences was assessed using the two-proportions z-test.

* $p < 0.05$

fatal and nonfatal shootings dropped by 14.1% from 377 victims in 2006 to 324 victims in 2007. The yearly number of fatal and nonfatal shootings in Boston decreased steadily to 264 victims in 2010 (representing a 30% reduction from 2006). Unfortunately, it is not possible to determine the independent gun violence reduction effects of the gun buyback program relative to two other gun violence reduction programs in Boston. Soon after the completion of the gun buyback, the BPD implemented a revitalized Operation Ceasefire program, which focused resources from criminal justice, social service, and the community on halting outbreaks of gun violence among feuding street gangs. The BPD also launched its Safe Street Teams initiative that used community problem-solving techniques to control violent hot spot locations in Boston. Controlled evaluations of both programs suggest immediate violence reduction effects that are reflective of direct changes in gun violence behaviors by high-risk youth in high-risk settings rather than a general reduction in the availability of firearms.^{8,9}

Implications for Policy and Practice

Despite empirical evidence that suggests gun buybacks do not reduce violence, municipalities continue to implement these programs. As evaluators of such programs, the authors have been concerned in the past that communities might conclude that they had discharged their obligations to reduce gun violence after implementing buyback programs and move on to the other important issues they face. That no longer seems likely. Further, it is important to remember that gun violence reduction is only one of multiple goals that gun buyback programs are intended to serve. Other goals, such as mobilizing communities, promoting awareness of gun violence and youth violence, providing safe-disposal opportunities, and changing public views toward firearms,

may be well served by gun buybacks. If these goals are met, then gun buybacks will continue to be worthwhile.

Because gun buyback programs seem likely to remain key strategies in local gun violence reduction portfolios, they should be implemented with program elements that maximize their potential to reduce violent gun injuries. These limited, single-city data suggest that the design of gun buyback programs can affect the nature of the firearms that are recovered and improve their potential effectiveness as violence prevention measures. Future programs should be used to test these and other design elements to determine whether these programmatic modifications could have a measurable impact on gun violence.

One of the current authors once described gun buyback programs as “a triumph of wishful thinking over all the available evidence.”¹⁰ Such skepticism is no longer justified. Buybacks may not directly reduce rates of firearm-related violent crime, but they can be an important element in a broader community-based effort to prevent violence.

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