

Background for PSR/Sacramento's Position Statement on Firearm Injury Prevention

Prepared by Bill Durston, MD
Vice President, PSR/Sacramento

Firearm related deaths and injuries in the United States: the scope of the problem

Firearm-related deaths and injuries are a serious public health problem in the United States. The problem typically receives the greatest public attention following high profile mass shootings such as the December 14, 2012 massacre at Sandy Hook Elementary School in Newtown, Connecticut, in which 20 children and six adults were killed. As tragic as such mass shootings are, they are only the tip of a much larger epidemic of firearm-related deaths and injuries in our country. On an average day in the United States, 86 U.S. civilians, including five youth age 18 or under, are killed by guns.¹ It is estimated that there are at least two to three times this many non-fatal gunshot wounds every year in our country.^{2,3}

Firearm related deaths and injuries are much more common in the United States than in other democratic industrialized countries. The rate of firearms-related deaths for U.S. children younger than 15 years of age is nearly 12 times higher than in the other leading industrialized nations of the world.^{4,5} Overall, the firearm related death rate in the United States is 7.5 times higher than in the in the world's other 22 high income countries.

Between July 1, 1994 and June 30, 1999, the Centers for Disease Control and Prevention reported that there were 220 separate shooting incidents on high school campuses in the United States, with 253 deaths.⁶ The authors of this study concluded that school-related shootings were "rare." The Canadian press has noted that school-related shootings are "uniquely American," and that it is also uniquely American for a national health agency to regard 220 separate high school shooting incidents in 5 years as "rare."⁷

Although many factors contribute to firearm related deaths, including mental illness, substance abuse, socio-economic disparity, media violence, and problems with the criminal justice system, the factors which most clearly distinguish the United States from other democratic, industrialized countries that have much lower rates of firearm-related deaths, as well as much lower overall rates of homicide and suicide, are the much less stringent gun control laws in the U.S. and the associated widespread availability of firearms.^{8,9,10} Within the United States, as well, the regional rates of firearm-related fatalities show a direct correlation with rates of firearm ownership.¹¹

The Myth of "Guns for Protection"

It is estimated that there are approximately 200-300 million privately owned firearms in the United States,¹² and that 38-48% of adults keep firearms in their home.¹³ Most persons who keep handguns at home cite "personal protection" as the reason for having firearms.¹⁴ In fact, however, several studies in the medical literature have shown that guns in the home are much more likely to be used to kill,^{15,16} injure,¹⁷ or intimidate¹⁸ a household member than to protect against an attacker. In one of the best known studies on this subject, it was found that for every one time a gun in the home was used to kill an intruder, there were 43 firearm-related homicides, suicides, or accidental deaths involving household members.

Numerous other studies in the medical literature have shown that the presence of a gun in the home is associated with an increased risk of a household member becoming a victim of homicide or suicide.^{19,20,21,22,23} Most school shootings, including the Sandy Hook Elementary School massacre, are committed with guns brought from home.²⁴ Other studies have shown that the purchase of a handgun is associated with an increased risk of the purchaser becoming a victim of suicide or homicide over the ensuing five to six years.^{25,26}

The evidence in the medical literature that widespread firearm availability is associated with more risk than benefit is consistent with data from law enforcement agencies and other government sources. An analysis of crime and criminal victimization data from 1987-1992 showed that the ratio of violent crimes committed with a handgun to protection of person with a firearm was 15:1.²⁷ A more recent study showed that assault victims who were carrying a gun at the time of the assault were 4.5 times more likely to be shot and 4.2 times more likely to be killed than assault victims who were not carrying a gun.²⁸

The contention that "responsible gun ownership" deters crime is based largely on anecdotal reports and quasi-scientific studies published outside of the medical literature. One of the most often quoted studies claims that there are 2.5 million incidents of defensive gun use annually in the United States.²⁹ This study was a telephone survey in which none of the alleged defensive gun uses reported by telephone respondents was actually confirmed. The estimate of 2.5 million defensive gun uses annually in this study is an extrapolation based on the result that 66 out of 4,977 respondents to the survey (1.3%) reported using a gun defensively in the past year. Other authors have pointed out the inherent fallacy in extrapolating from 66 unconfirmed reports of defensive gun use to the conclusion that there are 2.5 million defensive gun uses annually in the U.S.^{30,31} It has also been noted that a higher portion of the population reports having had contact with space aliens than having used a gun defensively.³²

Another study frequently cited by opponents of gun control purports to show that allowing private citizens to carry concealed weapons reduces crime.³³ Serious methodological flaws have also been noted in this study,^{34,35} and its conclusion is not consistent with other studies in the criminology literature^{36,37} In a review of the literature

on firearms and violence, the Committee on Law and Justice of the National Academy of Sciences recently concluded that there is no credible evidence that the carrying of concealed weapons by private citizens reduces crime.³⁸

Effectiveness of Gun Control Laws

As one would expect from the data linking firearm availability with firearm-related deaths, injuries, and crimes, there is substantial evidence that enactment and enforcement of legislation which reduces firearm availability is effective in reducing firearm-related deaths and injuries.^{39,40,41,42,43,44,45,46,47} There is no credible evidence to support claims by the opponents to gun control that reducing firearm availability is associated with an increase in non-firearm related crimes. On the contrary, at least one study has shown that regions in the United States with stricter gun control laws have lower rates of rape and robbery.⁴⁸ Conversely, another study has shown that states with the highest firearm ownership rates also have the highest overall murder rates.⁴⁹

From 1993 to 2000, there was a 28% drop in overall firearms mortality in the United States. The beginning of this decline coincided with the passage of the federal Brady Act, requiring background checks before purchase of a firearm from federally licensed firearm dealers, and the federal Assault Weapons Ban, restricting the new purchase of certain semiautomatic firearms, as well as with many other state and local firearm ordinances, suggesting that these measures may have had a positive effect.⁵⁰ Gun control opponents argue that it was not the Brady Act, the Assault Weapons Ban, and other gun control measures that were responsible for the decline in firearm-related deaths over this period, but rather other factors, such as improvements in the economy, waning use of crack cocaine, and tougher sentencing laws for criminals. One study of the effectiveness of the Brady Act found a statistically significant reduction in firearm-related deaths only in the category of suicides in individuals 55 years or older.⁵¹ This article has been widely misquoted as proving that the Brady Act was ineffective in reducing firearm-related deaths in other categories. In fact, though, the authors concluded that difficulties in controlling for the many variables involved did not allow a reliable analysis of the overall effectiveness of the Brady Act. What is known for certain is that from the date of implementation of the Brady Act in 1994 to the year 2002, background checks required by the Brady Act led to the rejection of 976,000 gun sales.⁵²

The mass shooting on April 16, 2007, in which Seung-Hui Cho, a student with a history of mental illness, shot and killed 32 fellow students and faculty members and injured at least 15 others at Virginia Tech University before killing himself, points out another one of the shortcomings of the Brady Act.⁵³ The shooter was suspected by fellow students and faculty of being mentally ill. He had been ordered by a Virginia judge in 2005 to undergo outpatient treatment for mental illness. The State of Virginia did not report him, though, to the national database which the Brady Act depends upon to identify persons prohibited from purchasing handguns.⁵⁴ As a result, Seung-Hui Cho had no difficulty in buying the two semi-automatic handguns he used in the Virginia Tech massacre at a

Virginia gun store. It is suspected that many other states do not compulsively follow the reporting provisions of the Brady Act.⁵⁵

Another shortcoming of the Brady Act is that it does not require background checks at gun shows for handgun sales by private citizens who are not federally licensed firearm dealers. Sales of handguns to persons who would be ineligible to purchase firearms under the Brady Act provisions has been reported to be rampant at gun shows, and Congress has repeatedly failed to pass legislation closing the gun show loophole.⁵⁶

The effectiveness of the federal Assault Weapons Ban has similarly been questioned.⁵⁷ Opponents of the ban argue that the types of firearms prohibited under the ban are really no different from other semi-automatic weapons, except for the high capacity magazines that they fire. In a study commissioned by the Brady Center to Prevent Gun Violence and conducted by former officials of the Bureau of Alcohol, Tobacco, and Firearms, however, it was found that percentage of assault weapons traced to crime dropped from 4.8% to 1.6% over the 10 year life of the ban (a relative difference of 66%).⁵⁸ This study estimated that had the ban not been in effect, an additional 60,000 assault weapons would have been traced to crimes over the 10 year life of the ban.

As demonstrated by controversies surrounding the Brady Act and the federal Assault Weapons Ban, the effectiveness of individual firearms injury prevention measures is difficult to assess using typical medical research methodology. Among other limitations, investigators are not able to randomly assign “treatment” and “control” groups; it is difficult to control for confounding variables; there is not a universal reporting system for non-fatal firearms injuries; and the extent and effect of illegal gun trafficking is very difficult to assess.⁵⁹ Applying the public health model of disease control to firearms injuries, however, one would expect that the most effective intervention would be to eradicate the vehicle of injury (firearms) from the environment.⁶⁰ Since handguns account for approximately 70-80% of all firearms-related homicides,⁶¹ suicides,⁶² and accidental deaths,⁶³ but only about one third of all firearms owned, reducing or eliminating the availability of handguns would be expected to be a particularly effective intervention. In support of this argument is the observation that the ban on new handgun purchases which was imposed in Washington D.C. in 1976 was followed by a 25% drop in firearm related homicides and a 23% drop in firearm related suicides over the next 10 years. No similar decline was seen in neighboring states, and there was no compensatory rise in non-firearm-related homicides and suicides.

The Second Amendment and Firearm Related Legislation

Although interpretation of the Second Amendment and involvement in the legislative process are not, strictly speaking, responsibilities of the medical profession, physicians are governed in their practice and guided in formulating policy recommendations by the laws of the land, including the U.S. Constitution. Moreover, the physicians and other health care professionals have a long history of constructive involvement in the legislative process in the arena of public health. Physicians interested in firearm injury

prevention should be familiar, therefore, with the Second Amendment and firearm related legislation.

The full text of the Second Amendment reads, “A well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed.” Opponents of gun control typically omit the first portion of the Second Amendment, which refers to “a well-regulated militia,” and cite only the last phrase referring to the “right to bear arms.” Prior to 2008, it had been repeatedly established in Supreme Court decisions,^{64,65} in decisions of lower courts, and in reviews by legal historians^{66,67} that the Second Amendment was intended to protect the rights of states to maintain armed militias, such as the current day National Guard, and that it did not imply a right of individual citizens to own firearms. The late Supreme Court Chief Justice Warren Burger stated that the misrepresentation of the Second Amendment as guaranteeing an individual right to own guns “...has been the subject of one of the greatest pieces of fraud, I repeat the word 'fraud,' on the American public by special interest groups that I have ever seen in my lifetime.”⁶⁸

In 2008, in a narrow 5-4 decision, the Supreme Court reversed decades of legal precedent, including prior Supreme Court decisions in 1939 and 1980, in ruling that Washington D.C.’s ban on new handgun acquisition violated the Second Amendment.⁶⁹ The five member majority included justices Alito and Roberts, recently appointed to the court by President George W. Bush, both of whom had sworn under oath during their confirmation hearings that they would be guided by prior Court precedents. The same five member majority ruled again in 2010 that Chicago’s hand gun ban violated the Second Amendment.⁷⁰

Since the reinterpretation of the Second Amendment by the Supreme Court in 2008 and 2010, hundreds of lawsuits have been filed against state and local governments by gun control opponents intent on overturning existing gun control laws. Most of those lawsuits have been rejected on the basis that the 2008 and 2010 Supreme Court rulings applied only to handguns of the type typically purchased “for protection.”⁷¹ The full implications of the Court’s reinterpretation of the Second Amendment remain to be seen.

A summary of state and local firearm regulations is beyond the scope of this monograph. The federal Brady Act and Assault Weapons Ban, both of which were enacted in 1994, have been discussed briefly, above. Congress and President George W. Bush allowed the Assault Weapons Ban to lapse in 2004, though the Brady Act is still in effect. In the words of former U.S. Congresswoman Gabrielle Giffords, though, who was critically wounded by a gunshot to the head on January 8, 2011, at a public forum near Tuscon, Arizona, in a mass shooting in which six people, including a 9 year old girl and a district court judge, were killed, and 12 others were wounded:

In response to a horrific series of shootings that has sown terror in our communities, victimized tens of thousands of Americans, and left one of its own bleeding and near death in a Tucson parking lot, Congress has done something quite extraordinary — nothing at all.⁷²

As Congresswoman Giffords implies, Congress has taken no significant steps toward reducing firearm related injuries and deaths since 1994 when the Brady Act and Assault Weapons Ban were enacted. It would be incorrect, though, to state that Congress has done “nothing at all” on the firearm issue. Over the past two decades, under the influence of the National Rifle Association and other pro-gun organizations, Congress has passed legislation reducing funding for the Centers for Disease Control and Prevention to study firearm related injuries;⁷³ legislation imposing a ban on the use of any federal grant funding for advocating gun control;⁷⁴ legislation providing special immunity from products liability lawsuits for gun manufacturers and dealers;⁷⁵ and legislation requiring the Bureau of Alcohol, Tobacco, and Firearms (ATF) to destroy background check data within 24 hours of gun purchases and preventing the ATF from sharing crime gun trace data with local governments and the public.⁷⁶ Congress also included a provision in the Affordable Care Act which states that wellness and prevention portions of the law could not include health care providers asking patients about guns in the home.⁷⁷ It is extraordinary, as Congresswoman Giffords states, that Congress has taken no constructive action since 1994 to curb the epidemic of firearm related deaths and injuries in the United States. It is even more extraordinary that the actions that Congress has taken on the firearm issue have been in the direction of suppressing research and data sharing, protecting the firearm industry from civil liability, and discouraging health care providers from counseling their patients about the risks of guns in the home. A former editor of the New England Journal of Medicine used the term, “a partisan assault on science” to describe the influence of the gun lobby on Congress’s approach to the firearm injury epidemic.⁷⁸

*Physicians’ Attitudes and the Positions of Other Medical Organizations
Concerning Firearm Injury Prevention*

Surveys suggest that most pediatricians,^{79,80,81} internists,⁸² and surgeons believe that physicians should be directly involved in firearm injury prevention, yet few physicians ask their patients about the presence of guns in the home or counsel them concerning the risks of firearm ownership or unsafe gun storage.⁸³ The state of Florida adopted legislation in 2011, supported by pro-gun groups, threatening physicians with disciplinary action for providing such counseling, and similar legislation has been introduced in at least five other states.⁸⁴ The Florida law was subsequently struck down by a federal judge,⁸⁵ but as noted above, the federal Affordable Care Act also discourages counseling regarding the risks of guns in the home.

Previous studies on the effectiveness of firearm injury prevention counseling have shown mixed results when a change in patient or parent behavior was considered to be the desired outcome. One study of an intensive, community-based multi-media campaign which included 10-15 minutes of tailored counseling for participant gun owners showed large, statistically significant improvements in the percentages of participants who stored guns safely following the intervention.⁸⁶ A study of brief office counseling by family

physicians regarding safe storage of firearms also showed a statistically significant improvement in safe storage after the counseling,⁸⁷ as did a study of gun safety counseling and a gun lock giveaway program in a predominantly Hispanic pediatric clinic.⁸⁸ On the other hand, a study of brief counseling by pediatricians concerning safe firearm storage practices in an HMO-based well child clinic showed no significant change in parents' behavior after counseling.⁸⁹ Studies of programs aimed directly at children and youth have also shown mixed results. A committee of the National Research Council investigating the issue of firearm violence reviewed numerous such programs, including the NRA's "Eddy Eagle" gun safety program, and found no definite evidence that such programs had a beneficial effect in reducing risky behavior.⁹⁰ The committee noted that such programs could actually increase the allure of guns for children and youth.

Numerous physician specialty associations, including the American College of Physicians,⁹¹ the American Academy of Family Physicians,⁹² and the American College of Surgeons,⁹³ support measures to reduce firearms violence. In 1998, the American College of Emergency Physicians (ACEP) endorsed the Eastern Association of Surgery for Trauma position paper on violence in America.⁹⁴ The EAST position paper called for restrictions on private ownership of handguns and licensing and registration of all individual firearms, in addition to other measures to reduce overall violence.⁹⁵ Following the 2000 presidential election, however, ACEP rescinded its endorsement of the EAST position paper, stating instead that the organization deplored "the improper use of firearms resulting in death and injury."⁹⁶

The American Academy of Pediatrics (AAP) has taken the strongest stand in favor of gun control. In a position paper published in April, 2000, the AAP stated, "Firearm regulation, to include bans of handguns and assault weapons, is the most effective way to reduce firearm-related injuries."⁹⁷ Following the 2008 and 2010 Supreme Court decisions overturning handgun bans in Washington D.C. and Chicago, the AAP modified its position to reflect the Court's reinterpretation of the Second Amendment, stating:

The AAP affirms that the most effective measure to prevent suicide, homicide, and unintentional firearm-related injuries to children and adolescents is the absence of guns from homes and communities. Although the US Supreme Court ruling in the case of *MacDonald v City of Chicago* struck down comprehensive local and statewide firearm bans, pediatricians should continue to advocate for the strongest possible legislative and regulatory approaches to prevent firearm injuries and death.

Summary and Conclusion

Firearm related deaths and injuries are a serious public health problem in the United States and are much more common in the U.S. than in other high income democratic countries. Lax gun control laws and the associated widespread availability of firearms in the United States are major factors in the excess number of firearm related deaths and injuries in our country. There is overwhelming evidence that there is no net protective benefit from civilian firearm ownership. On the contrary, guns in our homes and in our communities are much more likely to be used to kill or injure innocent civilians than to protect them. The U.S. Supreme Court's radical reinterpretation of the Second Amendment to the U.S. Constitution in 2008 and 2010 by a narrow one justice majority, which reversed decades of legal precedent including Supreme Court rulings in 1939 and 1980, is a major obstacle to effective gun control legislation at the present time. There is good evidence to support the April 2000 position statement of the American Academy of Pediatrics that "Firearm regulation, to include bans of handguns and assault weapons, is the most effective way to reduce firearm-related injuries." There is also good evidence that such regulation would also reduce overall homicide, suicide, and accidental death rates, but bans on handguns are now considered unconstitutional based on the 2008 and 2010 Court rulings. In the aftermath of the Sandy Hook Elementary School massacre and other recent mass shootings, and in the setting of a public health crisis in which over 200 U.S. civilians are killed or wounded by guns every day, it is imperative that physicians and other health care professionals work with elected leaders, legal experts, and the general public to take effective steps toward curbing the epidemic of firearm related deaths and injuries in our country.

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