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Adding up the "Butcher's Bill" - The Public Health Consequences of America's System of Gun Regulation

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ADDING UP THE “BUTCHER’S BILL”

The Public Health Consequences of America’s System of Gun Regulation

Adding up the “Butcher’s Bill”: *The Public Health Consequences of the System of Gun Regulation in the United States* is one of three papers written by Edward (Ned) Hill on public policy questions related to gun ownership in the United States.

Adding up the “Butcher’s Bill”: *The Public Health Consequences of the System of Gun Regulation in the United States* examines trends in firearm’s related deaths, murders and injuries over time.

How Many Guns are in the United States? estimates the number of firearms available to the civilian population in the United States and the characteristics of the market for semiautomatic firearms.

The Cost of Arming Schools: The Price of Stopping a Bad Guy with a Gun estimates the cost of placing armed security officers in America’s schools and examines the state of school security.

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ADDING UP THE “BUTCHER’S BILL”
The Public Health Consequences of America’s System of Gun Regulation
By Edward W. (Ned) Hill, Ph.D.¹

The Butcher’s Bill from a decade of gun violence
Nearly 1 million people injured from 2001 to 2010
989,023

Dead	306,946	Wounded	682,077
Murder	119,246	Assault	471,036
Suicide	175,221	Self-inflicted wound	35,617
Accidental	6,739	Accidental	166,521
Legal	3,325	Legal	8,903

In September 2010 a release by the National Rifle Association’s Institute for Legislative Action had the headline: *More Guns, Less Crime Again; Gun Ownership Rises to All-Time High, Violent Crime Falls to 35-Year Low.*

Coinciding with a surge in gun purchases that began shortly before the 2008 elections, violent crime decreased six percent between 2008 and 2009, including an eight percent decrease in murder and a nine percent decrease in robbery. Since 1991, when violent crime peaked, it has decreased 43 percent to a 35-year low. Murder has fallen 49 percent to a 45-year low. At the same time, the number of guns that Americans own has risen by about 90 million. Predictions by gun control supporters, that increasing the number of guns, particularly handguns and so-called ‘assault weapons,’ would cause crime to increase, have been proven profoundly lacking in clairvoyance. (NRA-ILA, 2010)

Early in 2013 the NRA-ILA issued a press release on accidents that involve firearms.

The number of privately owned guns in the U.S. is at an all-time high, upwards of 300 million, and now rises by about 10 million per year. Meanwhile, the firearm accident death rate has fallen to an all-time low, 0.2 per 100,000 population, down 94% since the all-time high in 1904. Since 1930, the annual number of firearm accident deaths has decreased 81%, while the U.S. population has more than doubled and the number of firearms has quintupled. Among

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children, such deaths have decreased 89% since 1975. Today, the odds are more than a million to one, against a child in the U.S. dying in a firearm accident. (NRA-ILA, 2013)

These releases never misstate facts and footnotes abound. But they limit the facts presented in an attempt to spin the public debate over the impact of firearms regulation by omission. The 2010 press release presents FBI data on murders but not the Center for Disease Control's data on violent injuries—gunshot wounds. The second fact sheet on firearms safety limits the data to the relationship between guns and accidental shootings rather than deaths and violent injury from firearms. Both releases make the connection between the ever-growing number of guns that are owned by the civilian population and the decline in the accidental death rate, implying that the dramatic jump in gun ownership has not imperiled public safety but has actually improved public safety.

A broad set of data is presented in this report to provide a more comprehensive picture of the public health impacts of guns and, by implication, of the current firearms regulatory scheme.

As the NRA noted in its 2010 release, the number of murders from all causes recorded in the FBI's Uniform Crime Reports [UCR], which is represented by the blue line in Figure 1, decreased dramatically during the 1990s. This is also true of the murder rate, the red line in the figure. The murder rate is expressed in terms of the number of murders per 100,000 population. Because the murder rate controls for differences in the size of the population, it provides a clearer picture of the incidence of murder than does the number of murders.

The number of murders peaked in 1991 at nearly 25,000 and began a gradual decline. In 2010 the number was down to 14,700. The murder rate has also declined from a peak of 9.8 per 100,000 people in 1991 to 4.8 per 100,000 in 2010. The murder rate then hit a nearly 10-year plateau from 1999 to 2007 before continuing its decline.

Figure 2 displays data on the *number of deaths from firearms* (blue bars) and *number of gunshot wounds* (red bars) from 1999 to 2011. Both variables record gunshot injuries from all sources: violent assaults, self-inflicted wounds, accidents, and law enforcement actions.

Figure 3 displays the *gunshot death rate* (dark blue bars), *gunshot wound rate* (red bars), and *gunshot injury rate* (light blue bars). The gunshot injury rate is the summation of the death and wound rates, all expressed as the number per 100,000 people. As is true with the UCR's murder statistics, expressing the number killed or wounded by firearms in terms of the number per 100,000 people controls for population growth and allows for meaningful comparisons across

Data about deaths and violent injuries from firearms

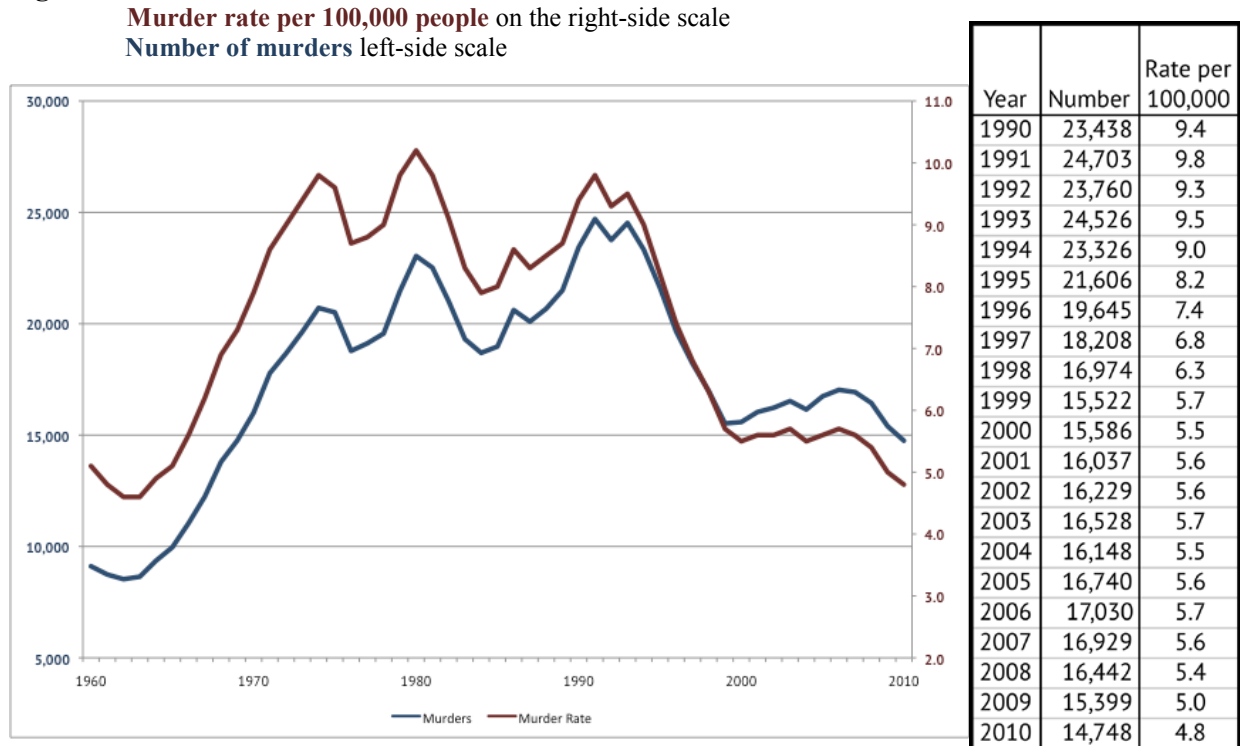
There is a challenge when trying to put together data on the public health impacts of guns in America; none of the existing sources is comprehensive. A panel of the National Research Council noted in 2005 that:

None of the existing data sources, by itself or in combination with others, provides comprehensive, timely, and accurate data needed to answer many important questions pertaining to the role of firearms in violent events. ... Significant gaps exist in the nation's ability to monitor firearm-related injury and assess firearm-related policies.

The NRC panel restated recommendations made by past National Academies committees to support the development and maintenance of the National Violent Death Reporting System and the National Incident-Based Reporting System.

time. The data in these figures are all from the Centers for Disease Control's WISQARS reporting system.²

Figure 1: Number of Murders and the Murder Rate from all sources, 1960 to 2010



Source: FBI, Uniform Crime Reports, prepared by the National Archive of Criminal Justice

The NRA frequently makes the claim that the annual entry of 10 million guns into the civilian market is not associated with increases in deaths or accidental shootings. In making these statements the NRA is *implying* that gunshot injuries have declined as the number of guns in circulation in the United States has climbed. It then draws the conclusion that controls over gun sales are unnecessary. The data in Figures 2 and 3 on injuries associated with gunshots cast doubt on the NRA's interpretation of the facts, as does separating the data on death by firearms into suicides and homicides.

While the NRA has been attempting to focus the public debate on accidental firearms deaths and on murders by firearms, there are significant public health concerns over wounds from gunshot attacks and over suicides. These concerns are taken up separately in the pages that follow. Gunshot deaths and wounds from gunshot attacks in the general population are examined in the next section. This is followed by a look at the impact of gunshot violence on men. The last section presents data on gunshot suicides.

² Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). (2003). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Available from: www.cdc.gov/ncipc/wisqars. [Data retrieved from January to March 2013]. See the appendix for a description of WISQARS.

DEFINING TERMS

Gunshot Death: Any death that is associated with a firearm injury. This includes accident, suicide and murder.

Gunshot Death Rate: Deaths associated with firearms per 100,000 population.

Gunshot Wound or Accidental Wound: Any non-fatal injury associated with a firearm.

Gunshot Wound Rate: Gunshot wounds per 100,000 population.

Gunshot Injury Rate: The total number of gunshot deaths and wounds per 100,000 population.

Gunshot Murder: Death involving a firearm associated with an assault.

Gunshot Murder Rate: Gunshot murders per 100,000 population.

Gunshot Wound From Assault or Violent Wound: A non-fatal injury that was sustained during an attack that involved a firearm. Also called a *wound from violence*.

Rate of Gunshot Wounds from Assaults: Gunshot wounds from assaults per 100,000 population.

Gunshot Violent Injury Rate: The total number of murders and wounds from violent attacks per 100,000 population.

Gunshot Deaths Are Not Decreasing

While the FBI data show a modest decline in the number of murders from 1999 to 2010, the number of deaths due to firearms increased. This is because the leading cause of death by firearm is not murder; the leading cause of gunshot death is suicide.

The CDC's data on gunshot deaths are not restricted to murders. They also include suicides, accidental deaths, deaths due to law enforcement action, and deaths that cannot be assigned to a specific category.

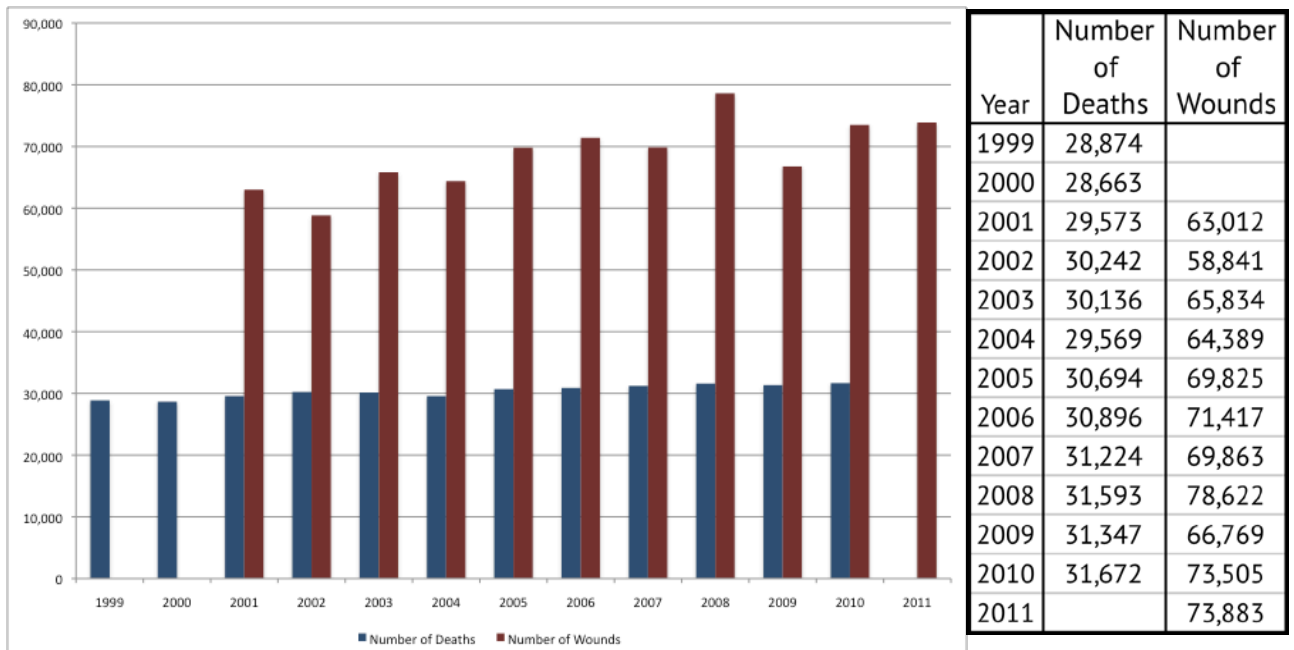
The number of deaths caused by firearms has been on a gradual increase, moving from 28,974 in 1999 to 31,672 in 2010, roughly keeping pace with population growth. Additionally, the death rate attributed to firearms has been fairly steady since 1999, hovering around 10.4 gun deaths per 100,000 Americans, with declines being recorded in 2009 and 2010 (Figure 3).

The gunshot injury rate is formed by adding the gunshot death and wound rates together, giving a more complete picture of the harm done to the public's health by firearms than the death or wound rates in isolation.

The gunshot injury rate from 2001 to 2010 moved along a tight band ranging from a low of 31.0 per 100,000 in 2001 to a high of 36.2 in 2008. The injury rate was 34.1 per 100,000 in 2010. Changes in the injury rate have come mostly from the wound rate. A rate for 2011 cannot be provided because data on gunshot deaths in that year are not yet available.

Figure 2: Recorded deaths and wounds due to firearms: 1999 to 2011

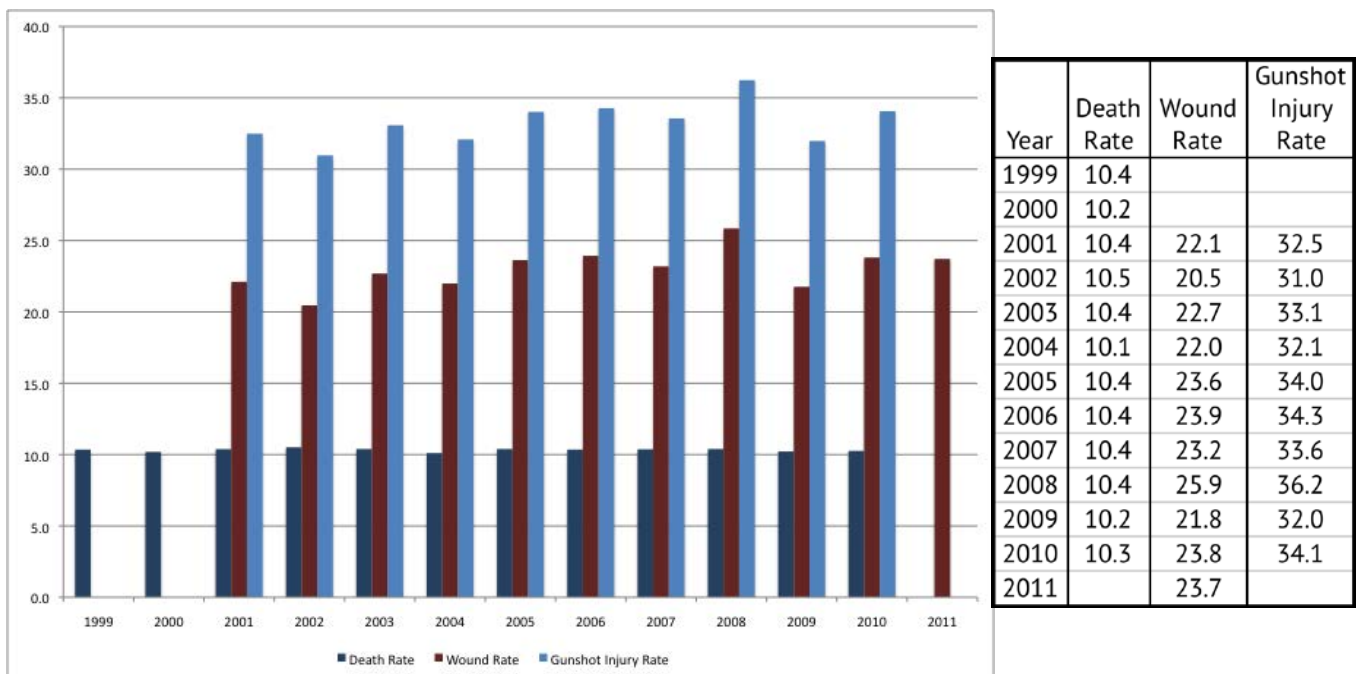
Deaths from firearms in blue
Wounds related to firearms in red



Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports and Nonfatal Injury Reports, downloaded in January and February 2013.

Figure 3: Firearms death, wounds and gunshot injury rates: 1999 to 2011

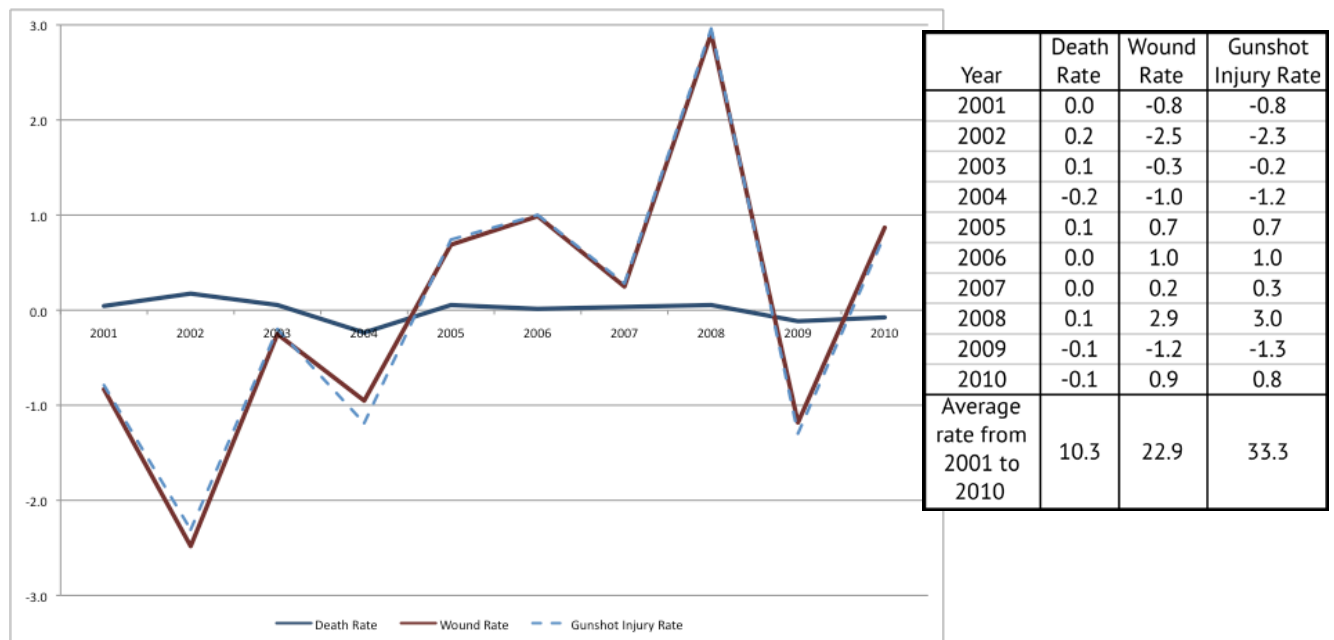
Rates expressed per 100,000 people: Death, Wound, and Gunshot Injury



Source: WISQARS, See source note Figure 2.

Figure 4: Difference between the death, wound, and gunshot injury rates per 100,000 and the average rate for each: 2001 to 2010

Rates expressed per 100,000 people: **Death**, **Wound**, and **Gunshot Injury**

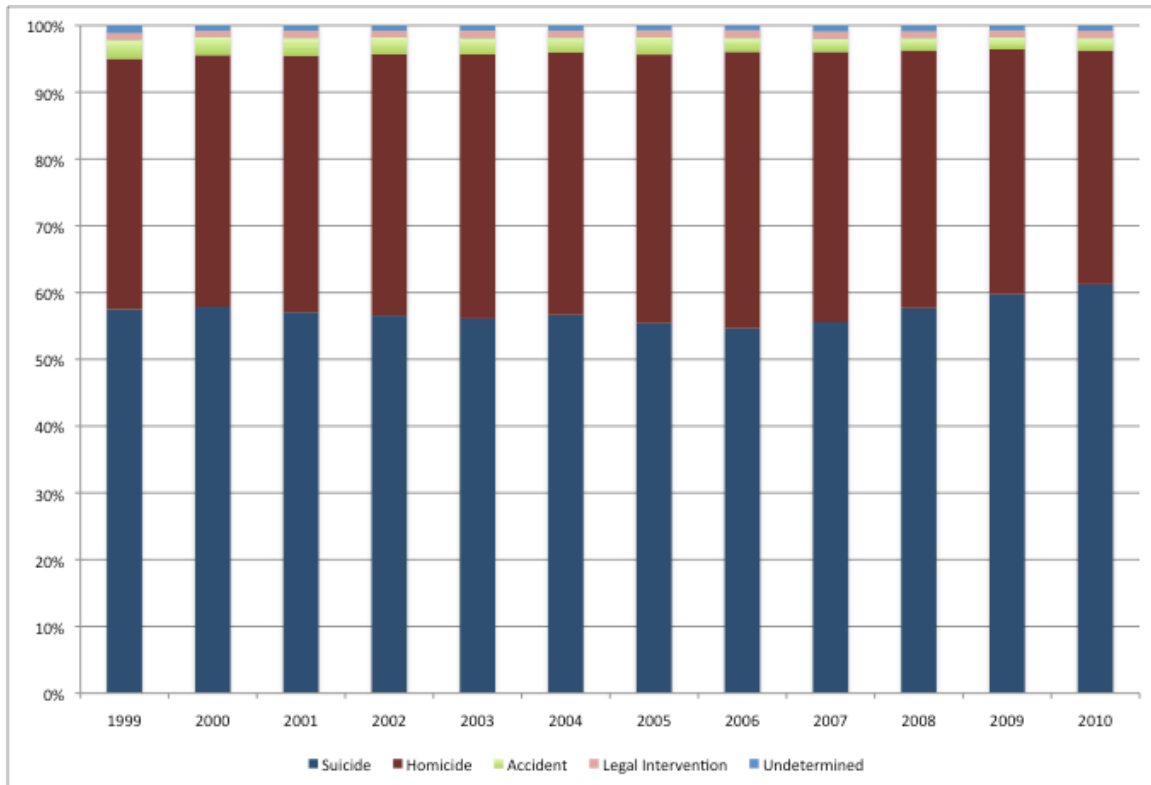


Source: WISQARS, See source note Figure 2.

Once data on gunshot injury are examined, the story about gunshot violence changes from that told by the NRA:

- The number of gunshot deaths has been climbing slowly; not declined.
- The gunshot death rate, which controls for population growth, hovers around 10.4 per 100,000. It was 10.2 in 2009 and 10.3 in 2010. The largest difference in the death rate from its average over this 11-year period is ± 2.0 per 100,000. Movement within this range is trendless, as demonstrated by the dark blue line in Figure 4.
- The number wounded by gunfire is more volatile. The number of people wounded each year increased by 10,000 from 2001 to 2011. The largest number of people wounded was 78,700 in 2008.
- The average gunshot wound rate over this 10-year period was 22.9 per 100,000. The rate began to increase in 2005, dropped in 2009 and then climbed again. This rate has been trending upward, as is demonstrated by the red line in Figure 4.
- The combined death and wound rate, listed as the gunshot injury rate in the tables associated with Figures 3 and 4, moved with the wound rate. (See the light blue dashed line in Figure 4.) It was at its peak in 2008, with 36.2 people out of every 100,000 in the nation suffering a gunshot injury; it was at its lowest in 2002. In 2010, 34 people out of every 100,000 suffered a gunshot injury.
- Based on the data, it is reasonable to conclude that, statistically, no progress has been made in lowering the death rate, while the wound and gunshot injury rates have been generally climbing over the past decade.

Figure 5: Percent distribution of firearms deaths from 1999 to 2010



Source: WISQUARS. See source note Figure 2. Numerical data available in Appendix Table 2.

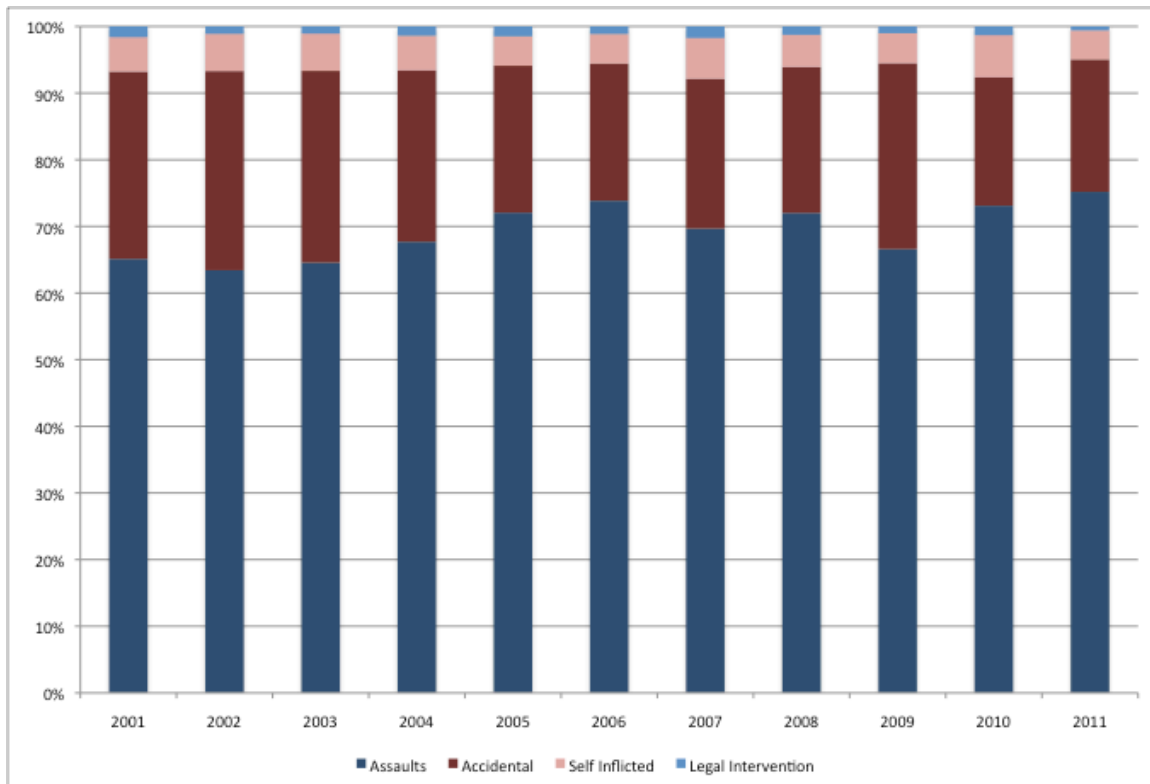
What types of injuries are associated with firearms?

The leading cause of gunshot deaths is suicide, followed by murder. The relationship reverses when it comes to wounds; more people are wounded as a result of a violent attack than hurt by self-inflicted gunshots.

On average, 57 percent of all gunshot deaths are suicides; 39 percent are murders; 2 percent are accidental killings; 1 percent are listed as legal interventions, which are legitimate killings by law enforcement officers; and a bit less than 1 percent of all firearms deaths are undetermined. The distributions of gunshot deaths by type from 1999 to 2010 are displayed in Figure 5. Distributions by means of death were very stable over this period.

The incidence of gunshot *wounds* differs from that of gunshot *deaths*. Wounds from assaults are the leading cause of firearms-related injury that did not result in death. In 2011, 75 percent of all gunshot wounds were suffered in a violent assault. Twenty percent of gunshot wounds were inflicted accidentally, 4 percent were self-inflicted, and 1 percent of all wounds were from law enforcement (Figure 6).

Figure 6: Percent distribution of firearms-related wounds from 2001 to 2011



Source: WISQARS. See source note Figure 2. The numerical data are available in Appendix Table 2.

Totaling up the decade's Butcher's Bill

The Butcher' Bill due to gunshots is posted at the start of this paper. Nearly half of those injured were wounded in an armed assault; 18 percent killed themselves; 12 percent were murdered, and 4 percent suffered self-inflicted gunshot wounds (Figure 7).

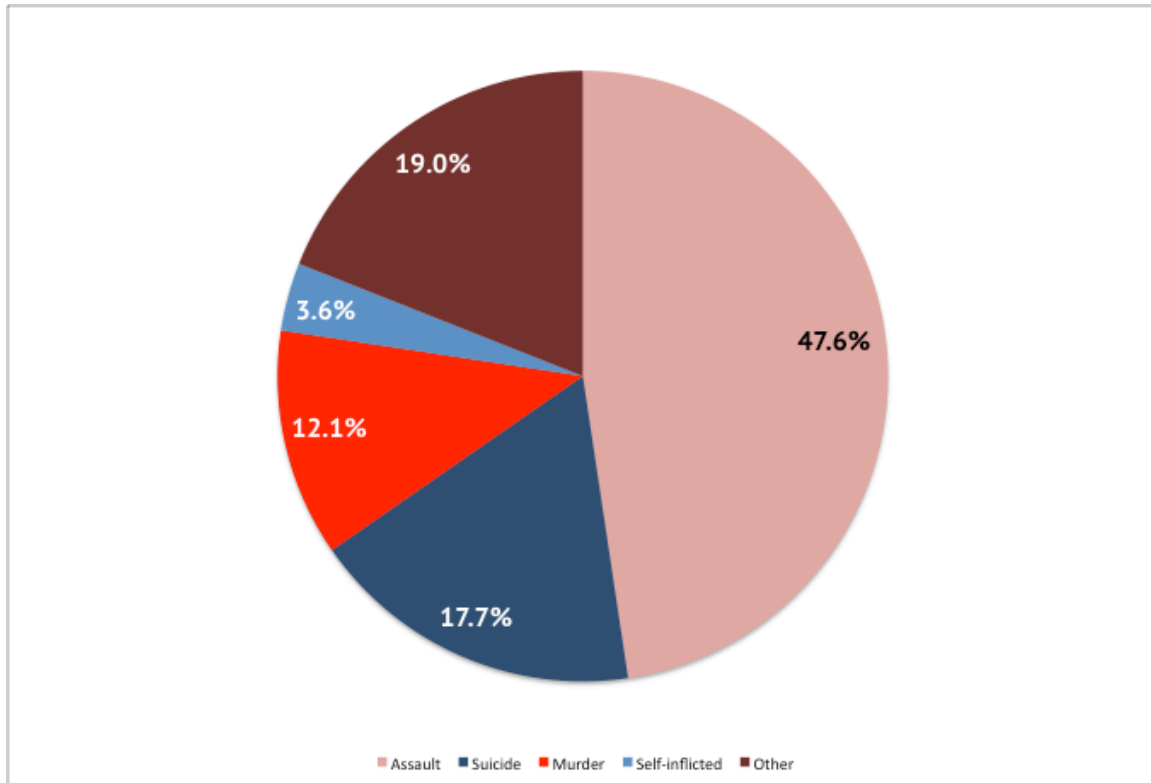
Nearly 1 million people were killed or wounded from firearms over the decade. Nearly 100,000 people are killed or injured by guns in a typical year. That is the human price of our "system" of gun regulation. The current interpretation of the Second Amendment to the U.S. Constitution has a cost to society in terms of dead and wounded:

- The past decade's injuries equal 25 percent of the entire population of the United States in 1790, the year after the Bill of Rights was approved.
- The number murdered from 2001 to 2010 is 400 percent more than the number of American soldiers killed and wounded during the Revolutionary War.
- The number of dead and wounded over the past decade equals 92 percent of the U.S. casualties in the Second World War.
- The number of dead and wounded from 2001 to 2010 is 53 percent more than the number of Union soldiers killed and wounded in the Civil War.

The Butcher's Bill is large indeed.

Figure 7: What's in the Butcher's Bill? Composition of gunshot injuries from 2001 to 2010
Wound by Assault, Suicide, Murder, Self-inflicted Wound, Other

Notes: Calculated from data in Appendix Table 1. Other is composed of accidental wounds and deaths, wounds and deaths as a result



of legal intervention, and deaths by shooting where the cause of death is undetermined

Are gunshot murders being replaced by wounds from violent assaults? Moving from paying the Butcher's Bill to living in the Wild, Wild West

The real measures of how gun violence affects the public's sense of safety are depicted in Figure 8. From 1999 to 2010, gunshot assaults resulted in 140,781 murders, and from 2001 to 2011, 526,580 people were wounded. That's an average of nearly 12,000 murders and 48,000 people suffering wounds each year as a result of gunshot violence.

While the number of people murdered with a gun declined from a high of 12,791 in 2006 to 11,078 in 2010, the same cannot be said for those wounded during an assault. The number of wounded increased from 2001 to 2011. The largest number of people wounded by firearms occurred in 2008 when 56,600 were shot and injured; the number declined by 12,200 people in 2009 and then began to march upward once again. The number of people with wounds from gun violence in 2010 was back to 53,738, and in 2011, the number climbed to 55,544. These data should give people pause when they hear claims that gun violence is dissipating.

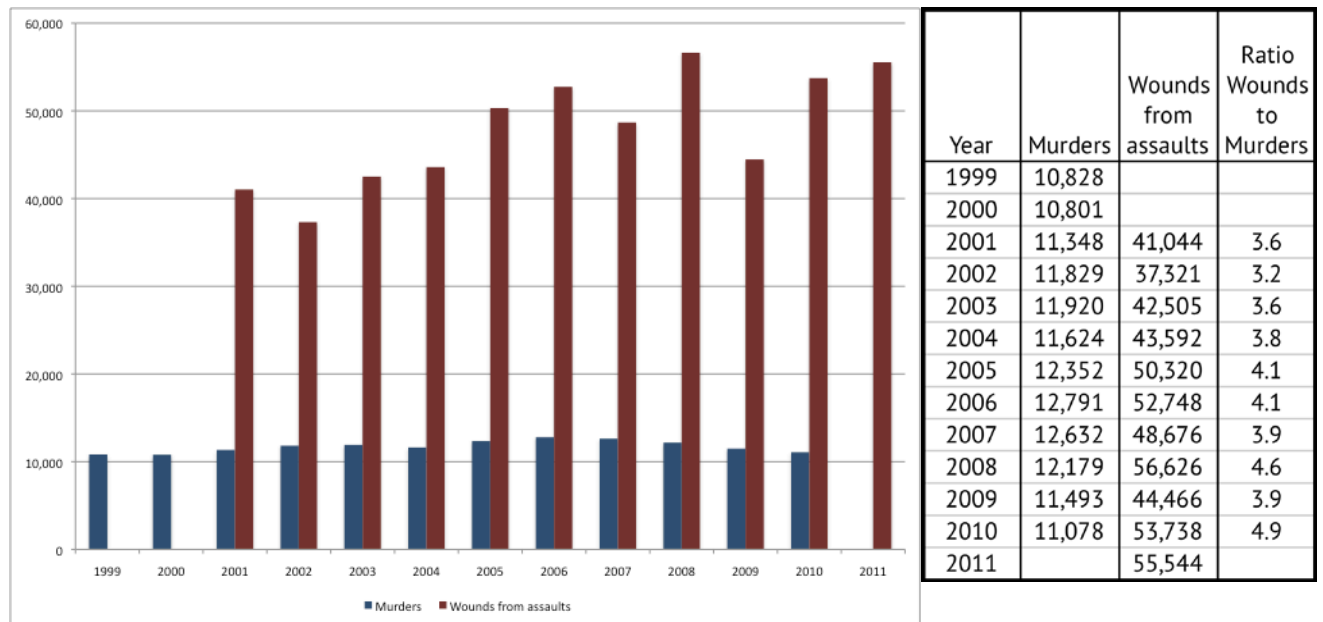
In 2011, the ratio of the number of people wounded to the number murdered in a violent assault climbed to 4.9.

How many violent assaults with firearms occurred from 2001 to 2010 (the years in which data on both deaths and injuries are available)? Roughly 119,000 people were murdered and 471,000 were wounded.

How do you put such numbers in context? Nearly 590,000 people were either murdered or wounded as a result of an assault with a firearm in these 10 years. This nearly equals the population of Oklahoma City, the 30th largest city in the nation in 2011. To get an idea of the physical impact of public policies that encourage the re-enactment of the gun-toting Wild, Wild West in modern America, pick a city from this list and picture all of its residents either in a grave or coming out of a hospital emergency room: Las Vegas, Albuquerque, Tucson, Sacramento, Kansas City, Atlanta, or Colorado Springs.

Figure 8: People murdered or wounded by firearms during an assault: 2000 to 2010

Murdered by firearms in blue; **Wounded** by gunshot in an assault in red



Source: WISQARS. See source note Figure 2.

The ratio of the number wounded during an assault with a firearm to those murdered increased from 3.6 in 2001 and 3.2 in 2002 to 4.9 in 2010. As the decade progressed, proportionately more people survived gunshot attacks. More people were being attacked with a gun and more were surviving the assault.

Figure 9 plots the rates at which people were either murdered or wounded in an assault. The top portion of Figure 9 plots the gunshot murder rate per 100,000 people from 1999 to 2010 in the solid blue line. The rates at which people were wounded by gunshots during violent assaults from 2001 to 2011 are plotted with a solid red line in the bottom portion of the figure. The data presented in Figure 9 are from Appendix Table 3.

The lines that were fitted to the data in Figure 9 provide additional evidence that there has been a shift from gunshot murder to gunshot wounds. The dotted lines in each portion of Figure 9 are second-degree polynomial equations fitted to the observed data. This particular type of equation allows for turning points in the data to be more easily observed. In the case of the murder rate equation, the fitted line turns down after 2005, and it captures 39 percent of the observed

variation.³ The fitted equation for the wound rate from gun violence is generally increasing, showing a trend to ever-increasing wound rates, but the rate of increase begins to slow in 2006. This equation accounts for 52 percent of the explained variation in the data.

The equations in Figure 9 are not causal; that is, they do not explain what is behind changes in the murder and wound rates stemming from gun violence. They describe fluctuations in the rates of murder by gunshot since 1999 and wounds from gunshot assaults since 2001.

A likely reason for declines in the number of murders and in the murder rate due to gun violence and for the much larger increase in the number and the rate of gunshot wounds sustained during violent assaults is that the emergency medical system has gotten much better at keeping gunshot victims alive.

If you want to get better at anything, follow your coach's advice: practice, practice, practice. Unfortunately, our emergency medical system has gotten a good deal of practice treating gunshot victims over the past decade.

Gun violence: It's a young man's disease

Being a shooting victim is predominantly a young man's disease. Table 1 makes clear important differences in the incidence of gun violence by age and by sex. The murder and wound rates are added together to produce the gunshot violence rate, which is listed in the last two right-hand columns of Table 1, first for males and then for females.

The population in the table is broken down into 5-year age increments until the oldest category, which is 65 years old and older. The cohorts with murder, wound, and gunshot violence rates above the average for each sex are highlighted.

In 2010, the average murder rate for men was 6.2 per 100,000, and the wound rate was 32.0. The corresponding rate for women was 1.1 murders and 3.3 woundings for every 100,000 women. The overall gunshot violence rate was 4.4 per 100,000 for women and 38.1 for men. In other words, men are 8.7 times more likely to be victims of gun violence than women. Gun violence does affect women, but the rates displayed in Table 1 show that guns disproportionately harm men.

³ This is the percent of the variation in the data that is accounted for by the relationship between the independent variable and the dependent variable. In the case of the fitted line it can be thought of as how accurately the line maps the path of the variable in question.

Figure 9: Murder Rates and the rate at which people are wounded in violent attacks per 100,000 population

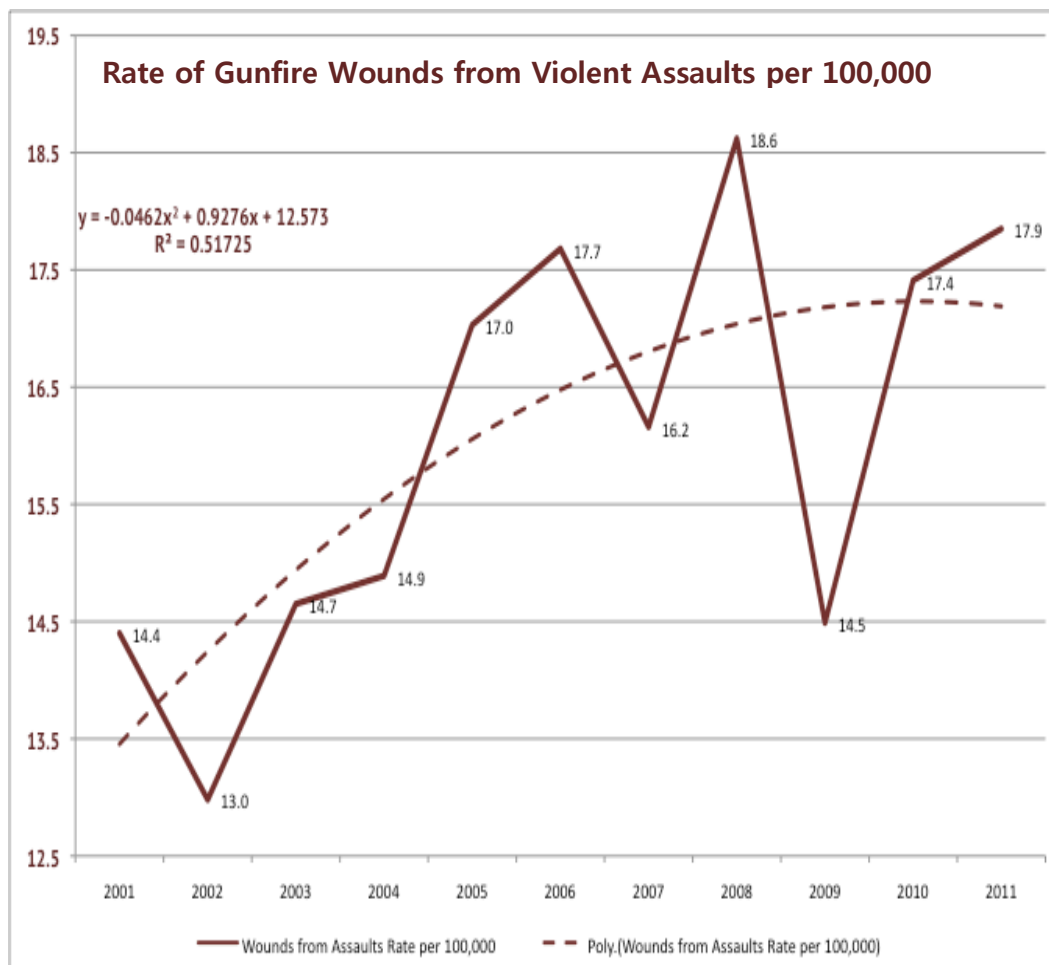
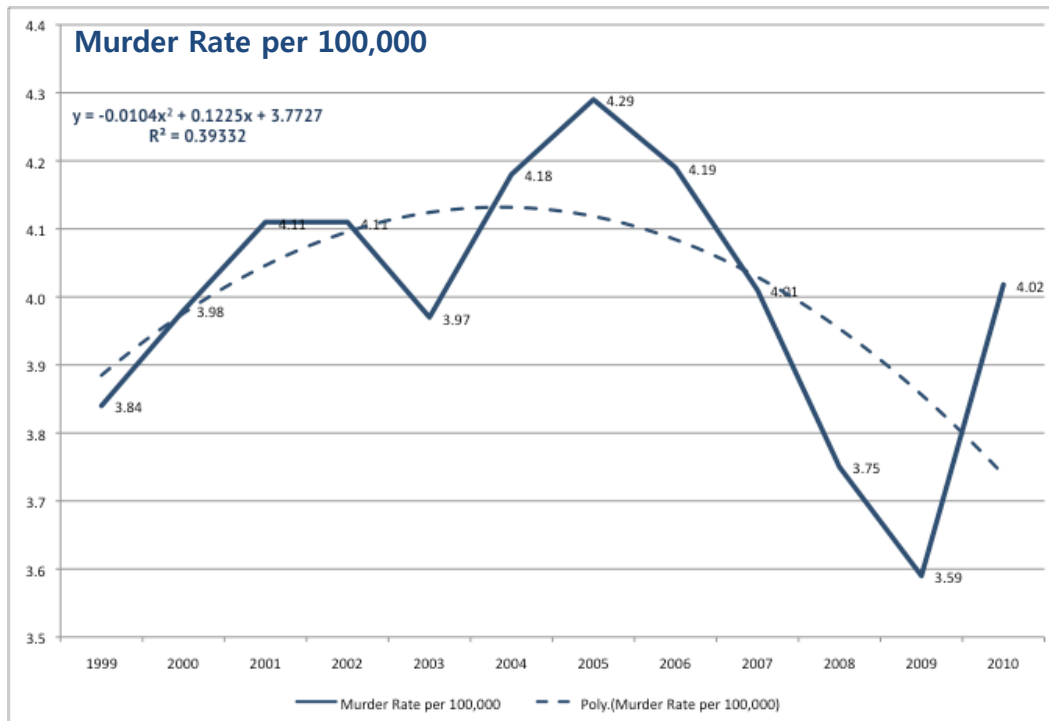


Table 1: Murder, wound, and gunshot violence rates per 100,000 people in 2010 by age and by sex

Age	Murder		Violent Injury (Wound)		Gunshot Violence Rate	
	Male	Female	Male	Female	Male	Female
All	6.2	1.1	32.0	3.3	38.1	4.4
0 to 4	0.3	0.2	0.7	1.2	1.0	1.4
5 to 9	0.4	0.2	1.6	0.2	1.9	0.4
10 to 14	0.8	0.2	5.3	1.8	6.1	2.1
15 to 19	12.2	1.6	87.4	10.2	99.6	11.7
20 to 24	19.2	2.1	120.9	12.3	140.1	14.4
25 to 29	15.7	2.3	85.6	9.2	101.4	11.4
30 to 34	12.6	1.6	61.4	2.3	74.0	3.9
35 to 39	7.6	1.7	35.9	2.1	43.5	3.9
40 to 44	5.5	1.6	21.4	3.8	26.8	5.4
45 to 49	4.3	1.3	11.9	1.0	16.1	2.3
50 to 54	3.4	0.9	9.7	2.9	13.1	3.8
55 to 59	2.6	0.8	4.5	1.4	7.1	2.2
60 to 64	1.7	0.7	5.9	0.0	7.7	0.7
65 and above	1.0	0.7	1.1	0.2	2.1	0.9

Source: Source: WISQARS, See source note Figure 2.

All male cohorts experience the negative effects of gun violence, but it is epidemic among men ages 15 to 39. The male gunshot violence rate peaked in 2010 at 140 per 100,000 for the 20- to 24-year-old group. The violence rate was close to 100 per 100,000 for both the 15- to 19-year-old and the 25- to 29-year-old cohorts. The rate dropped to 74 per 100,000 for 30- to 34-year-old men and then reached 43.5 for 35- to 39-year-old men. After men reached age 40, their rates of gun violence fell below the average for all men.

The cohort most prone to gun violence, men ages 20 to 24, had an annual murder rate of 19 per 100,000 and wound rate of 121 per 100,000. According to WISQARS the death rate for the same group, in the same year, from motor vehicle accidents was 27.6 per 100,000. At least public policies have been implemented to reduce the death rate from vehicle accidents.

If these rates hold steady over a 5-year period, this means that a 20-year-old man will be part of a group experiencing almost 100 murders and 600 gunshot wounds per 100,000.

The epidemic is much less severe for women than it is for men. Despite this fact, a few findings concerning women as victims of gun violence stand out in Table 1. First, while the gunshot murder rate is low for all female cohorts, it does not drop appreciably until after age 50. There is also a spike in the rate of gunshot wounds from assaults for 40- to 44-year-old women. As is true for men, the most dangerous ages are between 20 and 29, when the gunshot violence rate is between 11.4 per 100,000 for the 25- to 29-year-old cohort and 11.7 for the 15-to 19-year-old cohort.

The gunshot violence rate is depicted from 2001 to 2010 in Figure 10 for the 5-year male age cohorts between the ages of 15 to 39. These cohorts are emphasized because they are the groups

that experience the epidemic of gun violence most intensely. The reason for plotting the data is to examine the path gun violence has taken over the past decade.

The single-most dramatic result in the table is the explosion of violence-related injury among the youngest group of males. The gunshot violence index for males age 15 to 19 was at 76 per 100,000 in 2003. It hit 120 per 100,000 in 2006 and peaked at nearly 140 per 100,000 in 2008. This is a near doubling of the rate at which teen boys are being murdered and wounded by firearms. The second group that saw dramatic increases in gunshot violence was men ages 25 to 29, with the rates going from 80 per 100,000 people to 100 per 100,000 people.

There is tremendous variability in these data over time for all groups with the exception of the cohort most-exposed to gun violence, men between the ages of 20 and 24. Their gunshot violence rate was the highest in all years but one. Men in their early 20s typically suffered a gun violence rate above 120, and, even when violence rates for the other cohorts dropped below 100 in 2009 and 2010, the rate for this group stayed above 120.

One clear effect of recent radical gun deregulation appears to be an epidemic of gunshot deaths and gunshot wounds among young men.

Death and wounds among young men is not the most lethal form of gun violence, however. This title is reserved for suicides, which are also predominantly experienced by men.

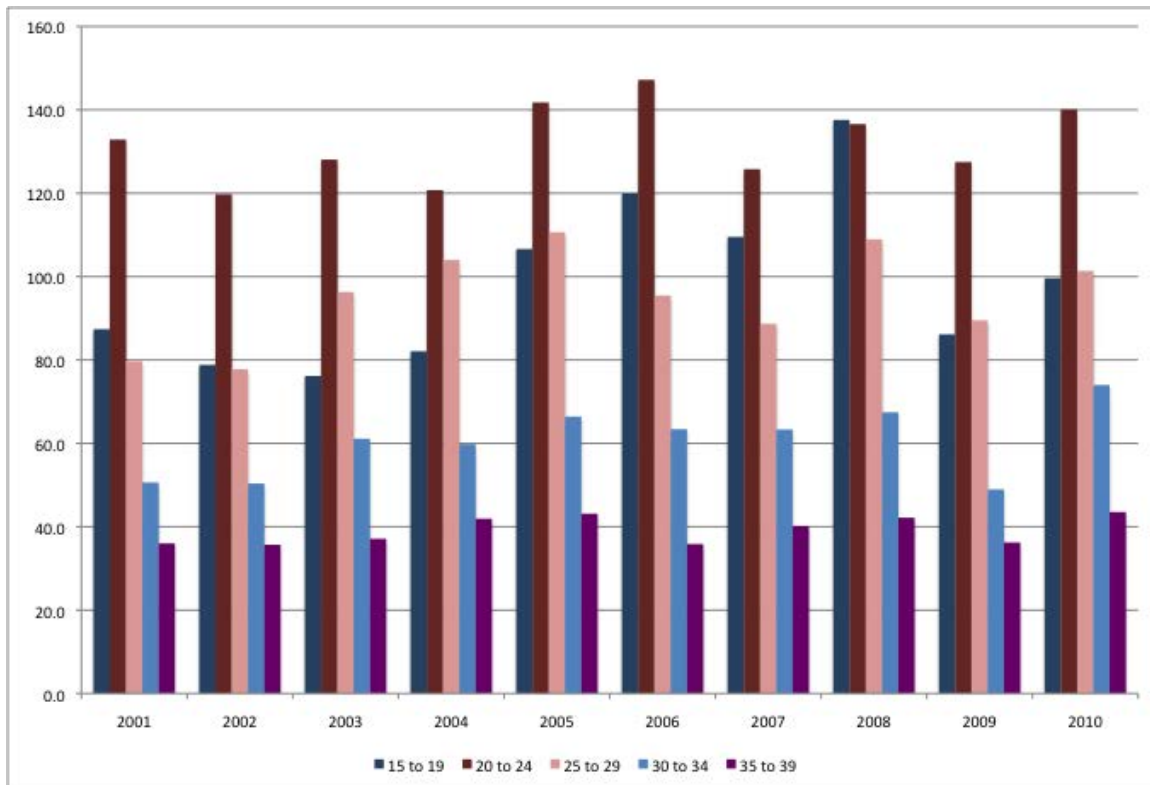
Suicide

Commentators have stated that gunshot suicide is predominantly rural America's gun problem.⁴ A closer examination of the literature indicates that geography masks the real suicide enabler—access to guns. Studies performed outside the United States note that decreases in suicides occur when gun ownership becomes more difficult or restricted, with some substitution in the means of suicide taking place.⁵ The literature depicts gunshot suicide as an impulsive act, with guns being the enabler of death. It is true that a person bent on killing himself or herself can do so, but making it more difficult to access firearms can buy time so that a person can move beyond their immediate state of torment. Time can allow a person to move beyond the immediate event that triggered thoughts of suicide, such as loss of a job, marital breakup, loss of a child, or threat of arrest or a court appearance. Time allows a person to peer beyond the immediate haze of depression, drunkenness or drug-induced delusion and take another course of action.

⁴ Dresang, L. T. (2001).

⁵ Bridges and Kunselman (2004) and Lester and Leenars (1993) using data from Canada and Ajdacic-Gross and Vladeta (2006) for an examination of longitudinal international data.

Figure 10 Annual gunshot violence rates per 100,000 from 2001 to 2010 for males age 15 to 39; Ages 15-19, 20 to 24, 25 to 29, 30 to 34, 35 to 39



Source: WISQARS. See source note Figure 2. The numerical data are in Appendix Table 4.

Research from within the United States agrees with the conclusion reached by David Miller and Mathew Hemenway (2008) that “The empirical evidence linking suicide risk in the United States to the presence of firearms in the home is compelling.”⁶ Miller and Hemenway report that between one-third and four-fifths of all suicides are impulsive. Based on data collected in Houston, nearly one-quarter of all suicides make their attempt within 5 minutes of deciding to take their lives, and 70 percent make their decisions less than an hour before the attempt was made. Also 90 percent of those who survive a suicide attempt do not go on to kill themselves.⁷ The literature Miller and Hemenway review indicates that gun prevalence and access are two critical factors in enabling suicide. They write that all of the control studies in the peer-reviewed literature have “found that a gun in the home is associated with an increased risk of suicide. The increase in risk is large, typically 2 to 10 times that in homes without guns. ... The association between guns in the home and risk of suicide is due entirely to a large increase in the risk of suicide by firearm Moreover, the increased risk ... is not explained by increased psychopathologic characteristics, suicidal ideation, or suicide attempts among members of gun-owning households.” This section presents the connections between suicide and firearms, focusing on data from 2010.

⁶ Also see Lewiecki and Miller (2013) and Duggan (2003).

⁷ They cite the work of Simmon et al. (2002) on the time frame in which people decide to kill themselves and on the transient nature of suicidal attempts. They cite Miller and Hemenway (1999) on the role that the presence of guns plays in suicides.

Table 2: The number of suicides in 2010 by types of suicide

Means of suicide	Number of Suicides (Men & Women)	Rate per 100,000	Percent Distribution of all Suicides	Men as a percent of total
All suicides	38,364	12.4	100.0%	78.9%
Firearm	19,392	6.3	50.5%	87.5%
Non-firearm	18,972	6.1	49.5%	70.2%
Types of non-firearm suicide				
Hang, strangle, suffocate	9,493	3.1	24.7%	80.0%
Poison	6,599	2.1	17.2%	54.1%
Fall	781	0.3	2.0%	74.1%
Cut, pierce	673	0.2	1.8%	83.7%
Other Means	582	0.2	1.5%	72.7%
Drown	409	0.1	1.1%	62.1%
Unspecified	190	0.1	0.5%	79.5%
Fire, burn	131	0.0	0.3%	73.3%
Motor Vehicle	114	0.0	0.3%	73.7%

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports, downloaded March 3, 2013.

Nearly 40,000 people killed themselves in 2010, more than 30,000 were men. The death rate for the entire population was 12.4 suicides per 100,000; 6.3 per 100,000 died of self-inflicted gunshots, 3.1 per 100,000 used some form of strangulation or suffocation, 2.1 per 100,000 either ingested a poison or experienced some sort of overdose, while a variety of other means were used by the remainder listed in Table 2. Half of all suicides used a gun, and nearly 90 percent of those were men; women who killed themselves were more likely to use poison or overdose.

Table 2 details how Americans chose to end their lives in 2010. The next table shows the numbers of men and women, by age group, who either killed or wounded themselves with a non-accidental self-inflicted gunshot.

Some 24,000 people attempted to kill themselves by a self-inflicted gunshot in 2010. Almost 20,000 were successful, 17,000 men and 2,500 women (Table 3). Another 3,700 men suffered non-accidental self-inflicted gunshot wounds, making up 15 percent of the total wounded or killed. Eighty-five percent of those killed or wounded by placing their own hand on a trigger were men.

For men, the incidence of gunshot suicide begins to increase in the age range where the incidence of gunshot murder begins to turn down. If the incidence of murder and gunshot wounds is a young man's disease, then gunshot suicide is predominantly (but not exclusively) a disease of men who are middle-aged or older. The largest number of gunshot suicides occurred among men ages 50 to 54, with the next two largest groups being one cohort younger and one cohort older. Middle age and late middle age, ages 40 to 60, were the peak ages of male gunshot suicide in 2010.

The incidence of suicide is between 11.3 and 11.6 per 100,000 from ages 20 to 39, with the exception of the 30- to 34-year-old group. After age 39, the incidence of gunshot suicide generally climbs, culminating with a rate of 32.2 per 100,000 for men age 80 and older.

Table 3: Distribution of self-inflicted gunshot injury in 2010 by outcome, sex and age

Age Group	Gunshot Suicides				Self-inflicted Gunshot Wounds			
	Male		Female		Male		Female	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
10 to 14	68	0.6	12	0.1				
15 to 19	601	5.3	67	0.6	364	3.2	115	1.1
20 to 24	1,243	11.3	135	1.3	483	4.4		
25 to 29	1,228	11.6	161	1.5	770	7.2	47	0.4
30 to 34	1,057	10.6	148	1.5	207	2.1	115	1.2
35 to 39	1,157	11.5	207	2.0	254	2.5	92	0.9
40 to 44	1,291	12.4	259	2.5	234	2.3		
45 to 49	1,677	15.0	282	2.5	377	3.4		
50 to 54	1,811	16.6	322	2.8	47	0.4	276	2.4
55 to 59	1,623	17.0	274	2.7	357	3.8	299	3.0
60 to 64	1,271	15.7	219	2.5	117	1.5		
65 to 69	989	16.9	132	2.0	92	1.6		
70 to 74	855	20.2	77	1.5	115	2.7		
75 to 79	773	24.3	65	1.6	207	6.5		
80 and older	1,315	32.2	70	1.0	73	1.8		
Total	16,959		2,430		3,697		944	

Source: WISQARS. See Table 2.

The data at hand do not allow for a direct test of the statement that gunshot suicide is a disease to which men who live in rural parts of the nation are disproportionately prone. Data for only 16 states are posted on the CDC's National Violent Death Reporting System.

Table 4 presents the data on gunshot murder and suicide rates for men and their sum, the gunshot death rate, for the nation and the 16 reporting states. The table also ranks each of the participating states by these three death rates. The states are listed by their rank on the gunshot suicide death rate per 100,000 population.

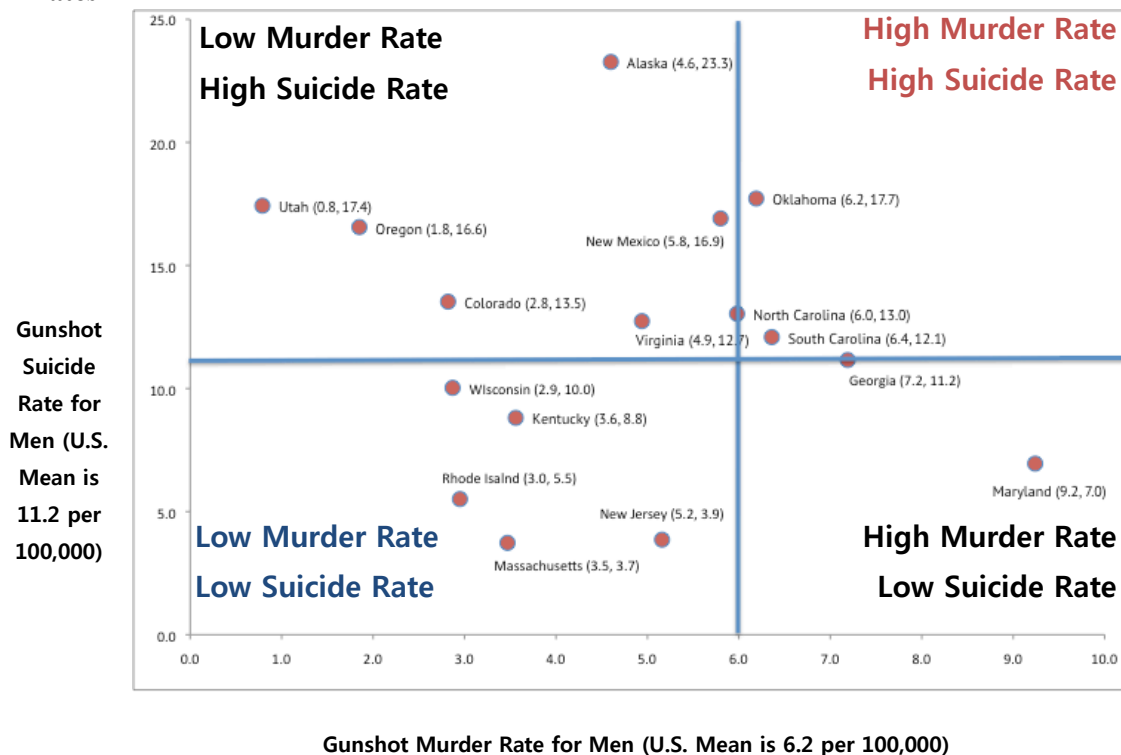
Table 4: Gunshot death, murder, and suicide rates for men in the U.S. and in 16 reporting states ordered by the gunshot suicide rate in 2010

	Deaths per 100,000	Rank Death Rate	Murders per 100,000	Rank Murder Rate	Suicides per 100,000	Rank Suicide Rank
Total United States	17.3		6.2		11.2	
Total 16 reporting states	15.9		5.0		10.8	
Alaska	36.9	1	4.6	9	23.3	1
Oklahoma	27.9	2	6.2	4	17.7	2
Utah	34.2	8	0.8	16	17.4	3
New Mexico	28.7	3	5.8	6	16.9	4
Oregon	33.4	6	1.9	15	16.6	5
Colorado	30.4	10	2.8	14	13.5	6
North Carolina	24.0	4	6.0	5	13.0	7
Virginia	25.7	9	4.9	8	12.7	8
South Carolina	21.5	5	6.4	3	12.1	9
Georgia	20.4	7	7.2	2	11.2	10
Wisconsin	25.9	12	2.9	13	10.0	11
Kentucky	22.4	13	3.6	10	8.8	12
Maryland	17.2	11	9.2	1	7.0	13
Rhode Island	20.5	15	3.0	12	5.5	14
New Jersey	16.0	14	5.2	7	3.9	15
Massachusetts	18.2	16	3.5	11	3.7	16

Source:

WISQARS. See Table 2 and the National Violent Death Reporting System. Numeric data are in Appendix Table 5.

Figure 11: State gunshot murder rates and suicide rates for men in 2010 using U.S. average rates



The gunshot suicide rate for men in the nation in 2010 was 11.2 per 100,000, and the rate across the 16 states with data in the reporting system was 10.8. The CDC cautions against using these data to make definitive statements about the nation as a whole because there is no assurance that the data collected are representative of the nation. For example, the nation's largest and most urban states in terms of population are largely absent. (California, Illinois, Michigan, New York, Ohio, Pennsylvania and Texas are not included.) The states included appear to be more rural than the nation as a whole and are skewed to the west and south. Another caution is that most of the 16 states have urban centers, and the urban-rural distribution of gun ownership across each state is unknown.

Despite these cautions, the rank orderings are suggestive, as are the differences in the death rates across the states. The five states with the highest rates of suicide by firearm for men are: Alaska (with a rate of 23.3 per 100,000), Oklahoma (17.7), Utah (17.4), New Mexico (16.9), and Oregon (16.6). Colorado is ranked sixth, its male suicide rate by gunshot is dramatically lower than those ranked above it at 13.5.

Figure 11 plots the gunshot murder and suicide rates for each of the 16 states in the data system. The gunshot murder rate per 100,000 is read along the horizontal, or x, axis. The gunshot suicide rate per 100,000 is read on the vertical, or y, axis. Each state is marked on the graph and labeled. The bracketed label contains the gunshot murder rate and suicide rate in that order. The average male gunshot murder rate and average suicide rate for the nation are marked in the figure by the lines that divide the graph into four quadrants: low gunshot murder and suicide rates, high murder rate and low suicide rate, high murder and suicide rates, and low murder rate and high suicide rate.

The states that are in the lower left quadrant have gunshot suicide and murder rates below the national average. There are five states in this quadrant: Wisconsin, Kentucky, Rhode Island, New Jersey, and Massachusetts. These are listed in descending order of their suicide rates.

Maryland is the only high-murder-rate-low-suicide-rate state and has the highest male murder rate among the 16 states at 9.24 per 100,000. Maryland and New Jersey are the only states where the male murder by gunshot rate is higher than the male suicide rate.

Oklahoma and South Carolina have gunshot murder and suicide rates above the national average. Georgia is at the national average for male suicide by gunshot (11.2 per 100,000) but has an above-average male murder rate by gunshot, at 7.2 per 100,000. North Carolina has a male murder rate that is the same as the national average (6.0), but it has a gunshot suicide rate that is above the national average (13.0).

Alaska is in a class by itself in terms of gunshot suicide. While its murder rate is below the national average, at 4.6 per 100,000, its gunshot suicide rate is 23.3 per 100,000. No other state is close.

The states with relatively low murder rates and high suicide rates are Utah, Oregon, and Colorado—all have male murder rates under 3.0 per 100,000, but they all have male suicide rates by gunshot at or above 13.5 per 100,000. The national average is 11.2 per 100,000.

New Mexico and Virginia have gunshot murder rates that are below the national average but have gunshot suicide rates that are above average. This rate is closer to the other Southeastern states in the reporting system.

Having walked through Figure 11, what can be observed? Most of the states in the Southeast and West have gunshot suicides rates that are above the national average—those in the West are far above the average. It cannot be said that these gunshot suicides are in rural areas or that these states have above-average gun ownership rates because the information on gun ownership at the state level is not collected. However, the spatial pattern of suicide rates across the 16 states in the reporting system suggests that a strong gun-owning culture is associated with gunshot suicide.

Conclusions: 1 in 314

Roughly 1 in every 314 Americans were either killed or wounded by a bullet over the past decade.⁸ The majority were wounded in a violent assault, followed, in order of occurrence, by those who committed suicide, those who were murdered, those who sustained self-inflicted wounds, and those shot accidentally. When injury by firearms is examined as a public health epidemic, the conclusion to be reached is that gunshot injury is persistent and is a disease that disproportionately affects men.

Annually, about 73,000 people are wounded and 32,000 are killed by firearms; of those, 56,000 are wounded in a violent assault and 12,000 are murdered. Compare these deaths by gunshot to diseases that the American public has rallied around to defeat:

- There are 159,000 lung cancer deaths in the United States each year. The annual number killed and wounded by gun violence is 65 percent of this number.
- 40,000 Americans die from breast cancer each year; 32,000 die from gunshots.
- The disproportionately male disease of prostate cancer kills 29,700 a year; the disproportionately male disease of gunshot suicide kills 19,400.
- Colon and rectal cancers kill 51,000 Americans each year; 56,000 are wounded by a firearm used in an assault. The major difference in the impacts of these two diseases is in the age of the patients. Colorectal cancers are diseases of the old, and gunshot wounds are a disease of the young.

Due to the politically charged rhetoric related to gun ownership and the smoke that comes from the gun industry, facts about gun violence are not obvious to the public. What follows are the facts.

- Over the past decade, gunshot deaths—suicides and murders—have not declined, and the number of people wounded by guns during assaults has been climbing.
- The ratio of those wounded in an assault to those murdered has climbed from 3.6 per 100,000 per year to 4.9. This can only be a testament to improvements in the emergency medical system's ability to keep the wounded alive.
- Gunshot violence is a disease that disproportionately affects young men, and gunshot suicide is a disease that disproportionately affects middle-aged and older men.
- The largest cause of gunshot death is suicide, and there are substantial differences in suicide rates across the 16 states for which data is available. Rates are much higher in the West and in the South. The literature ties access to guns to higher suicide rates.
- Gunshot injury is a public health epidemic that cannot be reduced to zero, but it is an epidemic that can be lessened through regulation.

⁸ The U.S. population in 2012 is 314 million, and from 2001 to 2010, 1 million Americans were violently injured by gunshot.

Systematically Harmful Versus Dramatically Deadly

There are two very different streams of gun violence that are damaging the fabric of American society. One is systematically harmful: the year-in, year-out carnage that comes from gun violence. The public health aspects of gun violence rest with profligate firearm availability that is not coupled with responsible gun ownership. This is the damage from gunshot injury and gunshot violence that is documented in this report. These are the deaths and wounds that appear with statistical predictability and with such numbing regularity that they are no longer newsworthy.

The second stream of gun violence is the dramatically deadly result of mass murder. These attacks are rare, their occurrence cannot be predicted, and they are the work of people who have access to extremely deadly firepower. The National Rifle Association and the National Shooting Sports Foundation try to divert attention from the damage wrought by semi-automatic weapons, both rifles and handguns, and large-capacity ammunition clips. When it comes to school-place violence, the NRA asserts that the means of prevention is to arm schools. The NRA is arguing against the cheaper and more effective alternative of restricting the means of death and destruction. Should we as a nation spend billions of dollars to place armed security in every school building in the nation? Or should we ban semi-automatic weapons and large capacity ammunition clips, which are the means of mass murder?

The Congressional Research Service's specialist on domestic security and crime policy, William J. Krouse, released a comprehensive review of gun-control legislation, gun violence, and the arms market about a month before the Sandy Hook mass murders took place.⁹ The motivation for the report was expected renewed Congressional interest in the regulations of the civilian arms and ammunition markets following three mass murders and the negative Congressional reactions to the "Fast and Furious" gun-smuggling scandal at the U.S. Department of Justice.

The first set of murders took place on January 8, 2011, when six people were killed and three wounded in Tucson, Arizona. Congresswoman Gabrielle Giffords was severely wounded in that attack. The weapon was a 9-millimeter semi-automatic Glock pistol with an extended 33-round magazine. This is the same weapon used in 2007 in the Virginia Tech mass murders.

The second mass murder was July 20, 2012, at a movie theater in Aurora, Colorado, where a lone shooter killed 12 and wounded 58. The killer used a variant of an AR-15 assault rifle, the same style weapon used in the elementary school shootings in Newtown, Connecticut. (This is the weapon that the National Shooting Sport Foundation and NRA are trying to rebrand as the "Modern Sporting Rifle," rather than reflect its roots as the U.S. military's assault weapon of choice.)

Finally, in August 2012, an alleged Neo-Nazi killed six Sikh worshipers in a temple near Milwaukee, Wisconsin, and wounded another three people, including a police officer who was administering first aid to a victim. The killer used a semi-automatic Springfield 9-millimeter pistol with a large ammunition clip.

What do these mass murders have in common? The murder scenes were *not* school buildings. The murderers were *not* students. And the weapons were *not exclusively* assault rifles.

What these mass murders have in common is the use of semi-automatic weapons, both rifles and pistols, which fire a large number of shots quickly, coupled with high-capacity ammunition clips.

⁹ Krouse, William J. *Gun Control Legislation*. Congressional Research Service, 2012.

The combination of semi-automatic weapons and high capacity ammunition clips allows an individual to kill and injure a large number of people before having to stop to reload. The public policy issue is not about preventing mass murder in schools; it is about making it harder to use the tools of mass murder anywhere. The issue is not the place of occurrence; the issue is limiting access to the tools of mass murder.

Public Policies

The regulation of firearms in the United States is contentious. The Second Amendment to the U.S. Constitution has been interpreted broadly, and political resistance from gun manufacturers to gun registration and regulation is intense. Fully automatic weapons are banned by federal legislation that harkens back to the rum-running days of Prohibition, Machine Gun Kelly and Al Capone's thugs. But the ban on semi-automatic weapons has expired, despite the fact that they can do as much damage as the banned Thompson submachine gun of the Roaring 20s, providing a market for gun manufacturers at a time when demand for hunting and target shooting rifles is declining.

The gun industry is hiding behind legitimate gun owners—hunters, target shooters and people who are interested in gun ownership for their perceived personal protection. How can America's gun culture, along with the rights of hunters and target shooters, be protected without turning our streets into the Wild, Wild West?

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." The debate over gun regulation depends on the clause emphasized by readers and the courts. Is the purpose of the amendment to ensure that each state can have its own "well-regulated militia" to counterbalance the power of a national army and the central government? In the move from a confederation of states to a unified nation, this is the most likely intent of the amendment. Or, should we follow the lead of the gun industry and emphasize unfettered access to gun ownership that is implied by the second clause, "the right of the people to keep and bear arms shall not be infringed"? Which is the subordinated clause? Does this mean that the right of the people to participate in the militia with their own weapons should not be infringed? Rarely has an exercise in diagramming a sentence been the fulcrum upon which rests the preservation of lives and the prevention of injury.

What can be done? To make the dramatically deadly stream of gun violence more rare, all semi-automatic weapons should be banned, along with large-capacity ammunition clips and clips that quickly pop in a new set of bullets. These should be left to the military and police. Hunters should be able to enjoy their sport with two to four bullets before they have to reload. This would at least serve to slow mass murderers by forcing them to reload.

As for the systematically harmful, there are a number of measures that would slow this stream of gun violence without impeding law-abiding citizens' right to keep and bear arms for their protection or for sporting enjoyment.

First, all gun owners should follow the example of homeowners, renters and car owners and carry liability insurance for damage done by a firearm that they own, especially if the gun is not secured or if it is stolen.

Second, technologies are available that can prevent a serial number from being ground off a gun or at least make it more difficult to deface. And technologies can be invented to disable a gun if its serial number is ground down or defaced.

Third, all gun purchasers should be subject to background checks, and ownership records need to be maintained. This should be tied to the cost of liability insurance.

Fourth, a database to track the life history of a weapon should be developed and paid for by gun owners. Additionally, all owners should be responsible for reporting lost and stolen guns with their serial numbers to the police and a central database.

Finally, documented successful completion of a gun-safety course should be a prerequisite to owning a gun. Here, the NRA should be commended for the excellent job it has done in safety training for gun owners and legitimate gun users.

The precedent for all these proposed regulations is the ownership of another potentially deadly device—an automobile. You need a license to buy a car. Racing cars are not street-legal. The life history of the car is a matter of public record to promote responsible ownership. And, if a car hurts a person, the owner is liable; not necessarily the driver.

Extremists, government conspiracy theorists and gun manufacturers should not own this debate. We have well-regulated militias called the National Guard. We have a long tradition of hunting that needs to be respected and target-shooting is a skill and a sport.

There is an epidemic of gun violence in the United States. Attention has been drawn to the effects of gun violence through the dramatic and deadly outcomes of rare mass killings, such as occurred at Virginia Tech; Aurora, Colorado; Milwaukee, Wisconsin; and, most recently, in Newtown, Connecticut. And, as tragic as those events are, they are more than matched by the corrosive, systematically harmful, impacts of daily gun violence—suicides, murders, wounds from assaults, and accidents. The numbers are appalling and the realities of death and injury faced by families are inconceivable. There is a balance that can be achieved between the rights and responsibilities of gun ownership. But the attempts to pass the burden of unregulated and irresponsible gun ownership onto the public is nothing more than an ongoing subsidy in lives, limbs and treasure to an industry that can never be sated.

Gun manufacturers are hiding behind the legitimate concerns of hunters and sportsmen. Recreating the Wild, Wild, West is not a public policy to be endorsed. Even in the best of the Westerns the townsfolk wanted the gunslingers to ride out of town. A peaceful community cannot succeed with six-shooters on everyone's hip.

APPENDIX

Description of Web-based Injury Statistics Query and Reporting System [WISQARS]

WISQARS is maintained by the Centers for Disease Control and Prevention and has three components: the Fatal Injury Reports, Nonfatal Injury Reports, and the National Violent Death Reporting System.

The Fatal Injury Data portal contains fatal injury data from death certificates contained in the National Vital Statistics System. These are where the information used in this report on gunshot deaths is obtained. The data begin in 1999 and the most current data are for 2010.

The second major component of WISQARS is the Nonfatal Injury Reports, which draws its data from reports hospital emergency departments file with the U.S. Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS). This is where data on gunshot wounds were obtained. Comparable data begin in 2001. Estimates for 2000 exist but the CDC recommends that they not be used in conjunction with the data from the years that follow. This is because the collection system began in July 2000 and estimates of the number of injuries in the first half of the year do not reflect seasonality. The 2000 data on wounds are in the appendix of this report for the sake of completeness, but are not included in the analysis.

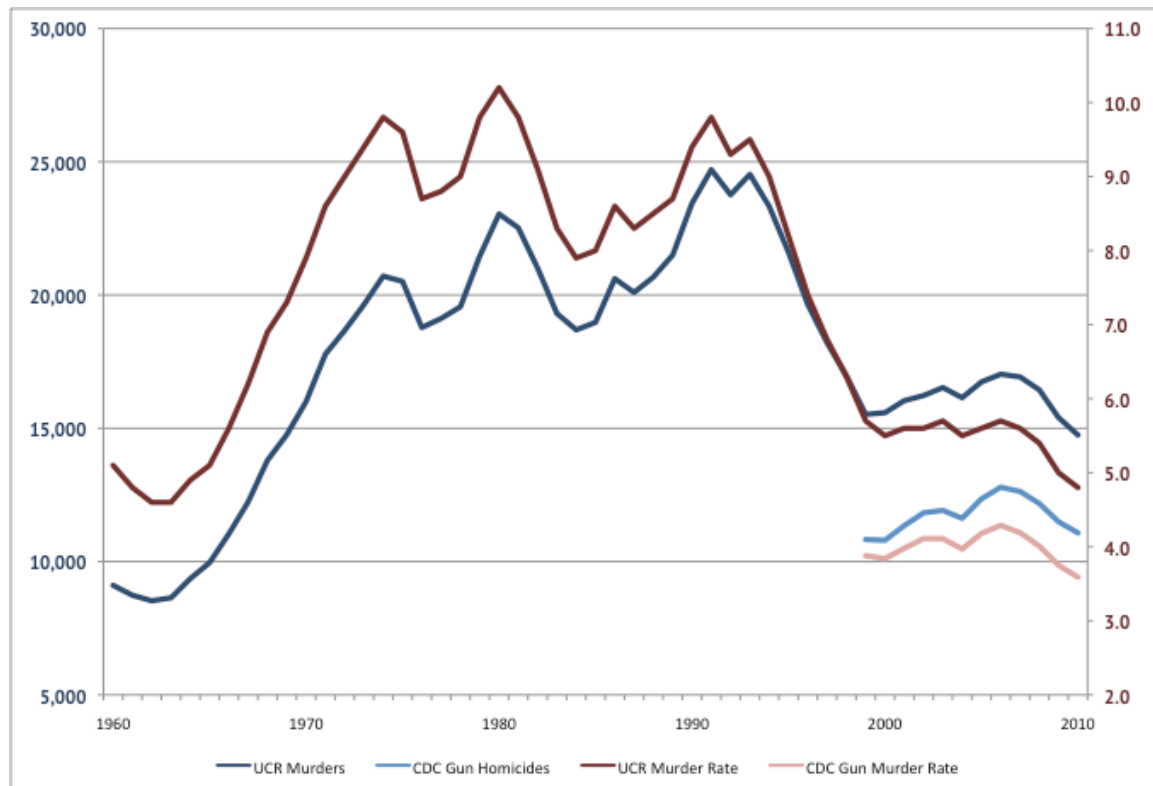
The third section to WISQARS is based on the National Violent Death Reporting System. These data are only available for 16 participating states.

Appendix Figure 1: Murders, Murder Rates, Homicides by Firearm, and Homicide by Firearm Rate.

Murders (blue lines) are plotted against the left axis and murder rates (red lines) are plotted against the right axis.

UCR represents data collected from Uniform Crime Reports (UCR) maintained by the FBI

CDC represents data collected by the Centers for Disease Control



All rates per 100,000 Population

Sources: FBI, Uniform Crime Reports (UCR), prepared by the National Archive of Criminal Justice Data and Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports.

Appendix Table 1: Gunshot deaths and wounds from 1999 to 2010

Gunshot Deaths by Type from 1999 to 2010						
Year	Suicide	Homicide	Accident	Legal Intervention	Undetermined	Total Number of Deaths
1999	16,599	10,828	824	299	324	28,874
2000	16,586	10,801	776	270	230	28,663
2001	16,869	11,348	802	323	231	29,573
2002	17,108	11,829	762	300	243	30,242
2003	16,907	11,920	730	347	232	30,136
2004	16,750	11,624	649	311	235	29,569
2005	17,002	12,352	789	330	221	30,694
2006	16,883	12,791	642	360	220	30,896
2007	17,352	12,632	613	351	276	31,224
2008	18,223	12,179	592	326	273	31,593
2009	18,735	11,493	554	333	232	31,347
2010	19,392	11,078	606	344	252	31,672
Sum: 2001 to 2010	175,221	119,246	6,739	3,325	2,415	306,946

Gunshot Wounds by Type from 2000 to 2011					
Year	Unintentional Accident	Assaults-all	Legal Intervention	Self Inflicted Self Harm	Total Number of Wounds
2000	23,237	48,570	862	3,016	75,685
2001	17,696	41,044	1,006	3,267	63,012
2002	17,579	37,321	646	3,295	58,841
2003	18,941	42,505	702	3,687	65,834
2004	16,555	43,592	890	3,352	64,389
2005	15,388	50,320	1,034	3,082	69,825
2006	14,678	52,748	801	3,190	71,417
2007	15,698	48,676	1,198	4,291	69,863
2008	17,215	56,626	984	3,797	78,622
2009	18,610	44,466	679	3,013	66,769
2010	14,161	53,738	963	4,643	73,505
2011	14,675	55,544	440	3,224	73,883
Sum: 2001 to 2010	148,825	429,992	7,897	32,350	619,065

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports and Nonfatal Injury Reports, Downloaded January and February 2013.

Note: The CDC warns against comparing wound data from 2000 to subsequent years. Data collection began in July 2000 and estimates are affected by seasonality. Data included for completeness.

Appendix Table 2 Distribution of gunshot deaths and wounds by type by year

Distribution of Gunshot Deaths by Type					
Year	Suicide	Murder	Accident	Legal Intervention	Undetermined
1999	57.5%	37.5%	2.9%	1.0%	1.1%
2000	57.9%	37.7%	2.7%	0.9%	0.8%
2001	57.0%	38.4%	2.7%	1.1%	0.8%
2002	56.6%	39.1%	2.5%	1.0%	0.8%
2003	56.1%	39.6%	2.4%	1.2%	0.8%
2004	56.6%	39.3%	2.2%	1.1%	0.8%
2005	55.4%	40.2%	2.6%	1.1%	0.7%
2006	54.6%	41.4%	2.1%	1.2%	0.7%
2007	55.6%	40.5%	2.0%	1.1%	0.9%
2008	57.7%	38.5%	1.9%	1.0%	0.9%
2009	59.8%	36.7%	1.8%	1.1%	0.7%
2010	61.2%	35.0%	1.9%	1.1%	0.8%
Average	57.2%	38.7%	2.3%	1.1%	0.8%

Source: Appendix Table 1

Distribution of Gunshot Wounds by Type				
Year	Assaults	Accidental	Self Inflicted	Legal Intervention
2001	65.1%	28.1%	5.2%	1.6%
2002	63.4%	29.9%	5.6%	1.1%
2003	64.6%	28.8%	5.6%	1.1%
2004	67.7%	25.7%	5.2%	1.4%
2005	72.1%	22.0%	4.4%	1.5%
2006	73.9%	20.6%	4.5%	1.1%
2007	69.7%	22.5%	6.1%	1.7%
2008	72.0%	21.9%	4.8%	1.3%
2009	66.6%	27.9%	4.5%	1.0%
2010	73.1%	19.3%	6.3%	1.3%
2011	75.2%	19.9%	4.4%	0.6%
Average	69.4%	24.2%	5.1%	1.2%

Source: Appendix Table 1

Appendix Table 3: Gunshot Death, Wound, Injury, Murder, Wounds from Assault, and Violence Rates per 100,000 Population by Year

Year	Gunshot Rates per 100,000 Population					
	Death	All Wound	Gunshot Injury	Murder	Wounds from Assaults	Violence
1999	10.4			3.88		
2000	10.2			3.84		
2001	10.4	22.1	32.5	3.98	14.4	18.5
2002	10.5	20.5	31.0	4.11	13.0	17.1
2003	10.4	22.7	33.1	4.11	14.7	18.6
2004	10.1	22.0	32.1	3.97	14.9	19.1
2005	10.4	23.6	34.0	4.18	17.0	21.3
2006	10.4	23.9	34.3	4.29	17.7	21.9
2007	10.4	23.2	33.6	4.19	16.2	20.2
2008	10.4	25.9	36.2	4.01	18.6	22.4
2009	10.2	21.8	32.0	3.75	14.5	18.1
2010	10.3	23.8	34.1	3.59	17.4	21.4
2011		23.7			17.9	

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports and Nonfatal Injury Reports, Downloaded January and February 2013.

Appendix Table 4: Number of gunshot murders and wounds by age cohort by year for young men and their gunshot violence rate per 100,000 for young men

Number of Gunshot Murders from 1999 to 2010 for Young Men						Number of Gunshot Murders from 1999 to 2010 for Young Men					
Year	Age Group					Year	Age Group				
	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39		15 to 19	20 to 24	25 to 29	30 to 34	35 to 39
1999	1,498	2,071	1,568	1,041	807	1999	14.5	21.8	15.9	10.1	7.1
2000	1,381	2,167	1,574	1,076	842	2000	13.3	22.4	16.1	10.4	7.4
2001	1,377	2,419	1,708	1,156	892	2001	13.1	24.0	18.0	11.1	8.0
2002	1,384	2,467	1,790	1,227	918	2002	13.0	23.9	19.0	11.8	8.5
2003	1,436	2,541	1,867	1,258	860	2003	13.4	24.2	19.7	12.2	8.1
2004	1,396	2,322	1,876	1,235	877	2004	12.9	21.8	19.5	12.2	8.4
2005	1,584	2,512	1,978	1,366	851	2005	14.3	23.4	20.1	13.8	8.2
2006	1,751	2,624	1,983	1,339	891	2006	15.6	24.3	19.6	13.8	8.5
2007	1,696	2,503	1,942	1,382	928	2007	15.0	23.2	18.8	14.4	8.9
2008	1,588	2,339	1,880	1,338	939	2008	13.9	21.6	17.9	13.8	9.1
2009	1,446	2,175	1,673	1,197	890	2009	12.7	19.9	15.8	12.2	8.7
2010	1,384	2,117	1,673	1,263	762	2010	12.2	19.2	15.7	12.6	7.6
Number of Gunshot Wounds from Assaults from 2001 to 2011 for Young Men						Number of Gunshot Wounds from Assaults from 2001 to 2011 for Young Men					
Year	Age Group					Year	Age Group				
	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39		15 to 19	20 to 24	25 to 29	30 to 34	35 to 39
2001	7,839	10,975	5,876	4,101	3,102	2001	74.3	108.9	61.7	39.5	28.0
2002	6,993	9,900	5,553	4,005	2,952	2002	65.8	95.9	58.8	38.6	27.2
2003	6,721	10,904	7,248	5,023	3,075	2003	62.8	103.9	76.6	48.9	29.0
2004	7,519	10,544	8,141	4,809	3,492	2004	69.2	99.0	84.6	47.5	33.5
2005	10,198	12,709	8,889	5,203	3,629	2005	92.3	118.4	90.5	52.6	34.9
2006	11,696	13,270	7,654	4,793	2,855	2006	104.3	122.9	75.8	49.6	27.3
2007	10,719	11,090	7,204	4,703	3,275	2007	94.6	102.6	69.9	48.9	31.3
2008	14,104	12,468	9,570	5,188	3,437	2008	123.7	115.0	91.1	53.6	33.1
2009	8,364	11,753	7,823	3,622	2,810	2009	73.5	107.6	73.7	36.8	27.5
2010	9,876	13,313	9,106	6,134	3,609	2010	87.4	120.9	85.6	61.4	35.9
2011	11,214	14,673	9,116	4,969	2,861	2011	100.9	129.7	84.7	48.3	29.3
Gunshot Violence Rate (Murder plus Wound Rate) from 2001 to 2010 for Young Men						Gunshot Violence Rate (Murder plus Wound Rate) from 2001 to 2010 for Young Men					
Year	Age Group					Year	Age Group				
	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39		15 to 19	20 to 24	25 to 29	30 to 34	35 to 39
2001	87.4	132.9	79.7	50.6	36.0	2001	87.4	132.9	79.7	50.6	36.0
2002	78.8	119.8	77.8	50.4	35.7	2002	78.8	119.8	77.8	50.4	35.7
2003	76.2	128.1	96.3	61.1	37.1	2003	76.2	128.1	96.3	61.1	37.1
2004	82.1	120.8	104.0	59.7	41.9	2004	82.1	120.8	104.0	59.7	41.9
2005	106.6	141.8	110.6	66.4	43.1	2005	106.6	141.8	110.6	66.4	43.1
2006	120.0	147.2	95.5	63.4	35.8	2006	120.0	147.2	95.5	63.4	35.8
2007	109.5	125.8	88.7	63.3	40.2	2007	109.5	125.8	88.7	63.3	40.2
2008	137.6	136.6	109.0	67.4	42.2	2008	137.6	136.6	109.0	67.4	42.2
2009	86.2	127.5	89.5	49.0	36.2	2009	86.2	127.5	89.5	49.0	36.2
2010	99.6	140.1	101.4	74.0	43.5	2010	99.6	140.1	101.4	74.0	43.5

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, Fatal Injury Reports and Nonfatal Injury Reports, Downloaded January and February 2013.

Appendix Table 5: Gunshot deaths and suicides for men and women in the 16 reporting states in 2010

	Gunshot Deaths		Gunshot Murders		Gunshot Suicides	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
Total United States	31,672	10.3	11,078	3.6	19,392	6.3
Total 16 reporting states	7,440	9.1	2,423	3.0	5,017	6.1
16 states as percent of US	23.5%		21.9%		25.9%	
Alaska	129	18.2	22	3.1	107	15.1
Colorado	482	9.6	88	1.8	394	7.8
Georgia	1,034	10.7	406	4.2	628	6.5
Kentucky	319	7.4	99	2.3	220	5.1
Maryland	494	8.6	281	4.9	213	3.7
Massachusetts	253	3.9	127	1.9	126	1.9
New Jersey	426	4.9	245	2.8	181	2.1
New Mexico	261	12.7	69	3.4	192	9.3
North Carolina	1,054	11.1	343	3.6	711	7.5
Oklahoma	522	13.9	133	3.6	389	10.4
Oregon	413	10.8	56	1.5	357	9.3
Rhode Island	47	4.5	16	1.5	31	3.0
South Carolina	491	10.4	169	3.7	322	6.8
Utah	295	10.7	21	0.8	274	9.9
Virginia	813	10.2	253	3.2	560	7.0
Wisconsin	407	7.2	95	1.7	312	5.5

Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS, National Violent Death Reporting System, data retrieved on March 3, 2013.

References

- Ajdacic-Gross, Vladeta, et al. (2006). "Changing Times: A longitudinal analysis of international firearms suicide data," *American Journal of Public Health* 96(10).
- Bridges, F. Stephen and Julie C. Kunselman. (2004). "Gun availability and use of guns for suicide, homicide, and murder in Canada," *Perceptual and Motor Skills* (98)2: 594-598.
- Centers for Disease Control and Prevention. (2003) Web-based Injury Statistics Query and Reporting System (WISQARS). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from: URL: www.cdc.gov/ncipc/wisqars.
- Dresang, LT. (2001). "Gun deaths in rural and urban settings: Recommendations for prevention." *Journal of the American Board of Family Medicine*, Volume 14, Number 2: 107-115.
- Duggan, Mark. (2003). "Guns and Suicide," in Jens Ludwig and Philip J. Cook (Eds.) *Evaluating Gun Policy*. Washington, D.C.: The Brookings Institution.
- Lester, David and Antoon Leenaars. (1993). "Suicide rates in Canada before and after tightening firearms control laws," *Psychological Reports* 72: 787-790.
- Lewiecki, E. Michael and Sara A. Miller. (2013). "Suicide, Guns and Public Policy," *American Journal of Public Health*, 103(1): 27-31.
- Miller, Matthew and David Hemenway. (2008). "Guns and suicide in the United States." *New England Journal of Medicine*, (359) 989-991.
- Miller, Matthew and David Hemenway. (1999). "The relationship between firearms and suicide: a review of the literature." *Aggression and Violent Behavior* (spring): 59-75.
- National Rifle Association, Institute for Legislative Action. News & Issues. (2013). Firearms Safety in America 2013. National Rifle Association, January 17. Retrieved from: <http://www.nraila.org/news-issues/fact-sheets/2013/firearmsafety2013.aspx>
- National Rifle Association, Institute for Legislative Action. News & Issues. (2010). More Guns, Less Crime Again. National Rifle Association, September 15. Retrieved from: <http://www.nraila.org/news-issues/fact-sheets/2010/more-guns-less-crime-again.aspx?s=&st=&ps>
- Simon, OR, at al. (2002) "Characteristics of impulsive suicide attempts and attempters." *Suicide and Life-Threatening Behavior*, 32 (winter): Issue Supplement: 49-59.
- Uniform Crime Reporting Statistics, UCR Data Online. U.S. Department of Justice, Federal Bureau of Investigation, Criminal Information Services Division, <http://www.ucrdatatool.gov/>