

Guns in America: Just the Facts

Here's a scenario played out hundreds of times per year on TV and movies. You are in your house and a stranger breaks in to do you or your loved ones harm. But luckily, you have a gun, and you kill or disable the perpetrator as he is attacking you. Or maybe you're in a sketchy part of town and someone tries to mug you, or you see someone else in the act of getting mugged. Luckily, you carry a gun and you kill or disable the perpetrator before he harms anyone. There's a strong emotional urge to own a gun. If you are old, small in stature, female, don't know how to fight, of course you're tempted to have a gun to protect yourself.

But what do actual statistics say about a gun successfully protecting you from perpetrators? I wanted to find out. Guns are obviously a hot-button issue in America, with people on both sides cherry-picking facts, ignoring others, or just spreading falsehoods. I've tried for years to find actual data to come up with the whole story on gun statistics. It's very difficult.

It would be logical to find data for this issue neatly displayed in one place. Instead, I had to go to multiple tables, often just to get information for a particular year. It doesn't help that, since 1996, the NRA has successfully lobbied congress to defund the CDC in order to prohibit it from doing just this kind of research and organization.

(see <http://www.msnbc.com/the-last-word/blackout-how-the-nra-suppressed-gun-violence>)

I went to the FBI, CDC, ATF, Census, DOJ and other government sites. They really are the most complete, impartial sources. I will give links for all my sources so you can check them out yourself. Most blogs, news or organization sites have a bias. I'll try to ignore mine.

Here's one exception to my source rule. It's most difficult to find the demographics of gun owners. This information is done by phone survey. Even the Department of Justice depends on these surveys for demographics about guns. Three groups the DOJ recommends are:

Gallup Poll Social Series

Gallup interviews at least 1000 people for each public opinion poll, with minimum quotas of 40% landlines and 60% cellphones. (<http://www.gallup.com>)

General Social Survey

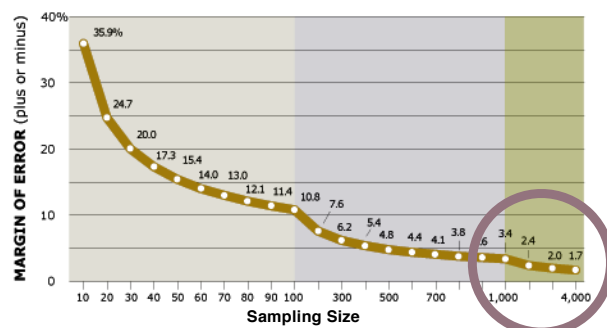
This survey has been run by the National Opinion Research Center at the University of Chicago since 1972. On each even year this group polled about 1500 households from 1977 - 2006, 3000 households from 2006 - 2012, and 4500 households since. (<http://gss.norc.org>)

Pew Research Center

Sporadically, this group surveys the public on various issues, with a sample size between 1000 and 4000. (<http://www.pewsocialtrends.org>)

As you can see from the graph supplied by the Pew Research Center at right, the inaccuracy of the above surveys would be 1.5 to 3.4%.

Sample Size and Sampling Error



Before I start, here is my personal bias on guns before seeing the data. I believe that, unless you have been certified as insane, a violent felon, or otherwise mentally incompetent, you have the right to have a gun. I don't believe there is a need for assault rifles in a peaceful society, so they should be illegal. Hunting is fine with me, and you don't need an assault rifle for that either. Generally, I think all humans are fallible enough that, with the exception of just a few people, we shouldn't all be carrying guns around all the time.

1. Why do people say they own a gun?

In 2013, Gallup found that 60% of gun owners wanted them for protection, 36% for hunting, and 21% for recreation or target practice (total >100% : a person may have multiple uses).

<http://www.gallup.com/poll/1645/guns.aspx>

The GSS found the actual percentage of people using a gun to hunt went from 31.6% in 1977 to 15.4% in 2014.

http://www.norc.org/PDFs/GSS%20Reports/GSS_Trends%20in%20Gun%20Ownership_US_1972-2014.pdf

2. Who owns guns?

The study just mentioned and Gallup collected demographic data about gun owners from 2010- 2014 gave these results:

<http://www.gallup.com/poll/150353/self-reported-gun-ownership-highest-1993.aspx>

Group	1980	2010 -2014
Households with a gun	50.4% (GSS)	32.1 (GSS)%
Gender		
Men	50.3 (GSS)	35.1% (GSS)
Women	10.1 (GSS)	11.7% (GSS)
Part of US		
East		31% (Average: Gallup)
South		53% (Average: Gallup)
Midwest		41% (Average: Gallup)
West		40% (Average: Gallup)
Political Leaning		
Republicans		57% (Average: Gallup)
Democrats		34% (Average: Gallup)
Race		
Whites		39% (GSS)
Blacks		18.1% (GSS)
Hispanics		15.2% (GSS)
Household Income		
< \$25000		18% (GSS)
\$ 25000-\$49999		32.1% (GSS)
\$50000-\$89,999		41.8% (GSS)
≥ \$90000		44.0% (GSS)
Residential Density		
Urban		17% (GSS)
Suburban		24% (GSS)
Rural		56% (GSS)

To generalize, most gun owners in the US are male, southern, republican, white, affluent and in a rural area. Gun ownership has generally declined in the last 30 years.

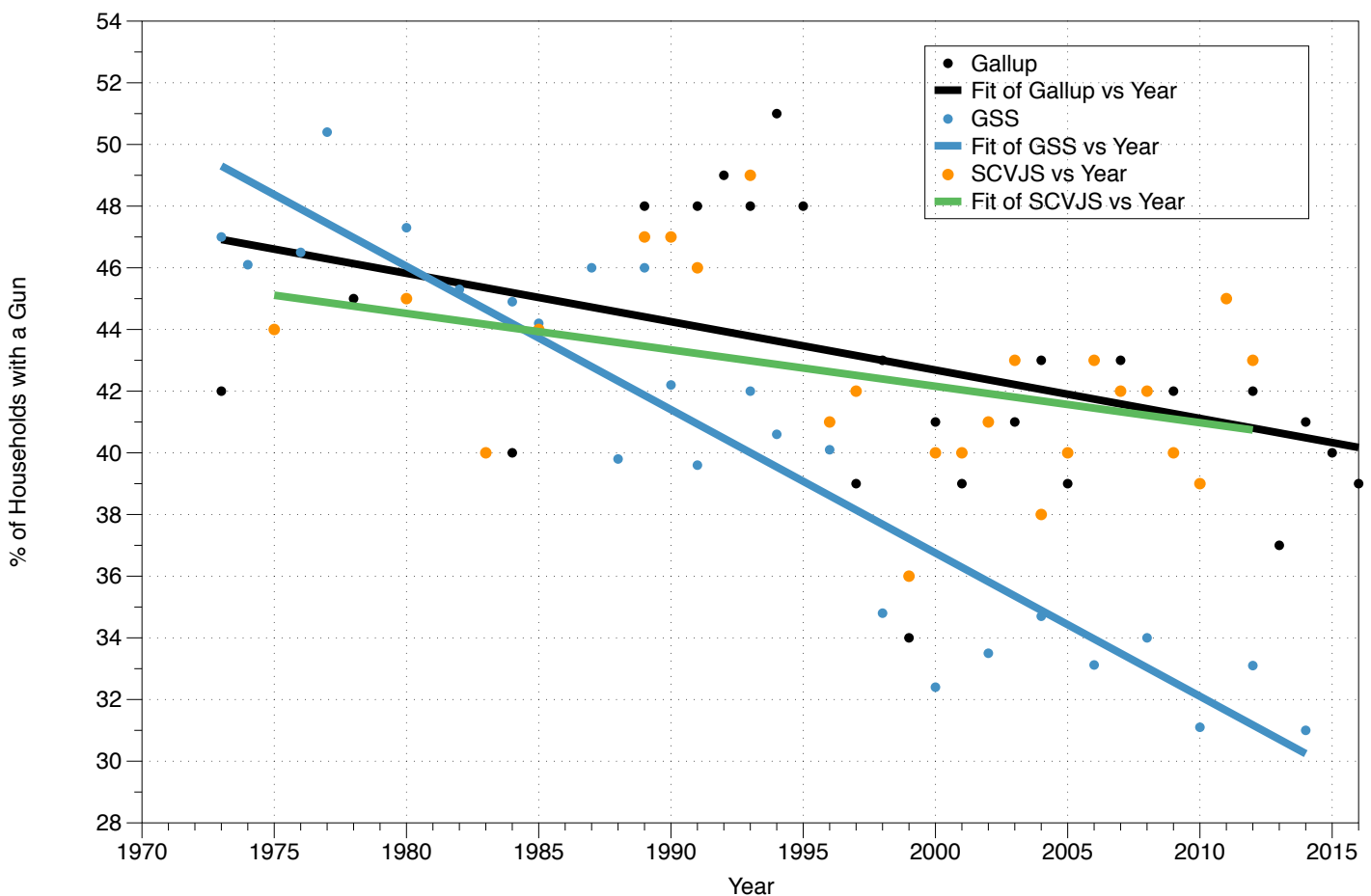
3. So how many households in America have one or more gun in them?

There are 3 sources that have polled this information, Gallup, GSS and The Sourcebook of Criminal Justice Statistics, and they give different answers. The SCJS only polled around 50 people per year, so it is less reliable. See Appendix A for the data table that led to this graph

<http://www.gallup.com/poll/1645/guns.aspx>

http://www.norc.org/PDFs/GSS%20Reports/GSS_Trends%20in%20Gun%20Ownership_US_1972-2014.pdf

<http://www.albany.edu/sourcebook/pdf/t2592012.pdf>



The black dots are from the Gallup poll, the blue ones from GSS, and the orange ones are from SCVJS. As you can see, the percentages fluctuate, but the general trend of each data set (thick lines) shows the percentage of households with a gun declining over the last 40 years or so. The slopes of the trends shows the decline of average % per year.

Gallup: -0.16%/year GSS: -0.47% per year SCVJS: -0.12% per year

So households with guns are declining. But how about the number of guns bought per person in America?

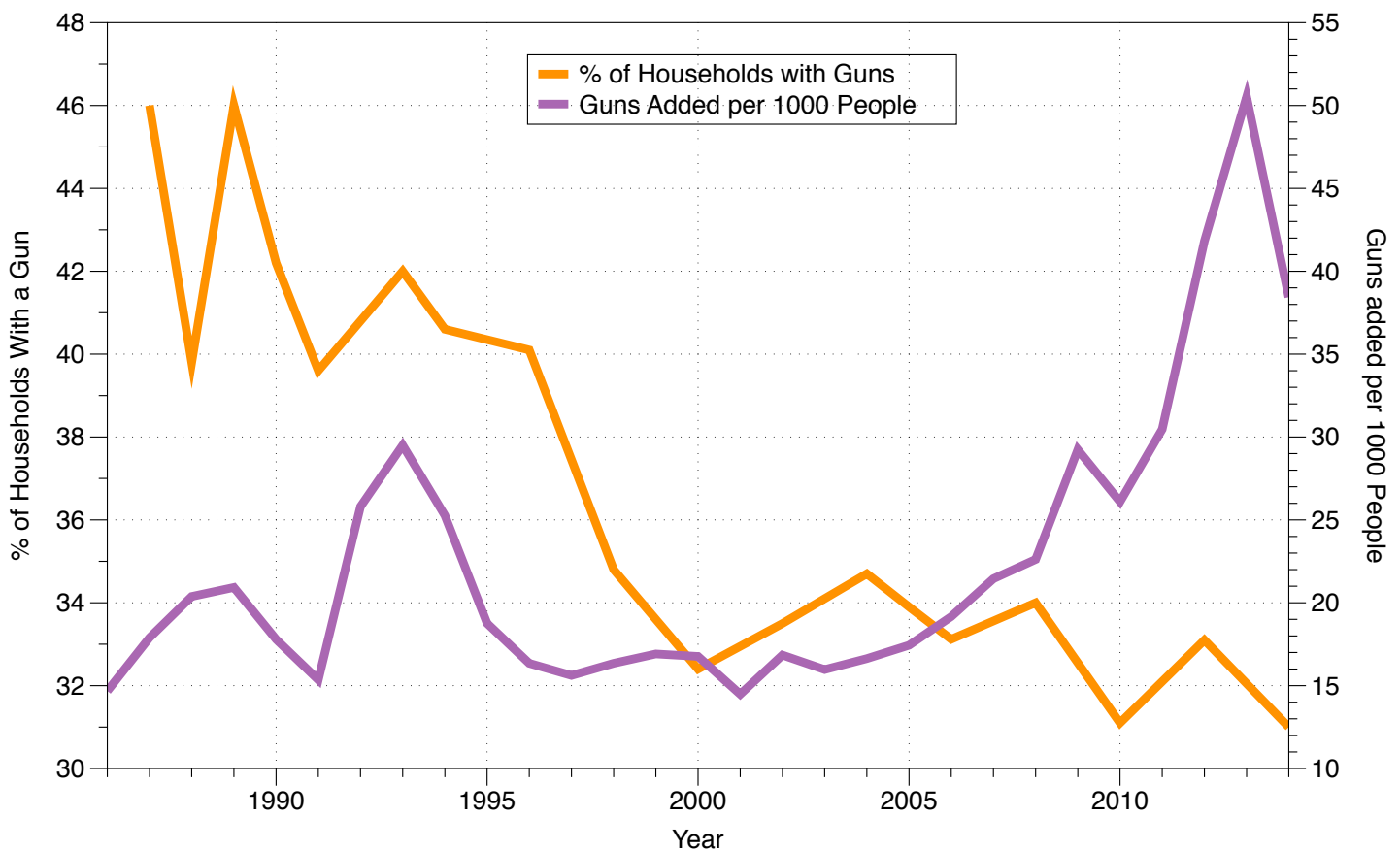
4. How many guns are bought per person in America each year?

The ATF sends out a yearly report on firearm commerce in the US. For each year, tables list how many guns were manufactured in the US, how many were exported, and how many were imported. (<https://www.atf.gov/resource-center/docs/2016-firearms-commerce-united-states/download>). We can find the net total of firearms added in America by year:

Net Total = Guns manufactured in US - Guns exported + Guns imported

Then, by dividing by the US population each year, then multiplying by 1000, we can find out how many guns each 1000 people gained that year (average).

On the graph below, the blue line shows how many guns each 1000 people gained each year (units on right axis). I've regraphed the GSS Percent of Households with a Gun using an orange line, with the unit axis on the left.



As you can see, **During Bush 1, gun-buying increased.**
During the Clinton era, gun-buying decreased.
During the Bush 2 era gun-buying increased after 9/1/1
After Obama was elected, gun-buying skyrocketed

The data table for the orange line (appendix) says that, in addition to what existed before, America has gained about 185 million guns from 1986 to 2014, or a total of 65 guns per 100 people. So clearly, Americans have been increasing the average number of guns they each have.

Yet the percentage of households with a gun has decreased by as much as 15% in that same time (GSS data, previous page). This must mean that a minority of Americans are collecting multiple guns.

5. Has the rate of deaths due to firearms changed?

As I said before, since 1996, government agencies have been allowed to collect data on firearms, but can't analyze it, thanks to the NRA.

I have gone to the FBI Expanded Homicide Tables for each year from 1996 to 2015. There are 15 tables each year, each organizing data a different way. For instance:

Table 7 deals with the type of weapon used.

Table 9 shows the relationship between the murderer and the murdered.

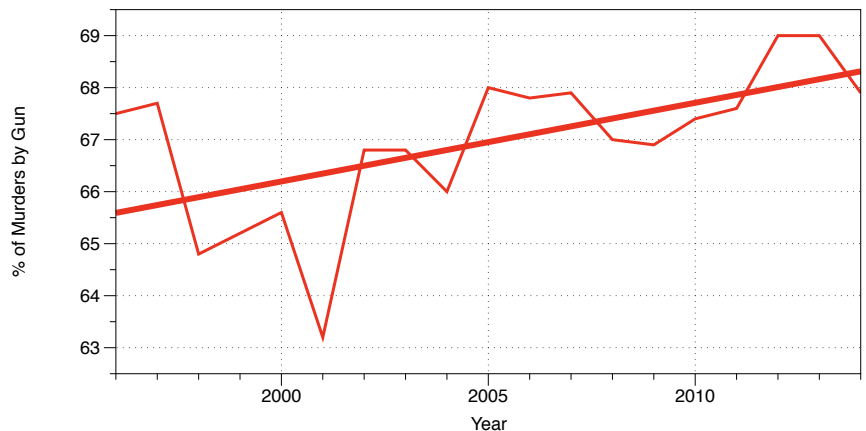
Table 14 shows how many non-police shootings were justifiable homicide

The link to look at them in 2015 is

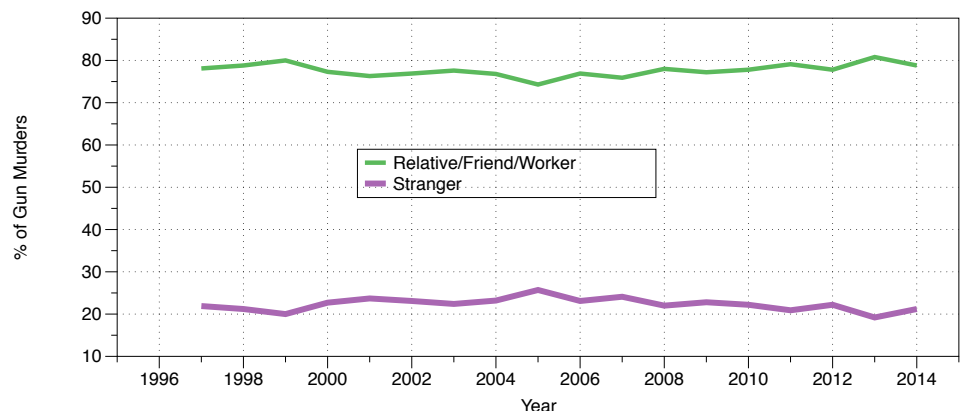
<https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/offenses-known-to-law-enforcement/expanded-homicide>

Weapon Type: Murders can be done with knives, explosives, fists, guns, strangulation, etc. The FBI catalogs all of these and more. Here is the graph showing what percent of murders were done with a gun since 1996 (See Appendix C for data, from FBI Table 8):

The graph shows that guns account for a fairly-constant 2/3rds of all murders, but the percentage dropped by about 4% from 1996 to 2001, and then went up about 5% since then.



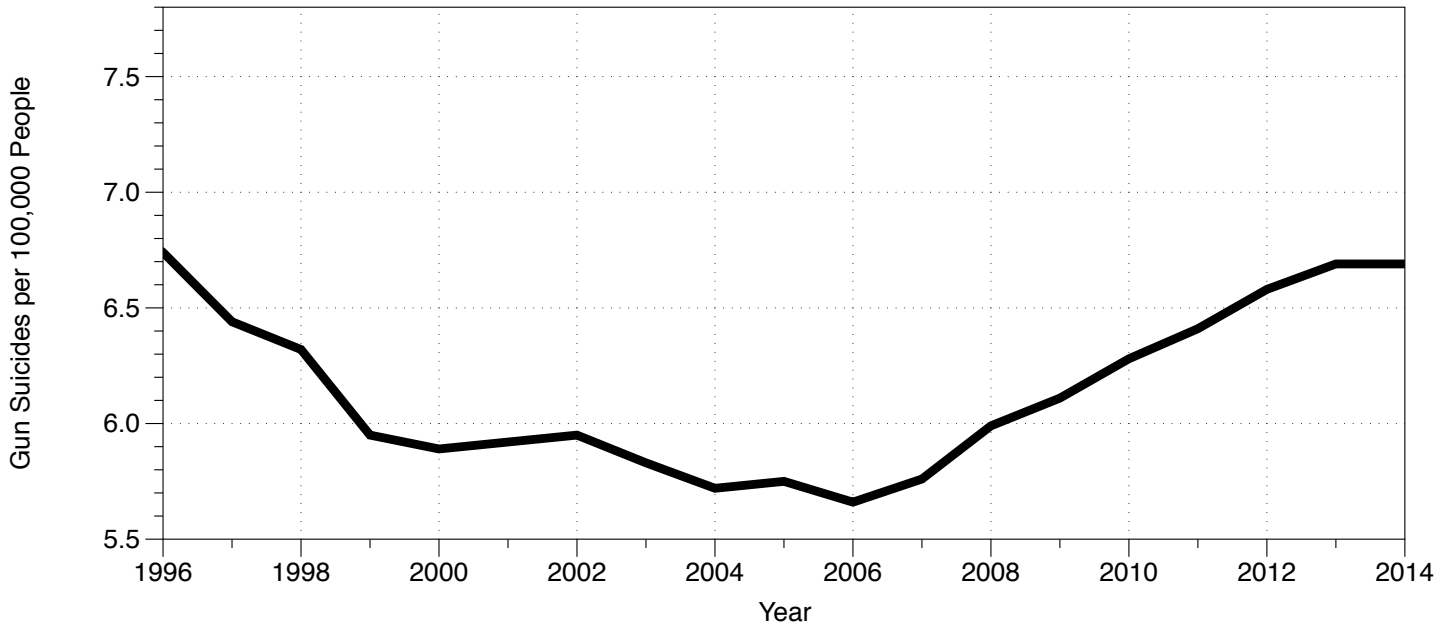
Relationship: A gun murder victim could be killed by a stranger, work acquaintance, friend or relative (usually spouse). There isn't data for guns only, but for all murders committed, here is a graph that shows what percentage of victims were killed by someone they know, and the converse, a stranger. The percentages were found by dividing by the number of known murder relationships (see Appendix D, from FBI Tables 9 or 10)



As you can see, if you murder someone, there's a fairly-consistent 80% chance it will be someone you know and 20% chance it will be a stranger

Gun Suicides: I also went to the CDC to find out how many suicides by firearm occurred each year

https://www.cdc.gov/nchs/data/databriefs/db241_table.pdf#4



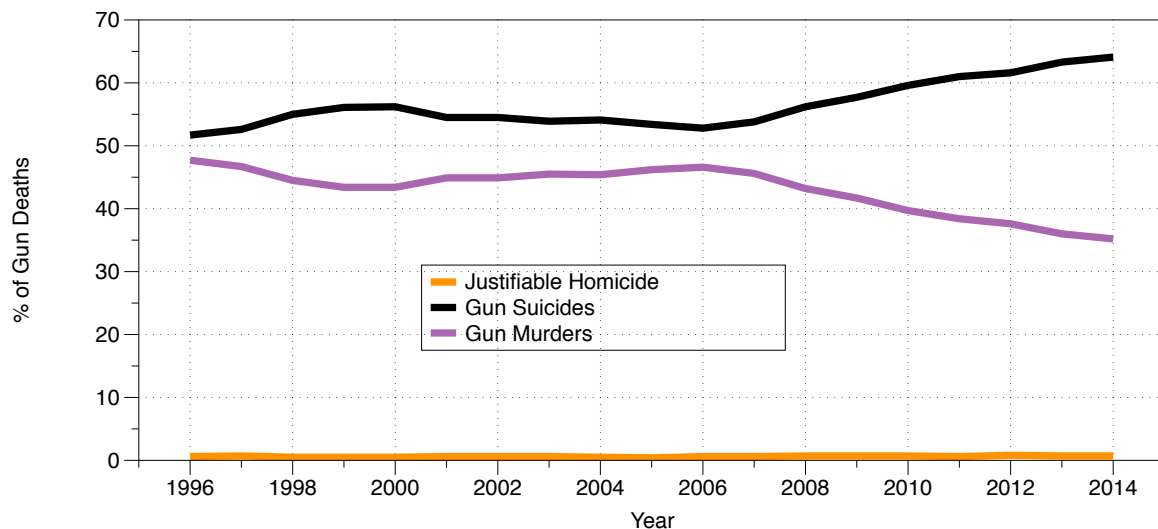
The gun suicides rate dropped from 1996 to 2006, then rose back to 1996 levels.

Justified Homicide: The FBI defines this as a private citizen killing a perpetrator as the perpetrator commits a felony. This is the scenario most people imagine as a reason to buy a gun. See Appendix F for data, taken from FBI Table 15. On average, about 81% of justifiable homicides are done with a gun.

6. Who Guns Kill:

Appendix G shows a collection of data from all tables:

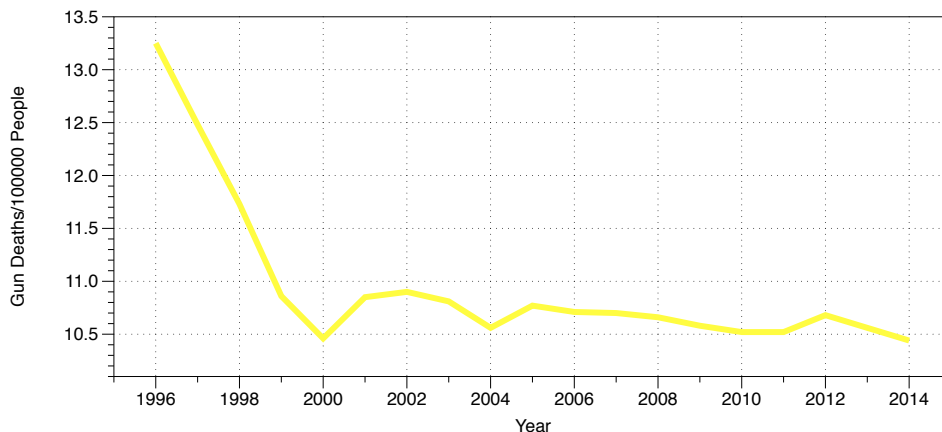
- Total Gun Deaths (murders, suicides)
- Justifiable Homicides, and as a % of Total Gun Deaths
- Gun Murders
- Gun Murders (Justifiable Homicide subtracted), and as a % of Total Gun Deaths
- Suicides, and as a % of Total Gun Deaths



Justifiable Homicides are always less than 1% of gun deaths, Murder and Suicide each began as around half of all Gun Deaths in 1996, but after the 2008 crash, Suicide rose to about 2/3 rds of Gun Deaths.

So, even though most people buy a gun to protect themselves, they only successfully do this in less than 1 out of 100 times.

Gun Death Rate: Is the rate of gun deaths increasing? Again from Appendix G, graphing Gun Deaths per 100000:



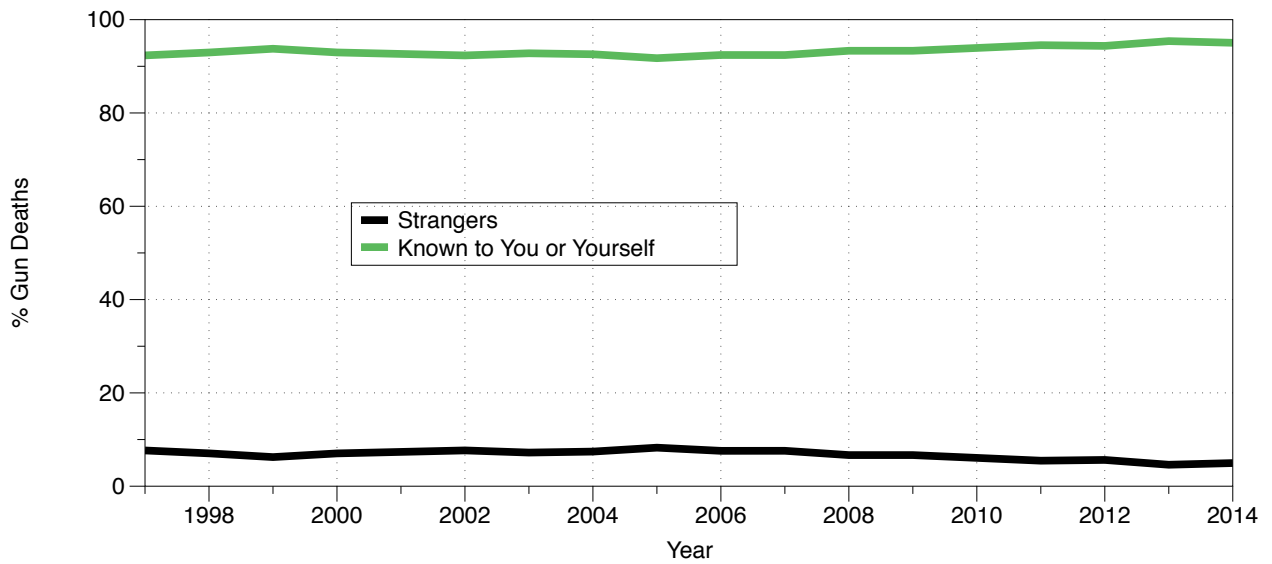
Gun Deaths/100,000 People decreased from 1996 to 2000, but stayed fairly constant afterwards at about 10.

If you kill someone with a gun, what are your chances of killing a stranger?

Appendix H tells for each year between 1997 and 2014:

- How many Gun Murders there were (subtracting Justifiable Homicides)
- If you **assume** that the percentage of gun murders of people you know (Relatives/Friends/Workers) is the same as for all murders, you get **#RFW Gun Murders** from Appendix D. This will be about 80%, but varies slightly every year, and is calculated that way.
- Reposting Gun Suicides from Appendix E
- Reposting # of Stranger Murders from Appendix H
- Total Gun deaths (suicides and murders)
- % of Stranger Gun Deaths
- % Known or Yourself (the converse of % Stranger Gun Deaths)

Year vs % Stranger Gun Deaths and % Known or Yourself is graphed on the next page.



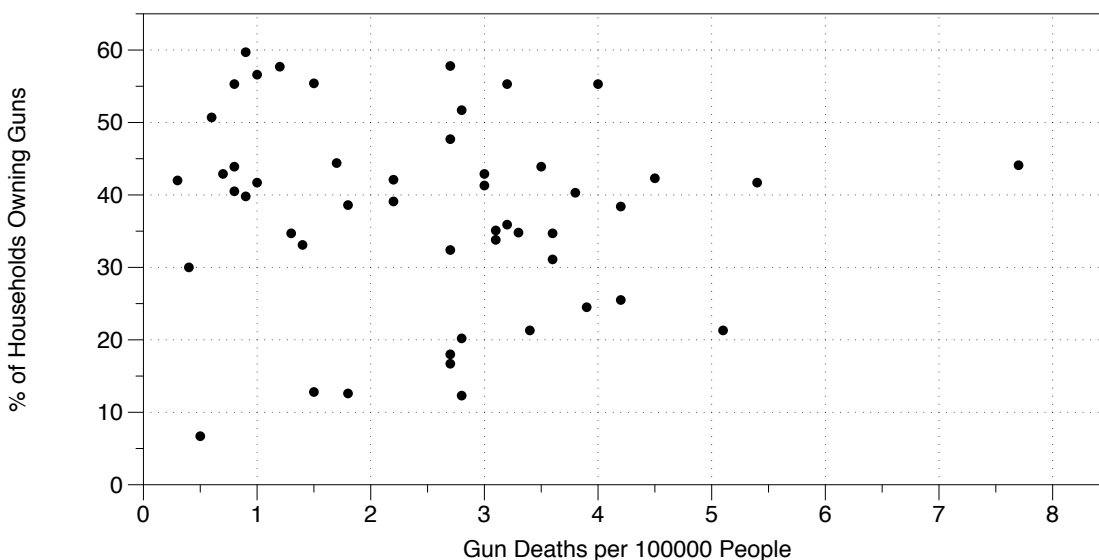
It looks like, between 1997 and 2014, if you kill someone with a gun, it will be a stranger between 5 and 8% of the time. Over 90% of the time, you'll be killing someone you know or yourself.

Putting this in the forms of odds, in 2014, when you kill someone with a gun, 19 out of 20 times it will be yourself or someone you know.

7. Are the Gun Ownership and Gun Death rates related?

When 50 US states compare their gun ownership rate to gun murder rate, the result is the graph below (See Appendix I). Basically, there is no pattern.

<http://demographicdata.org/facts-and-figures/gun-ownership-statistics/>



8. What can you correlate to Gun Deaths?

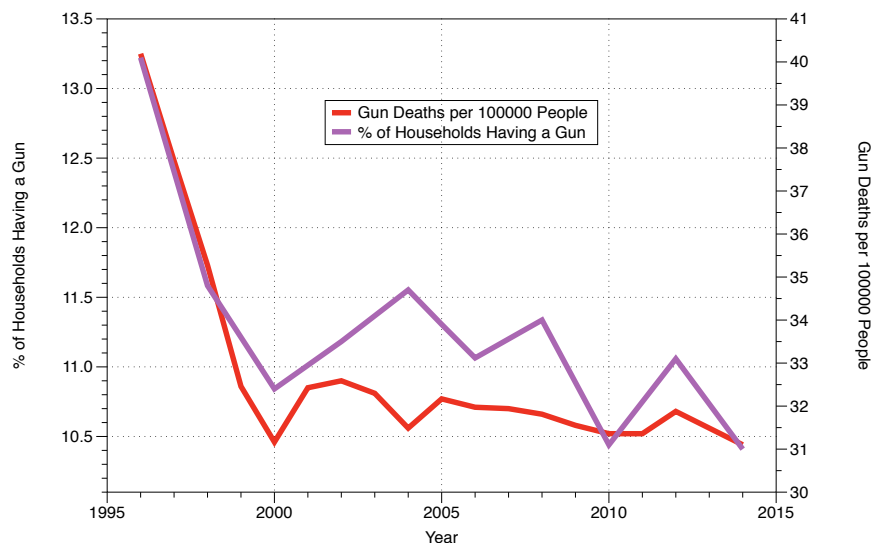
The NRA proudly maintains that gun ownership has increased, while Gun death rate has decreased. is this true? Graphing Gun Murders per 100000 People vs Guns Added per 100 People since 1996:

Sure enough, as more guns were added per capita in America, Gun Murder rate dropped quickly until 2000, and then remained about constant since then.



But what if we graph the GSS percent of houses having a gun vs Gun Deaths?

We find that the two change proportionally together. The fewer households with even one gun available, the lower the rate of gun deaths of any kind.



This makes better sense. If there is no gun in the house, you can't shoot yourself or anyone else with one.

As soon as you have at least one gun in the house, you can shoot yourself or others with it. If you have 50 guns in the house, it doesn't necessarily change the availability of a gun.

9. Are assault weapons really a problem?

We don't know. But since 2010, the FBI has kept track of how many shooters and victims there were in murder crimes. The data are found on Table 4.

Single victim/single offender
Single victim/unknown offender or offenders
Single victim/multiple offenders
Multiple victims/single offender
Multiple victims/multiple offenders
Multiple victims/unknown offender or offenders

<https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables>

[expanded_homicide_data_table_4_murder_by_victim_offender_situations_2015.xls](#)

We do know from Table 4 that, since 2010, 9% of all murders in known situations are single shooter/multiple victim. An assault weapon makes this kind of crime easier to execute.

Year	Total Homicides	Known Situations	Unknown Situations	Single Shooter / Multiple Victims	% SS/MV
2010	12996	8881	4115	759	8.55
2011	12664	8698	3966	821	9.44
2012	12765	8648	4117	824	9.53
2013	12253	8274	3979	782	9.45
2014	11961	7970	3991	559	7.01
2015	13445	8759	4686	835	9.53

10. What Role Does the NRA Play in All of This?

History: The NRA began in 1871 as a way to improve marksmanship and general competence of riflemen.

- In 1903, the NRA began promoting shooting sports, training and competitions among America's young people.
- In 1934, the NRA created the Institute for Legislative Action, which didn't lobby politicians, but did inform NRA members of its views so that voters could promote them.
- In 1949, the NRA established hunter education programs with state fish and game departments
- In 1975, the NRA began emphasizing Second Amendment protections, and in 1990, started the NRA Foundation (501c) to raise money tax-free, to spend on political campaigns and media communication. The NRA opposes any kind of gun control, including banning assault weapons.
- Initially, the NRA was funded almost completely by the dues of its members.

<https://home.nra.org/about-the-nra/>

Money Sources: From 2010 to 2013, annual NRA revenue went from \$228 to \$348 million. About half of this money came from membership dues. The rest of the donations come from arms manufacturers and sellers, like Beretta, Smith and Wesson, Ruger, Browning, USA Midway, Remington and Cabellas.

<http://money.cnn.com/infographic/news/the-nras-money-10-things-we-know/>

In 2016, the NRA PAC made about \$850,000 in political contributions to 288 candidates, 98% of whom were Republicans. 97.5% of these contributions originated from organizations and corporations, as opposed to individuals..

In 2016, the NRA spent about \$ 52.5 million dollars on outside political spending through its affiliates, spending more money than 96% of other outside spending PACs:

NRA Institute for Legislative Action (a 501c "non-profit")	\$33.3 million
NRA PAC	\$19.2 million

In 2016 the NRA spent \$3.2 million on lobbying congress-people and government agencies, like the ATF and the Departments of Interior, Agriculture, and the Trade Bureau, spending more than any of 96% of other lobbying groups

More than twice as much NRA money goes to opposing Democratic candidates than supporting Republican ones, and has a 66% success rate.

In 2016, the Trump campaign received \$8.8 million from the NRA Institute for Legislative Action, making it 3rd out of 258 organizations (top 1%) in the size of the donation.

<https://www.opensecrets.org/orgs/summary.phpid=d000000082About%20Rankings&cycle=2016>

Summary:

1. Most Americans today buy a gun for protection, and only about 1 out of 7 actually use them for hunting
2. The average gun owner in the US is male, white, southern, Republican, affluent and in a rural area.
3. The percentage of households having at least one gun in them has declined in the last 30 years by 7% (15% proportionally) to 15% (38% proportionally), depending on which survey you believe.
4. The number of guns per capita has risen by about .65 guns per person over the last 30 years. Because the % of households with a gun has decreased, this means a few people are buying multiple guns.
5. About two thirds of murders are committed with guns, with the percentage rising recently.
6. Murderers know their victims about 80% of the time.
7.
 - Gun Suicides have risen from about about 52% of all Gun Deaths in 1996 to about 64%
 - Gun Murders have dropped from about 48% of all Gun Deaths in 1996 to about 35% in 2014
 - Justified Homicides consistently account for less than 1% of Gun Deaths
8. Including Gun Suicides, Murders and Justified Homicide, your chances of killing yourself or someone you know, or are related to, is 19 out of 20. You have a 1 out of 20 chance of killing a stranger
9. There doesn't seem to be a relationship between Gun Ownership per capita and Gun Murders per capita
10. The Gun Death rate dropped rapidly until 2000, and then remained fairly unchanged since then. During this time, the number of guns per capita in the US rose. However, the percentage of household with guns fell at about the same rate as Gun Deaths.
11. The NRA began as a promoter of gun safety and competence. With its revenue depending increasingly on large donations from the gun industry, the mission of the NRA has changed to maximizing gun sales. They do this by demanding of its government beneficiaries, that guns of any kind will be sold to absolutely anyone in the US, with no background check. They also oppose limits on international gun sales.
12. About 9% of murders, for which information is available, happen when one shooter kills many people at once.

Gun statistics reveal a buyer-beware situation. If you are buying a gun for protection, realize that, even though you can envision stopping a perpetrator with it, statistically you will do that legally less than 1% of the time. Also, the person you shoot will be yourself, a loved one, or acquaintance over 90% of the time.