

BLACK SWANS, SHARK ATTACKS, AND MASS SHOOTINGS

*Incredibly Rare Circumstances
that Should Not Drive Public Policy*



[FPC]

FIREARMS
POLICY
COALITION

POLICY BRIEF

The Chance of Being Murdered in a Mass Shooting is 1 in 11.6 Million Per Year

WRITTEN BY:
MATTHEW LAROSIERE¹

MASS SHOOTINGS UNDERSTANDABLY GARNER A HUGE AMOUNT OF media attention. The thought of human life cut short, for no reason and largely without warning, is a natural source of anxiety. These events are increasingly sparking debate on whether to expand government restrictions on arms and related conduct in the United States. This question is a very serious one, as laws restricting firearm ownership and the like necessarily infringe the fundamental, individual right to keep and bear arms.

Sound public policy demands a proper understanding of our legal system, our rights, and a dispassionate examination of evidence rather than a fixation with a specific type of tragedy. One piece of vital evidence absent from the broader ‘gun debate’ is the actual risk posed by mass shootings. Numbers presented by anti-gun organizations and individuals are often inconsistent, and citations are scarce. The truth is that the annual chance of being murdered in a mass shooting has been about 1 in 11.6 million from 1966 through 2019. The 1,207 people who were murdered in mass shootings during that time account for about 0.12 percent of the approximately 981,482 homicides during that multi-decade period. These are not high odds, nor are mass shootings a numerically significant component of homicide in the United States.

METHODS AND DATA

Our analysis estimates the annual chance of being murdered in a mass shooting in the United States. Our estimates are based on data from 1966 through 2019, covering the entire duration of a recently released, authoritative dataset on mass shootings². The annual chance of being murdered in a mass shooting is the summed population of the country in each year divided by the number of people murdered in a mass shooting in that year. This is a standard form of risk analysis measuring the annual fatality risk of a given cause. The same method has been used to study the chance of being murdered in terrorist attacks,³ wars,⁴ natural disasters,⁵ and other low-probability events.⁶

Data on the number of people murdered in mass shootings comes from the Mass Shooter Database compiled by THE VIOLENCE PROJECT, a nonpartisan think tank whose mission is to “reduce violence in society and improved related policy and practice through research and analysis.”⁷ THE VIOLENCE PROJECT defines a mass shooting as:

a multiple homicide incident in which four or more victims are murdered with firearms—not including the offender(s)—within one event, and at least some of the murders occurred in a public location or locations in close geographical proximity (e.g., a workplace, school, restaurant, or other public settings), and the murders are not attributable to any other underlying criminal activity or commonplace circumstance (armed robbery, criminal competition, insurance fraud, argument, or romantic triangle).⁸

FIREARMS POLICY COALITION

THE VIOLENCE PROJECT’S definition of a mass shooting is the same as that used by the Congressional Research Service, a government think tank that provides policy and legal analysis to Congress.⁹ We believe this definition reasonably encompasses what most people imagine when they conceive of a mass shooting. Other definitions, such as the one used by Gun Violence Database (focusing on four or more injuries, not necessarily caused by the source of gunfire)¹⁰ miss the mark, as they can include a number of accidental circumstances, as well as more “common” criminal activity. That four fatalities is arbitrary is a fair criticism; but ultimately, with data, lines have to be drawn. While we may have drawn the lines differently, we feel those drawn by the primary dataset are certainly adequate.

Some corrections had to be made in order for us to examine total deaths. The Mass Shooter Database includes the number of people murdered in mass shootings, but is primarily designed to display information about mass shooters such as their sex, age, and the location of the shooting. As a result, it double counts the deaths in some mass shootings when there are two shooters involved. For instance, the database double-counted the 14 victims of the San Bernardino shooting carried out by Rizwan Farook and Tashfeen Malik. Instead of the 14 people murdered in their terrorist attack, the original version of the Mass Shooter Database counted 28 between them. Thus, the dataset had to be cleaned to remove the double counted murder victims. All in all, 32 victims were double counted; so the number of victims was lowered from 1,239 to 1,207 to accurately count the total number of people murdered in mass shootings in the period.

Data on the population of the United States in each year comes from the FBI's Uniform Crime Reporting (UCR) program, which in turn relies upon the U.S. Census Bureau.¹¹ Occasionally, older FBI documents have population figures that conflict with newer documents. In the case of such conflicting data, this analysis chooses the data published at a later date. U.S. population for 2019 was estimated to be the 2018 population increased by the average annual population growth rate in the preceding decade.

Lastly, data on the number of murders comes from the UCR.¹² Like the population estimates, older UCR documents sometimes have slightly different numbers for murders. In the case of such conflicting data, this analysis chooses the data published at a later date to improve consistency.

RESULTS

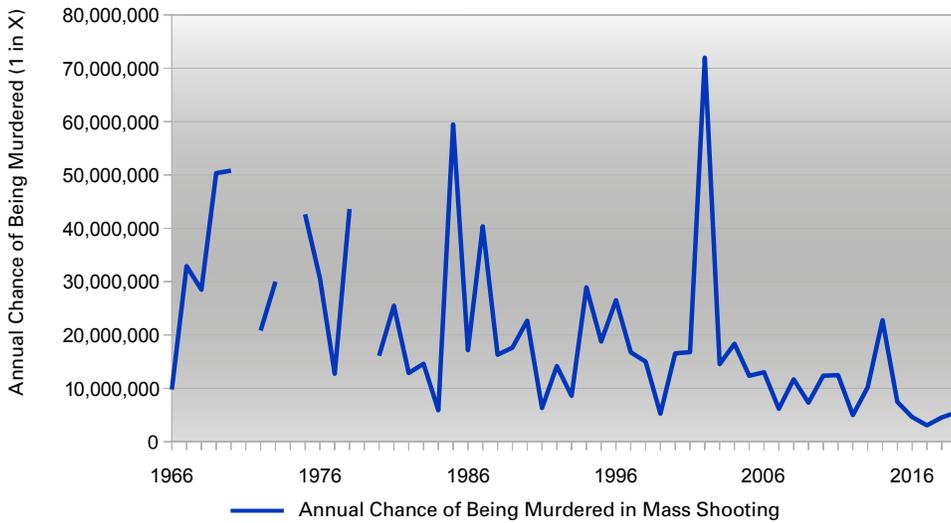
The annual chance of being murdered in a mass shooting was about 1 in 11,632,494 per year from 1966-2019. By comparison, the annual chance of being murdered in any homicide during that time was 1 in 14,305. In other words, about 0.12 percent of all murders were in mass shootings, and about one person was murdered in a mass shooting for every 813 people murdered by other means during that time. Murder rates are often portrayed as the rate per 100,000. From 1966-2019, the annual average overall murder rate during the time was 6.99 per 100,000. By comparison, the average annual murder rate for mass shootings was 0.0086 per 100,000.

Over the 54-year period analyzed here, the annual mass shooting fatalities have varied greatly (Figure 1). For instance, shortening the time to the 30-year period of 1990-2019 increases

the annual chance of being murdered in a mass shooting to 1 in 9,075,285. Zero people were murdered in mass shootings in 1971, 1974, and 1979, and the deadliest year was 2017 when 106 people were murdered in mass shootings. The small numbers and year-over-year variation render a trend line of little utility. Thus, claims that mass shootings are “on the rise” are misleading or dubious at best.

*Figure 1*¹³

Annual Chance of Being Murdered in a Mass Shooting, 1966-2019



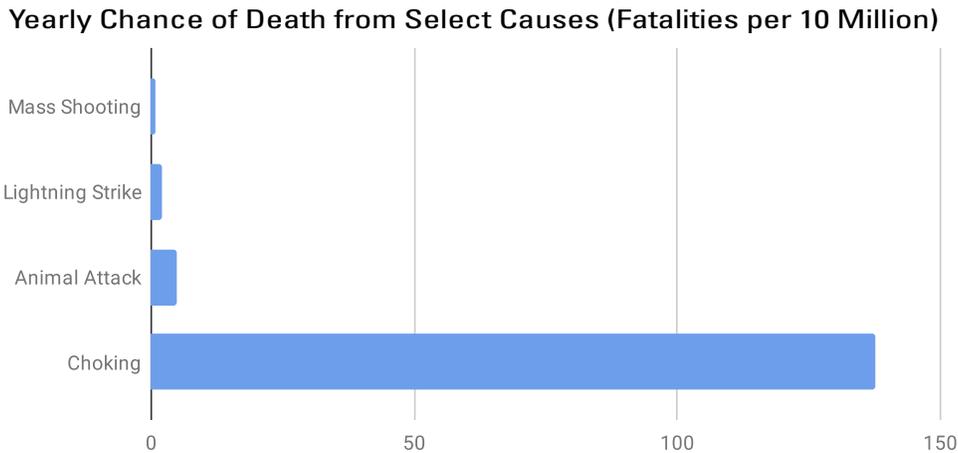
Note: The higher the number, the lower the risk. The lower the number, the higher the risk. Years where zero people were murdered in mass shootings show a broken line.

Even so, the annual chance of being murdered in a mass shooting is about 65 percent lower than the annual chance of being murdered in a terrorist attack on U.S. soil during roughly the same period.¹⁴ Some terrorist attacks like the Pulse Nightclub shooting in 2016, the San Bernardino shooting in 2015, and the Fort Hood

shooting in 2009, also count as mass shootings because they were carried out by terrorists using firearms as weapons. Although mass shootings garner an enormous amount of media and public attention, the actual risk from being murdered in one is small, and much smaller than other hazards.

Although there is clearly an important difference between violent crimes and accidents as a cause of death, mass shootings should be juxtaposed with other public health concerns in the United States to ascertain whether the problem of mass shootings justifies serious policy change. In assessing mass shootings as a public health concern in the United States, other causes of death are relevant in assessing the degree to which mass shootings are worthy of serious policy change (Figure 2).

*Figure 2*¹⁵



It is clear that mass shootings are rare. Inclusion of more common preventable causes of death on the chart, such as car accidents, medical malpractice, or heart disease, would have rendered mass shootings imperceptible on the same graph. If the primary

goal of policy advocates and legislators is to save lives, it would seem there are much more pressing causes of concern in the United States than mass shootings. Even if imposing legislation and regulation could make a difference, we must ask whether the cure is worth the bitter taste of the medicine. “Solutions” to mass shootings (which are almost invariably presented as gun control and like restrictions) would impose tremendous costs on all Americans. Given the small numbers at play, if the goal is to save lives, resources would be better spent addressing areas of public policy where more lives are at stake, preferably those where “solutions” do not involve restricting the human rights of innocent people.

CONCLUSION

Mass shootings are mercifully rare crimes that impose high costs on the victims. However, the chance of being murdered in a mass shooting is exceedingly small, at about 1 in 11.6 million per year from 1966-2019. The variation is considerable from year to year, and the number of people murdered in mass shootings has seemingly gone up in recent years. But the risk is much smaller than most people realize—and certainly not high enough to justify further government restrictions on nonviolent people and their rights.

ENDNOTES

1 Larosiere is Firearms Policy Coalition’s director of legal policy. He is an attorney with a background in firearms and taxation with a focus on the economic effects of firearms and gun control. The author thanks Logan Lecates for his valuable assistance in the writing of this brief.

2 Mass Shooter Database, THE VIOLENCE PROJECT, <https://www.theviolenceproject.org/mass-shooter-database/> (last visited Dec. 5, 2019).

3 *See, e.g.*, John Mueller & Mark G. Stewart, *Chasing Ghosts: The Policing of Terrorism* (Oxford U. Press, 1st Ed. 2015) available to purchase at <https://www.amazon.com/Chasing-Ghosts-Terrorism-John-Mueller/dp/0190237317>.

4 *See, e.g.*, John Mueller & Mark G. Stewart, RESPONSIBLE COUNTERTERRORISM POLICY, POLICY Analysis No. 755, 5 (Sep. 10, 2014), <https://www.cato.org/publications/policy-analysis/responsible-counterterrorism-policy>.

5 *Id.*

6 *Id.*

7 About Us, THE VIOLENCE PROJECT, <https://www.theviolenceproject.org/about-us> (last visited Dec. 5, 2019).

8 Methodology, THE VIOLENCE PROJECT, <https://www.theviolenceproject.org/methodology> (last visited Dec. 5, 2019).

9 William J. Krouse & Daniel J. Richardson, *Mass Murder with Firearms: Incidents and Victims, 1999-2013*, Congressional Research Service (Jul. 30, 2015), <https://fas.org/sgp/crs/misc/R44126.pdf>.

10 Mass Shootings in 2019, Gun Violence Archive, <https://www.gunviolencearchive.org/reports/mass-shooting> (last visited Dec. 5, 2019).

11 Crime in the United States by Volume and Rate per 100,000 Inhabitants, 1999–2018, Fed. Bureau of Investigation, <https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-1> (last visited Dec. 5, 2019); *See*, State-by-State and National Crime Estimates by Year(s), Fed. Bureau of Investigation, <https://www.ucrdatatool.gov/Search/Crime/State/>

RunCrimeStatebyState.cfm (last visited Dec. 5, 2019) (to select various jurisdictions for a comparison of violent and non-violent crime rates).

12 Crime in the United States by Volume and Rate per 100,000 Inhabitants, 1999–2018, Fed. Bureau of Investigation, <https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-1> (last visited Dec. 5, 2019); State-by-State and National Crime Estimates by Year(s), Fed. Bureau of Investigation <https://www.ucrdatatool.gov/Search/Crime/State/RunCrimeStatebyState.cfm> (last visited Dec. 5, 2019).

13 THE VIOLENCE PROJECT, *supra* note 2, FBI Uniform Crime Reporting, *supra* notes 11, 12, and author’s calculations therefrom.

14 Mueller, *supra* note 4.

15 See, e.g., Forrester, Weiser, & Forrester, An Update on Fatalities Due to Venomous and Nonvenomous Animals in the United States (2008-2015), 29 J. of Wilderness & Env. Med. Issue 1, 36-44 (Jun. 2018) (Where the data are averaged to fatalities per 10 million based on the time periods covered by each source); see also, e.g., Heart Disease Facts & Statistics, Center for Disease Control (last updated Nov. 28, 2017), <https://www.cdc.gov/heart-disease/facts.htm> (An average 1 in 4 deaths, or 610,000 people annually, is caused by heart disease; coronary heart disease [a preventable condition] kills over 370,000 annually); John Elflein, Number of Choking-Deaths in the U.S. 1945-2017, Statista (Aug. 14, 2019), <https://www.statista.com/statistics/527321/deaths-due-to-choking-in-the-us/>; U.S. Lightning Fatalities 2009-2019, National Weather Service, <https://www.weather.gov/safety/lightning-fatalities> (last visited Dec. 5, 2019); Lightning-Associated Deaths — United States, 1980-1995, CDC MMWR (May 22, 1998), <https://www.cdc.gov/mmwr/preview/mmwrhtml/00052833.htm>. The data here are not homogenous as they cover various time periods; however they are all adjusted to fatalities per 10 million American people and are thus appropriate for simple comparison.

