



THE EDUCATIONAL FUND
TO STOP GUN VIOLENCE

The Public Health Approach to Gun Violence Prevention

November 2020



Table of Contents

3 Introduction

4 What is Public Health?

5 Why is Gun Violence a Public Health Epidemic?

7 What is the Public Health Approach?

10 Health Impact Pyramid

11 How Do We Address Gun Violence Through the
Public Health Approach?

13 Recommendations

14 Resources

Introduction

Each day more than 100 Americans die by firearms and nearly 200 are shot and injured. These deaths are preventable. A comprehensive public health approach is needed to address the gun violence epidemic. Public health is the science of reducing and preventing injury, disease, and death and promoting the health and well-being of populations through the use of data, research, and effective policies and practices. A public health approach to prevent gun violence is a population level approach that addresses both firearm access and the factors that contribute to and protect from gun violence. This approach brings together institutions and experts across disciplines in a common effort to: 1) define and monitor the problem, 2) identify risk and protective factors, 3) develop and test prevention strategies, and 4) ensure widespread adoption of effective strategies.

We have used the public health approach to successfully eradicate diseases, reduce smoking-related deaths, and decrease car crashes. We can use this same approach to prevent gun violence in all its forms and strive towards a society where everyone can live free from gun violence.

What is Public Health?

Public health is the science of reducing and preventing injury, disease, and death and promoting the health and well-being of populations through the use of data, research, and effective policies and practices. Public health works to address the underlying causes of a disease or injury before they occur, promote healthy behaviors, and control the spread of outbreaks.

Public health researchers and practitioners then work with communities and populations to implement and evaluate programs and policies that are based on research. Policymakers, researchers, and advocates have successfully used the public health approach in the United States to drastically decrease premature death rates, reduce injury, and improve the health and well-being of the population, including by eradicating diseases like polio, promoting widespread usage of vaccines, reducing smoking-related deaths, addressing environmental toxins, and decreasing motor vehicle crashes.

How Public Health differs from Healthcare

People often assume that public health is the same as healthcare. While both strive to improve health and well-being, they approach this goal differently. In healthcare, the focus is on improving the health of the individual. In contrast, public health focuses on improving the health of an entire population through large-scale interventions and prevention programs.

Public health works to address the many factors that determine the health and well-being of populations. These factors are often referred to as risk and protective factors. They are characteristics or behaviors in individuals, families, communities, and the larger society that increase or decrease the likelihood of premature death, injury, or poor health.

PUBLIC HEALTH APPROACH



VS.



Why is Gun Violence a Public Health Epidemic?

Gun violence is a public health epidemic that affects the well-being and public safety of all Americans. In 2018, nearly 40,000 Americans were killed by gun violence, more than the number of Americans killed in car crashes.² An additional 71,000 Americans suffer nonfatal firearm injuries,³ and millions of Americans face the trauma of losing a loved one or living in fear of being shot. The impacts of gun violence, both direct and indirect, inflict an enormous burden on American society. When a child is shot and killed, they lose decades of potential: the potential to grow up, have a family, contribute to society, and pursue their passions in life. When compared to other communicable and infectious diseases, gun violence often poses a larger burden on society in terms of potential years of life lost. In 2018, firearm deaths accounted for 919,185 years of potential life lost before the age of 65 – more than diabetes, stroke, and liver disease combined.⁴

Scope of Gun Violence

Americans are impacted by various forms of gun violence – including suicide, homicide, and unintentional deaths, as well as nonfatal gunshot injuries, threats, and exposure to gun violence in communities and society.

1. Firearm Suicide:

- Each year, nearly 23,000 Americans die by firearm suicide.⁵
- Half of all suicide deaths are by firearm.⁶
- Suicide attempts by firearm are almost always deadly — 9 out of 10 firearm suicide attempts result in death.⁷
- Access to a firearm in the home increases the odds of suicide more than three-fold.⁸

2. Firearm Homicide:

- Each year, more than 13,000 Americans die by firearm homicide.⁹
- Nearly three out of four homicides are committed with a firearm.¹⁰
- Access to firearms — such as the presence of a gun in the home — doubles the risk for homicide victimization.^{11,12}
- The firearm homicide rate in the United States is 25.2 times higher than other industrialized countries.¹³

3. Domestic Violence:

- More than half of female intimate partner homicides are committed with a gun.¹⁴
- There are about 4.5 million women in America who have been threatened with a gun and nearly 1 million women who have been shot or shot at by an intimate partner.¹⁵
- A woman is five times more likely to be murdered when her abuser has access to a gun.¹⁶

4. Police-Involved Shootings:

- 1,000 Americans are shot and killed by police every year.¹⁷
- Black Americans are disproportionately impacted by police-involved shootings and are killed at more than twice the rate of White Americans.¹⁸

5. Unintentional Shootings:

- Each year, nearly 500 people die from unintentional firearm injuries — more than one person every single day.
- More than 100 children and youth die each year due to unintentional gun injuries.²⁰
- Americans are four times more likely to die from an unintentional gun injury than people living in other high-income countries.²¹

6. Nonfatal Firearm Injuries:

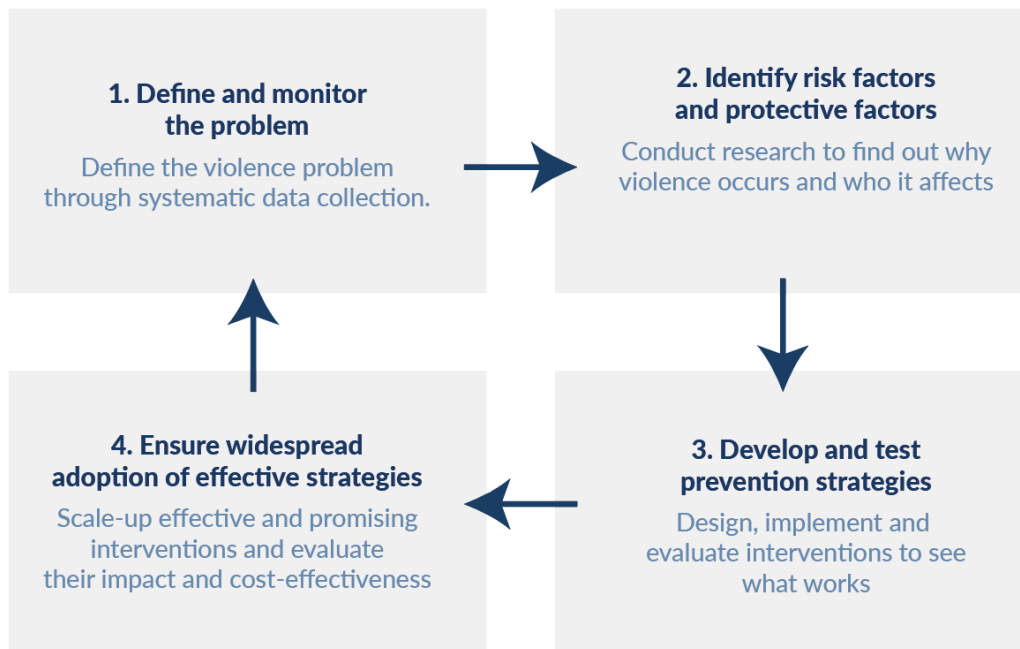
- For every individual in the United States who dies by firearm, more than two individuals survive.²²
- Each year, there are over 71,000 nonfatal gunshot injuries, costing hospitals an estimated \$2.8 billion annually.²³
- Each year, there are more than 7,100 emergency room visits for nonfatal gunshot wounds among children under the age of 18 and 36,000 visits among those ages 18-29.²⁴

7. Exposure to Gun Violence:

- One-third of American adults say that their fear of mass shootings prevents them from going to certain places or events.²⁵
- An estimated 15% of American adults state that they have witnessed a shooting and 15% of American adults also state that someone they care for has been killed with a gun.²⁶
- An estimated 25% of American adults report being threatened or intimidated with a gun.²⁷

What is the Public Health Approach?

The Centers for Disease Control and Prevention and World Health Organization outline a public health approach to violence prevention based on four steps: ^{28,29}



STEP 1 – DEFINE AND MONITOR THE PROBLEM

Researchers and policymakers need reliable data to understand the scope and complexity of gun violence. There are many different types of gun violence, and each type often requires different prevention strategies. Collecting and distributing reliable firearm data is essential to combating gun violence through a public health approach. Gun violence prevention researchers need reliable and timely data around the number of firearm fatalities and nonfatal injuries that occur in the United States each year. This data should include the demographics of the victim and shooter (if applicable), the location and time of the shooting, and the type of gun violence that occurred. Databases should classify the types of gun violence (suicides, intimate partner violence, mass shootings, interpersonal violence, police shootings, unintentional injuries) based on clearly defined and standardized definitions. This data should be made widely available and easily accessible to the general public free of charge.

STEP 2 – IDENTIFY RISK AND PROTECTIVE FACTORS

The public health approach focuses on prevention and addresses population level risk factors that lead to gun violence and protective factors that reduce gun violence. A thorough body of research has identified specific risk factors, both at the individual level and at the community and societal level, which increase the likelihood of engaging in gun violence. At an individual level, having access to guns is a risk factor for violence, increasing the likelihood that a dangerous situation will become fatal. Simply having a gun in one's home doubles the chance of dying by homicide and increases the likelihood of suicide death by over three-fold.³⁰ Other individual risk factors closely linked to gun violence include: a history of violent behavior, exposure to violence, and risky alcohol and drug use.³¹ Community level factors also increase the likelihood of gun violence. Under-resourced neighborhoods with high concentrations of poverty, lack of economic opportunity, and social mobility are more likely to experience high rates of violence. These community level factors are often the result of deep structural inequities rooted in racism.^{32,33} Policies and programs should mitigate risk factors and promote protective factors at the individual and community levels.

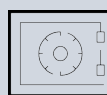
Applying the Public Health Approach to Prevent Firearm Suicide

The social ecological model is a public health framework that is used to show the interplay between risk and protective factors for health outcomes and to develop parallel policies and programs that address these factors. The model spans four levels: individual, relationship, community, and society.

Access to firearms is a significant risk factor for firearm suicide, and addressing firearm access is a critical component of any suicide prevention strategy. Prevent Firearm Suicide is a project of the Educational Fund to Stop Gun Violence that applies the social ecological model for firearm suicide prevention, by sharing the available programs and policies that reduce access to firearms from individuals when they are at an elevated risk for suicide. These interventions span the four levels of the model and include safer firearm storage (individual), lethal means safety counseling (relationship), gun shop projects (community), and extreme risk laws (society).

To learn more, visit PreventFirearmSuicide.com

Prevent Firearm Suicide



Individual
Safer Storage



Relationship
Lethal Means
Safety Counseling



Community
Gun Shop
Project



Society
Extreme Risk
Laws

STEP 3 – DEVELOP AND TEST PREVENTION STRATEGIES

Policymakers and practitioners must craft interventions that address the risk factors for gun violence. These interventions should be routinely tested to ensure they are effective and equitable; rigorous evaluations should be conducted on a routine basis. The foundation for effective gun violence prevention policy is a universal background check law, ensuring that each person who seeks to purchase or transfer a firearm undergoes a background check prior to purchase. Universal background checks should be supplemented by a firearm licensing system, which regulates and tracks the flow of firearms, to ensure that firearms do not make it into the hands of prohibited individuals. Building upon this, policymakers can create interventions that target behavioral risk-factors for gun violence (e.g. extreme risk laws) and they can push for policies that address community risk factors that lead to violence (e.g. investing in community based violence prevention programs). In addition to these gun violence prevention policies, there are a number of evidence-based strategies that can reduce gun violence within communities. For example, community based violence intervention programs work to de-escalate conflicts, interrupt cycles of retaliatory violence, and support those at elevated risk for violence.

STEP 4 – ENSURE WIDESPREAD ADOPTION OF EFFECTIVE STRATEGIES

While it is essential to pass strong laws, it is equally important to enforce and implement these laws and to scale up evidence-based programs. Strong gun violence prevention policies are only effective if they are properly implemented and enforced in an equitable manner. A key focus of the public health approach is ensuring that these strategies are not only effective but that they also promote equity. Historically disenfranchised groups should be involved in the implementation process to ensure that public health strategies do not have unintended consequences. For example, gun violence prevention policies should be consistently evaluated to ensure that they do not stigmatize individuals living with mental illness or perpetuate the discriminatory and racist practices embedded in the criminal justice system. The public health approach includes a focus on allocating funds for implementation and evaluation of these gun violence prevention strategies at the federal, state, and local levels. Funds should be allocated to train the proper stakeholders to ensure that new policies and programs are properly adopted and achieve measurable and equitable outcomes.

Health Impact Pyramid

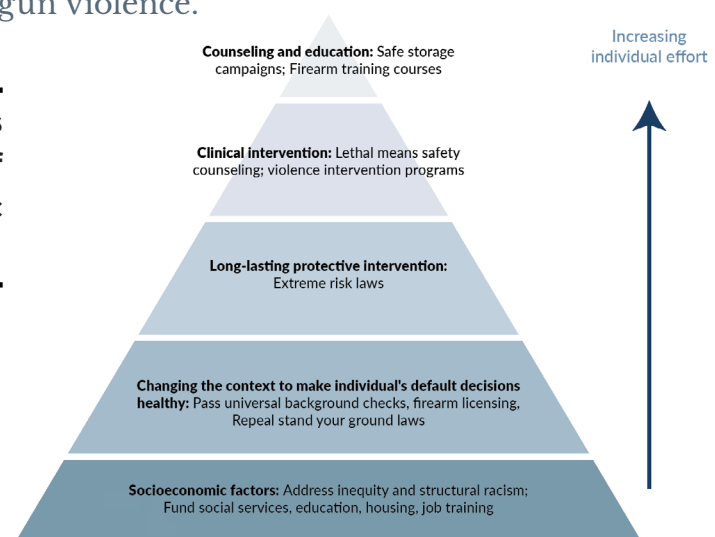
The goal of public health is to maximize the overall health and well-being of populations. Public health practitioners do this by developing a wide range of interventions. These interventions address risk and protective factors ranging from factors at the individual level to the societal level. The public health pyramid helps researchers conceptualize the many different levels of intervention needed to address a public health problem like gun violence.⁸⁴

At the top of the pyramid are narrowly tailored interventions that work with individuals at risk for gun violence. These interventions, like lethal means safety counseling and violence intervention programs, can have a tremendous impact in reducing gun violence. Yet, they also require individual action. These programs provide the tools and support to change behavior, but the individuals themselves must be willing to take action and change behavior.

The middle of the pyramid includes interventions that require less individual action. They are often laws and policies that change the environments within communities to mitigate risk factors. One such policy is universal background checks and firearm licensing. Research shows that when individuals are required to undergo a background check and obtain a license to purchase a firearm, far fewer firearms are diverted into illegal markets and used to perpetrate violence.

At the bottom of the public health pyramid are the conditions within society that lead to poor health outcomes like gun violence. These factors are often referred to as the root causes or social determinants of health. Socioeconomic factors, such as racial disparities, inequality, poverty, inadequate housing and education, are all risk factors for interpersonal gun violence. Policies that address these root causes have enormous potential to reduce gun violence and improve health. These policies, while requiring a broad collective effort to achieve, require minimal individual effort to be effective at reducing gun violence.

The health impact pyramid helps researchers conceptualize the many different levels of intervention needed to address a public health problem like gun violence.

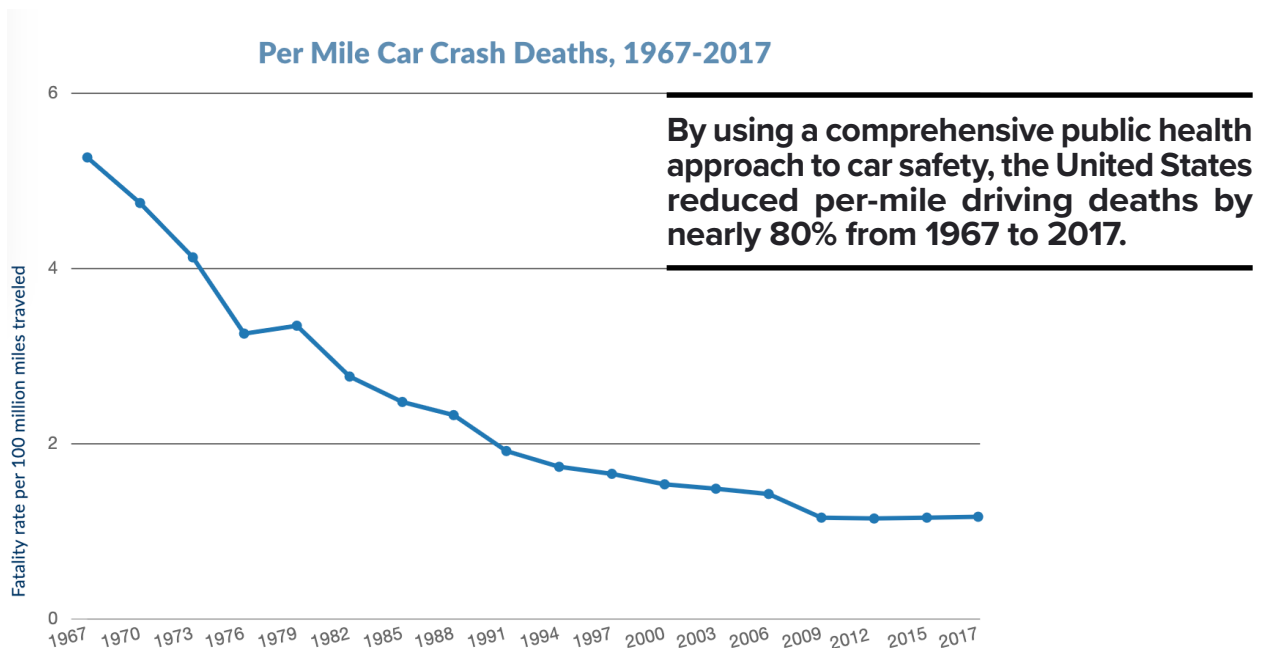


Source: Adapted from Frieden TR. (2010). A framework for public health action: the health impact pyramid. *American Journal of Public Health*.

How Do We Address Gun Violence Through the Public Health Approach?

The public health approach is multifaceted and comprehensive and brings together institutions and experts across disciplines in a common effort to develop a variety of evidence-based interventions.³⁵ This comprehensive approach to tackling public health crises in America has been used over the last century to eradicate diseases like polio, reduce smoking deaths, and make cars safer. This public health approach has saved millions of lives. We can learn from public health successes – like car safety – and apply these lessons to preventing gun violence.

Applying the public health successes of car safety to prevent gun violence: One of the greatest American public health successes is our nation's work to make cars safer. By using a comprehensive public health approach to car safety, the United States reduced per-mile driving deaths by nearly 80% from 1967 to 2017.³⁶ This public health approach to car safety prevented more than 3.5 million deaths over these fifty years.³⁷ To reduce gun violence, we should apply this same time-tested public health approach.



Source: National Traffic Highway Safety Administration (NHTSA). Motor Vehicle Traffic Fatalities and Fatality Rates, 1967-2017.

Applying the Public Health Successes of Auto Safety to Gun Violence Prevention



Preventing Car Crashes



Preventing Gun Deaths

ALLOCATE

Allocate funds to study the epidemic of motor vehicle crashes.

Allocate funds to the CDC and the NIH to research gun violence.

REGULATE

Federal agencies regulate car manufacturers and ensure car safety.

Allow federal agencies to regulate firearm manufacturers and ensure gun safety.

LICENSING

Drivers must submit an application and pass a test to obtain a driver's license.

Require firearm purchasers to submit an application, undergo a background check, and take safety education to obtain a license to own a firearm.

REGISTRATION

Car registration is required at each point of sale.

Pass firearm registration laws to ensure that firearms are registered at each point of sale.

PROHIBIT RISKY PEOPLE

Reckless and drunk driving laws ensure that risky individuals do not endanger others on the road.

Expand firearm prohibitions to include individuals who are at elevated risk for violence.

MANUFACTURING STANDARDS

Manufacturers are required to make safer cars by installing seat belts and airbags.

Require manufacturers to make firearms safer, including requiring that guns be outfitted with microstamping technology.

AGE REQUIREMENTS

Age requirements for obtaining a driver's license, including a graduated licensing system (driver's permit) for young drivers.

Enact stronger age requirements for owning or possessing all types of firearms.

LICENSING RENEWAL

Drivers are required to renew their license periodically.

Require gun owners to renew their license on a routine basis.

ONGOING MONITORING AND REGULATION

New models of cars are monitored and regulated, and recalls are issued for unsafe models.

Allow Consumer Product Safety Commission to regulate safety of firearms and ensure industry accountability.

LIABILITY

Manufacturers are held liable if they sell a dangerous vehicle.

Repeal the Protection of Lawful Commerce in Arms Act (PLCAA) to hold firearm manufacturers accountable for dangerous and reckless distribution of firearms.

Recommendations

Public health is the science of reducing and preventing injury, disease, and death and promoting the health and well-being of populations through the use of data, research, and effective policies and practices.

The public health approach has been successfully applied to tackle a wide variety of complex health problems at the population level. Gun violence is a public health epidemic that requires a public health solution. Based on the four steps of the public health approach to prevent gun violence, we recommend the following:

1. Better Data Collection

Federal, state, and local governments should collect more comprehensive gun violence data for fatal and nonfatal firearm injuries, shootings that may not involve physical injuries, and firearm-involved crimes where no shots were fired, including domestic violence-related threats. Federal, state, and local governments should make data publicly available where possible and particularly to researchers studying gun violence and its prevention.

2. Research Funding

Enhanced research funding is key for advancing knowledge and improving public health interventions and outcomes. Federal, state, and local governments, in addition to foundations and universities, should dedicate funding to research gun violence prevention.

3. Evidence-based policies and practices

Gun violence takes many forms and is a multifaceted problem that requires a multitude of data-driven solutions. Gun violence prevention policies and practices should be evidence-based.

4. Implementation and evaluation

Policies and practices should be continuously monitored and evaluated to ensure equitable implementation and ongoing effectiveness.

Resources

Research

- Allchin A, Chaplin V, & Horwitz J. (2019). [Limiting access to lethal means: applying the social ecological model for firearm suicide prevention](#). Injury Prevention.
- Branas CC, Flescher A, Formica MK, Galea S, Hennig N, Liller KD ... & Ying J. (2017). [Academic public health and the firearm crisis: an agenda for action](#). American Journal of Public Health.
- Decker MR, Wilcox HC, Holliday CN, & Webster DW. (2018). [An integrated public health approach to interpersonal violence and suicide prevention and response](#). Public Health Reports.
- Cook PJ. [Expanding the public health approach to gun violence prevention](#). (2018). Annals of Internal Medicine.
- Hemenway D & Miller M. (2013). [Public health approach to the prevention of gun violence](#). New England Journal of Medicine.
- McGinty EE, Siddiqi S, Linden S, Horwitz J, & Frattaroli S. (2019). [Improving the use of evidence in public health policy development, enactment and implementation: a multiple-case study](#). Health Education Research.
- Mozaffarian D, Hemenway D, & Ludwig DS. (2013). [Curbing gun violence: lessons from public health successes](#). Journal of the American Medical Association.
- Maa J & Darzi A. (2018). [Firearm injuries and violence prevention—The potential power of a Surgeon General’s report](#). New England Journal of Medicine.
- Rajan S, Branas CC, Hargarten S, & Allegrante JP. (2018). [Funding for gun violence research is key to the health and safety of the nation](#). American Journal of Public Health.
- Zeoli AM & Webster DW. (2019). [Firearm policies that work](#). Journal of the American Medical Association.

Resources

- [AFFIRM](#)
- [American Psychological Association: Gun Violence](#)
- [American Public Health Association: Gun Violence](#)
- [CDC Infographic: The Public Health Approach to Violence Prevention](#)
- [FACTS Consortium](#)
- [Harborview Injury Prevention & Research Center](#)
- [Johns Hopkins Center for Gun Policy and Research](#)
- [Reducing Gun Violence in America: Informing Policy with Evidence and Analysis](#)
- [Robert Wood Johnson Foundation: Gun Violence, a Public Health Epidemic](#)
- [Rutgers Center on Gun Violence Research](#)
- [Society for Advancement of Violence and Injury Research \(SAVIR\)](#)
- [Society for Public Health Education: Gun Violence Resolution](#)
- [University of California Firearms Violence Research Center \(UCFC\) and BulletPoints Project](#)

About the Educational Fund to Stop Gun Violence

The Educational Fund to Stop Gun Violence (Ed Fund) seeks to make gun violence rare and abnormal. Founded in 1978, the Ed Fund is a nonprofit organization that makes communities safer by translating research into policy to prevent gun violence and engaging impacted communities in the policy making process. The Ed Fund is the gun violence prevention movement's premier research intermediary and founder of the Consortium for Risk-Based Firearm Policy, a group of researchers and experts who collaborate to develop innovative recommendations for policymakers. The Ed Fund's affiliate organization, the Coalition to Stop Gun Violence, has advocated for stronger gun laws since 1974. Together, they have paved the way for the gun violence prevention movement to advance research and support evidence-based gun violence prevention programs and policies.

Contributors

The Ed Fund would like to thank Ari Davis, Dakota Jablon, Lisa Geller, Vicka Chaplin, Adelyn Allchin, Bryan Barks, Lauren Footman, and Josh Horwitz for their contributions to the development of this report.

Suggested Citation

Educational Fund to Stop Gun Violence. (2020). The Public Health Approach to Gun Violence Prevention. efsgv.org/PublicHealthApproachToGVP

Citations

¹ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2018. Average based on years 2014-2018.

² Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2018.

³ Gani F, Sakran JV, & Canner JK. (2017). Emergency department visits for firearm-related injuries in the United States, 2006–14. Appendix 13. Health Affairs.

⁴ National Center for Injury Prevention and Control, CDC. WISQARS Years of Potential Life Lost (YPLL) Report, 1981 - 2018.

⁵ National Center for Injury Prevention and Control, CDC. WISQARS Years of Potential Life Lost (YPLL) Report, 1981 - 2018.

⁶ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2018. Average based on years 2014-2018.

⁷ Suicide attempts by firearm are almost always deadly — 9 out of 10 firearm suicide attempts result in death.

⁸ Anglemeyer A, Horvath T, & Rutherford G. (2014). The accessibility of firearms and risk for suicide and homicide victimization among household members: A systematic review and meta-analysis. *Annals of Internal Medicine*.

⁹ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2017. Average based on years 2014-2018.

¹⁰ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2017. Average based on years 2014-2018.

¹¹ Anglemeyer A, Horvath T, & Rutherford G. (2014). The accessibility of firearms and risk for suicide and homicide victimization among household members: a systematic review and meta-analysis. *Annals of Internal Medicine*.

¹² Dahlberg LL, Ikeda RM, & Kresnow MJ. (2004). Guns in the home and risk of a violent death in the home: findings from a national study. *American Journal of Epidemiology*.

¹³ Choron R, Spitzer S, & Sakran JV. (2019). Firearm violence in America: is there a solution? *Advances in Surgery*.

¹⁴ Zeoli AM, Malinski R, & Turchan B. (2016). Risks and targeted interventions: Firearms in intimate partner violence. *Epidemiologic Reviews*.

¹⁵ Sorenson SB, & Schut RA. (2018). Nonfatal gun use in intimate partner violence: A systematic review of the literature. *Trauma, Violence, & Abuse*.

¹⁶ Campbell JC, Webster D, Koziol-McLain J, Block C, Campbell D, Curry MA... & Laughon K. (2003). Risk factors for femicide in abusive relationships: results from a multisite case control study. *American Journal of Public Health*.

¹⁷ Fatal Force database. (2020). Washington Post.

¹⁸ Fatal Force database. (2020). Washington Post.

¹⁹ Centers for Disease Control and Prevention, National Center for Health Statistics. About Underlying Cause of Death, 1999-2018. Average based on years 2014-2018.

²⁰ Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2018. Average based on years 2014-2018.

²¹ Solnick SJ & Hemenway D. (2019). Unintentional firearm deaths in the United States 2005–2015. *Injury Epidemiology*.

²² Gani F, Sakran JV, & Canner JK. (2017). Emergency department visits for firearm-related injuries in the United States, 2006–14. Health Affairs. Appendix 13.

²³ Avraham JB, Frangos SG, & DiMaggio CJ. (2018). The epidemiology of firearm injuries managed in US emergency departments. *Injury Epidemiology*.

²⁴ One-third of US adults say fear of mass shootings prevents them from going to certain places or events. (2019). Press Release. American Psychological Association.

²⁵ SurveyUSA. Data collected from December 7-11, 2018. Questions 28, 29 Market Research Study.

²⁶ SurveyUSA. Data collected from December 7-11, 2018. Questions 35. Market Research Study.

²⁷ Centers for Disease Control and Prevention. The National Center for Injury Prevention and Control, Division of Violence Prevention. The Public Health Approach to Violence Prevention.

²⁸ World Health Organization. Violence Prevention Alliance. The Public Health Approach.

²⁹ Anglemeyer A, Horvath T, & Rutherford G. (2014). The accessibility of firearms and risk for suicide and homicide victimization among household members: a systematic review and meta-analysis. *Annals of Internal Medicine*.

³⁰ Consortium for Risk Based Firearm Policy. (2013). Guns, public health, and mental illness: An evidence-based approach for state policy.

³¹ Centers for Disease Control and Prevention. (2019). Risk and Protective Factors.

³² Sampson RJ. (2012). Great American city: Chicago and the enduring neighborhood effect. University of Chicago Press.

³³ Frieden TR. (2010). A framework for public health action: the health impact pyramid. *American Journal of Public Health*.

³⁴ Hemenway D & Miller M. (2013). Public health approach to the prevention of gun violence. *New England Journal of Medicine*.

³⁵ Traffic Safety Facts: A Compilation of Motor Vehicle Crash Data. (2020). Annual Report Tables. National Highway Traffic Safety Administration.

³⁶ On 50th anniversary of Ralph Nader's 'Unsafe at Any Speed,' safety group reports auto safety regulation has saved 3.5 million lives. (2015). The Nation.

