# GUN VIOLENCE: A PUBLIC HEALTH CRISIS
# THE ROLE PHYSICIANS CAN PLAY IN KEEPING COMMUNITIES SAFE

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# ABSTRACT

Gun violence is a public health crisis in the United States. Research shows that violence functions similarly to a communicable disease. An exposure such as someone witnessing violence or being a victim of violence is a major risk factor to the exposed person becoming a perpetrator of violence themselves. Victims of gun violence are seen in emergency rooms at alarming rates and despite gun related deaths increasing over the past few decades, there is not a significant quantity of research on violence intervention. As physicians are key players in individual and community health, they have an ethical imperative to intervene. Both doctors and patients believe that physicians can play a role in addressing gun safety and risk of firearm injury. Gun violence interventions by physicians can be either preventative, working to avoid an initial firearm related injury, or interventional, working to avert additional firearm related injuries. Outpatient clinical attempts to prevent firearm injury can be modeled after pre-established methods like bicycle helmet safety screening. Inpatient or post injury methods include more comprehensive approaches that focus on breaking the cycle of violence and preventing reinjury. Gun violence is a public health crisis that requires physician action.

# DEDICATION

This thesis is dedicated to

David Johannes Schoenburg

June 22, 1987 – June 30th 2020

My cousin, Hans, believed in

leaving the world better than we found it

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# CHAPTER ONE: INTRODUCTION

The purpose of this thesis is to communicate the severity of the gun violence epidemic in the U.S. and highlight the ethical responsibility physicians have in addressing this public health crisis.

## Part One of Chapter One: An Overview of Gun Violence in the US

Gun violence has become an epidemic in the United States. According to statistics shared by the Giffords Law Center, almost 39,000 Americans die from gun violence every year. Of these 61% are the result of suicide, 36% are homicides and 1.3% are unintentional shootings (Giffords 2022). Americans make up 4% of the world population but 35% of firearm suicides worldwide (Giffords 2022). Based on data gathered from the CDC, in the US almost fifty-three people are killed each day because of gun violence (2020).

To address the gun violence epidemic, clinical approaches must be tailored to the specific type of gun violence. This paper will be focusing on the following subtypes: Intentionally self-inflicted (firearm suicide or nonfatal self-harm from a firearm); unintentional (includes fatal or non-fatal firearm injuries from cleaning or playing with a firearm, or other accidental firing); and interpersonal violence (includes firearm homicide

or non-fatal assault injury from a firearm). Decreasing the number of intentional self-inflicted wounds requires a focus on mental health and access to firearms. Firearm access is critical because suicide by firearm is the method with the greatest rate of completion, 82.5% (Spicer and Miller 2000). This is almost a 20% greater completion rate as compared to the next highest, drowning, with a 65.9% likelihood of completion (Spicer and Miller 2000). To highlight the increased risk of suicide attempt by gun, the most common methods used to attempt suicide, ingestion and cutting, have a 1.5 and 1.2 percent risk of completion, respectively (Spicer and Miller 2000).

Unintentional shootings result from people playing with guns (28.3%), accidental discharge thinking the weapon is unloaded (17.2%), and hunting accidents (13.8%) (Solnick and Hemenway 2019). In nearly 25% of these instances, alcohol consumption is a factor (Solnick and Hemenway 2019).

The category of homicides is comprised of shootings resulting from domestic homicide, mass shootings, and community violence. Domestic homicides are those that occur between intimate partners but can extend to include all those impacted by domestic violence, for example married or dating couples, children from the partnership, and bystanders (Fairbaum et al 2017). About two-thirds of victims of domestic homicide are killed by gun violence (Kivisto and Porter 2019).

When discussing mass shootings as a form of gun violence there is no universally accepted definition. This is in part due to its overlap with community violence. In 2012, following the Newtown shooting, the US Congress defined “mass killings” to mean

"three or more killings in a single incident" (PL 112 2076). This definition has been adapted to reflect mass shootings by defining them as an incident with three or more deaths. On the other hand, Everytown for Gun Safety, a nonprofit gun violence organization, defines a mass shooting as "any incident in which four or more people are shot and killed, excluding the shooter" (2022). The key part of these forms of mass shootings is that violence is enacted by a single shooter or partners. When these definitions are used it appears that mass shootings predominantly impact residents in towns with populations under 75,000 (Pane 2018). All but one of the ten deadliest mass shootings in US history occurred in small cities. However, researchers have worked to redefine what a mass shooting can look like to highlight the overlap with community violence in urban settings.

The National Child Traumatic Stress Network defines community violence as "exposure to intentional acts of interpersonal violence committed in public areas by individuals who are not intimately related to the victim" (2018). One of the defining characteristics of community violence is that it "can happen suddenly and without warning" (Peterson 2018). While some other types of trauma are accidental, "community violence is an intentional attempt to hurt one or more people" (Peterson 2018).

Community violence is a form of violence that disproportionately impacts communities of color and under resourced communities. Dr. Jessica Beard, a trauma surgeon at Temple University Hospital, has researched how inner-city hospitals experience gun violence. In a 2019 study, Beard et al defined mass shootings as four or

more victims occurring within an hour of each other and falling into a 100-mile radius (2019). The purpose of this study was to highlight how limiting the definition of mass shootings to those enacted by one individual or a partnership ignores the burden that gun violence places on urban hospitals and communities. Of the forty-six events identified 15% received no media attention and 77% were covered solely by local news organizations (Beard et al 2019). Generally, media outlets are less likely to report on Black victims of homicide vs their white counterparts; and when they are reported on, they do not receive the same complex characterizations that Whites victims do (White, Stuart and Morrissey 2020). Considering that Black men make up 7% of the US population but 52% of gun homicide victims, the lack of media acknowledgment is concerning (Everytown Research and Policy 2022).

The cycle of violence in minority communities is derived from and perpetuated by racism (Everytown Research and Policy 2022). Red lining was a tool developed in the 1930s to undermine and segregate communities of color. These discriminatory lending practices prevented social and economic mobility for the residents that fell within those red lines. Analyzing community violence in Louisville, KY showed that areas that had been historically red lined have five times higher rates of gun violence (Benns et al 2020). A similar study was conducted in Boston and found that redlined neighborhoods had more firearm violence (Poulson et al 2021). The authors suggest this is because consequences of red-lining, poverty, lack of homeownership, and poorer education, impact rates of violence (Poulson et al 2021).

Gun violence occurs predominantly in under-resourced communities where research and implementation of effective interventions are underfunded. The Dickey amendment, passed in 1996, has been used to limit research on gun violence due to the wording that federal funds cannot be used to advocate for or promote gun control (PL 104 3610). While the Biden Administration has allocated funds for gun violence research, the government has continually failed to address the root causes of firearm related community violence. There are programs currently working to break the cycle of violence by addressing those factors but many lack the resources to effectively study their efforts. In a system which predicates on evidence-based practices, intervention programs are experiencing a paradox where they need to conduct research to demonstrate their efficacy but need to prove their effectiveness to receive enough funding to complete research.

## Part Two of Chapter One: An Overview of Urban Bioethics

As gun violence is inextricably tied to bioethics, an urban bioethics lens is needed for further understanding of how to approach this field of healthcare.

Bioethics is a branch of ethics focusing specifically on medicine, biology, and health sciences. The bioethics toolbox consists of four main principles:

1. Autonomy: a person's right to control over their own body
2. Justice: everyone having equal opportunities in access to resources
3. Beneficence: acting in a way to enhance good
4. Non-maleficence: acting in a way that does not cause/increase harm

Urban bioethics was born out of the field of bioethics with the intent of adding another dimension to ethical analysis. Through this lens, health inequities are an ethical problem with a particular focus on urban areas. Urban bioethics takes the principles of bioethics further by placing them within the physical contexts that impact health and wellness (Blustein and Fleishman 2004).

Autonomy, while still in the toolbox, is expanded to the idea of agency. Agency is in line with autonomy, in that a person should have control over their body, but also stipulates that a person should have a full understanding of the choices available to

decide. To utilize agency the involved party must have capacity, the ability to understand the information presented. A person, with the capacity to make decisions, is utilizing autonomy when deciding they do not want an IV placed, for example. That same person has agency when they understand why the IV is being placed and the consequences of both placing and not placing the IV. The physician's role is to provide information that maximizes patient agency.

Bioethics typically utilizes a distributive justice model, where everyone is provided for equally. Urban Bioethics uses a social justice model suggesting that individuals with different socioeconomic status and lived experiences necessitates an equity-based approach. Using food insecurity as an example - a distributive model of justice in a clinical setting would ensure each person is given advice on basic nutrition to enhance health. A social justice model would consider a patient's ability to meet their nutritional needs based on what is available to them. Someone who lives in an area with multiple grocery stores does not have the same experience as someone who lives in a food desert. A social justice approach to clinical care would mean that some persons are only given basic nutrition information while others also receive information on/access to resources that can support them in meeting those nutrition goals.

"Physicians focus on building relationships with patients because they know that a foundation of trust is essential for the delivery of care. Without trust, patients may not be forthcoming with information critical to proper diagnosis and treatment. They may not listen receptively and receive information that is important for [following care plan].

Trust creates a relationship in which patients will rely on the physician's competence, skill, and goodwill."

- Deborah Chiaravalloti

The final principle of urban bioethics, and the most central to gun violence and the physician's role is solidarity. Solidarity is predicated on the fact that everyone within a society is interconnected, and their actions impact each other. Becoming advantaged is not mutually exclusive from being disadvantaged within society and solidarity functions to show how threads that have previously been viewed as separate tie together. Recognizing solidarity as an essential component of the patient-physician relationship enhances that relationship and the quality of care provided. This establishes a bond where the physician is actively invested in each patient's health outcomes, rather than passively engaged in providing care.

# CHAPTER TWO: PUBLIC HEALTH AND PHYSICIAN RESPONSIBILITY

## Part One of Chapter Two: Solidarity in the Physician-Patient Relationship

"Pull a thread here and you'll find it's attached to the rest of the world."

Nadeem Aslam

Physicians serve the community within which they work. Their focus as providers is to ensure patients have the best possible health outcomes. They, in part, rely on the environment patients experience outside of the hospital to contribute to care within these communities. For many, these factors are outside of their control. To best serve their patients, physicians must recognize the role they can play in impacting these outside forces.

When a family medicine doctor gives nutrition advice to their patients, the success of this advice relies on the patient's ability to access the recommended foods. When a trauma surgeon treats a patient with a gunshot wound and discusses how their risk of death increases with each subsequent gunshot wound, the impact of this information on the patient is partially determined by how much control a patient has in being shot in the future. Patients, in turn, expect physicians to meet their needs and prioritize their wellness. This inextricably ties the two parties together.

Solidarity, through the patient-physician team, is central to practicing impactful medicine. For many, gun safety risk can be initially determined by whether there is a gun in the home. Someone who does not have a gun in the home would receive different support than those who do. If there is no gun in the home, risk of suicide by gun drops sharply for those dealing with depression; without a gun in the home, a child's risk of accidental shooting is also decreased.

First access risk must be established. A person with depression would have the option to receive free/affordable mental health counseling and education on the risks of keeping a gun in the home. If a person feels unsafe in their home or is a victim of domestic violence, they may receive support and resources for leaving an unsafe situation. And finally, if a person does not have the gun in their home stored properly, a gun lock should be made available to them. Awareness of how social determinants of health impact patient health is key to developing a social justice-based model for providing healthcare. A social justice approach targets baseline and individual needs with resource distribution creating a more equitable system and better health outcomes for those served. A social justice approach, like other approaches, requires sufficient funding, resources, and staffing for effective implementation. Physicians can undermine their solidarity with the patient and the trust built by making referrals the patient is unable to follow due to lack of resources such as no mental health professional to refer to or costs of services being prohibitive. There is only so much a healthcare professional can provide when the resources are not available.

## Part Two of Chapter Two: Medical School and Public Health

"Firearm violence continues to be a public health crisis in the United States that requires the nation's immediate attention."

- The American College of Physicians

Medical education focuses on the importance of disease prevention through patient education and breaking feedback loops. Medical students learn about infectious disease prevention through vaccinations and antibiotic therapies; how, through antibiotic treatment and the development of new vaccines in the 1950's, risk of death from infectious diseases decreased sharply. Future physicians also learn the value of combating multifactorial diseases through public health campaigns.

By the 1960's, homicide and suicide entered the top fifteen causes of death in the United States. As these rates increased, there became a clear need to address them as causes of death. This coupled with the creation of public health campaigns addressing lifestyle modifications and risk factors in the 80's led to the concept of addressing violence as a public health crisis (CDC n.d.).

The identification of violence as a public health crisis meant that the risk and protective factors influencing violence began to be studied. Growing up in a

neighborhood with high levels of community violence increases the risk of exposure to violence ("Violence Prevention: Risk And Protective Factors" 2020). Exposure to violence as a victim or a bystander is a significant risk factor to perpetrating violence in the future ("Violence Prevention: Risk And Protective Factors" 2020). Lack of familial/social support and community safety nets are additional risk factors ("Violence Prevention: Risk And Protective Factors" 2020). Many victims of gun violence are not able to control the circumstances that led to their experience. As a result, there is limited autonomy in the cycle of violence.

A more holistic approach to education -- teaching students about socioeconomic and political factors that influence health -- contextualizes patient care outside of the traditional biomedical sphere. By developing knowledge in these arenas, medical schools are better equipping students to act in the more individualized field of medicine as well as impact community wide factors requiring a public health-based approach. Teaching medical students how to be patient advocates within the hospital and on a larger political stage creates an ethical and moral imperative to maximize patient well-being through action. This furthers the bond of solidarity between patients and physicians by providing future physicians with the tools to take a stand against the challenges their patients face.

# CHAPTER THREE: VIEWS ON PHYSICIAN ROLE IN GUN VIOLENCE

## Part One of Chapter Three: Physician Viewpoint on Their Role in Gun Violence

The question of whether physicians should play a role in gun violence has been a hot topic in the last decade. As a rise in school shootings has brought the topic of gun control to the forefront of United States politics, the question becomes: who is best suited to speak on issues of gun violence and intervention strategies to address the public health crisis. In the fall of 2018, the American College of Physicians released a paper entitled: "Reducing Firearm Injuries and Deaths in the United States: A Position Paper From the American College of Physicians". This paper reaffirmed policies laid out by their board of regents in 2014 including position number two which stated that:

"The medical profession has a special responsibility to speak out on prevention of firearm-related injuries and deaths, just as physicians have spoken out on other public health issues. Physicians should counsel patients on the risk of having firearms in the home, particularly when children, adolescents, people with dementia, people with mental illnesses, people with substance use disorders, or others who are at increased risk of harming themselves or others are present."

Additionally, this paper included new positions: taking stances on the use of semi-automatic weapons, safe storage practices and consumer best practices requiring regulation on access, safety, and design (Butkus, Doherty and Bornstein 2018).

In response to this paper, the National Rifle Association (NRA) released a statement recommending physicians "Stay in their lane" to address those who were speaking out on gun violence (Haag 2022). This campaign sparked a wave of backlash from the medical community culminating in the "This is our lane" campaign. "This is our lane" promoted medical professionals sharing their experiences with gun violence. These ranged from firsthand accounts to images of trauma-bays seen in their careers (Haag 2022). Demonstrating that, as the people who see and treat persons who have experienced the repercussions of gun violence on a regular basis, physicians have the knowledge and lived experience to speak out on gun violence as a public health issue and shape the policies that directly impact patients.

During this campaign, the Guardian conducted an interview with Dr. Judy Melinek, a forensic pathologist based in San Francisco, CA (Ho 2022). In addressing the NRA's response that physicians speaking out "stay in their lane," she clarified further that the intent was not to question the validity of the second amendment to the constitution, but rather to address the day-to-day reality of gun violence that physicians are faced with.

“What we are against is not researching, not putting effort into researching, and not putting the funding into researching what can be used to prevent gun violence and death, whether it’s trigger locks, security, training or the idea of requiring insurance and having people have insurance in case their gun is used to kill someone else. We need to have the research and we need to have the data to back it up, and right now that’s not happening.”

- Dr. Judy Melinek MD

She further emphasized the fact that evidence-based practices cannot be utilized in the medical field without conducting research to determine what effective avenues of intervention and prevention are. With the current field of medicine becoming increasingly evidence-based in practice, especially in emergency departments that see the brunt of gun violence patients, there is a clear gap in medical research that must be addressed.

## Part Two of Chapter Three: Public Opinions on Physician Role in Gun Violence

While the "This is our lane" campaign demonstrates that physicians believe they do have a role in addressing gun violence, medicine is a two-way relationship. If the public, the patients who are being treated by these physicians, do not believe there is a role for physicians, efforts may have limited efficacy. To determine where public opinion falls, research has been conducted on public perception of physicians addressing gun violence.

An analysis of the 2018 California Safety and Wellbeing Survey demonstrated that most Californians believe that gun safety conversations are at least sometimes appropriate with individuals who have a known firearm risk (Pallin et al. 2019). Additionally, if a person is at imminent risk of experiencing gun violence, then the majority of the 2,558 respondents reported that it was at least sometimes appropriate for physicians to intervene (Pallin et al. 2019). Individuals who owned firearms were slightly less likely to agree that physicians should have conversations with individuals at known or imminent risk of gun violence as compared to the general population (Pallin et al. 2019).

In a national survey on whether it is appropriate for physicians to discuss firearms during care, over three thousand persons responded. Of those respondents, 66% percent of participants said that such conversations were at a minimum, sometimes appropriate

(Betz et al. 2016). This breakdown however was further split between subgroups with 54% of gun owners, 67% of non-gun owners living with someone who owns a firearm, and 70% of those who neither owned nor lived with a gun owner believing these conversations were appropriate (Betz et al. 2016).

Overall, these surveys demonstrate that, while those who own firearms are less likely to support physicians having conversations with patients about gun safety, the majority of the US population believes that conversations about gun safety are at least sometimes appropriate to have in clinical settings. Of this majority, two thirds of those who do not own a firearm but live with someone who does or who do not have a firearm in their house support including gun safety conversations with their doctor.

# CHAPTER FOUR: MEANS OF PHYSICIAN INTERVENTION

## Part One of Chapter Four: Office and Hospital Interventions

"… physicians often underestimate their role in not only treating but also preventing firearm injury. Physicians can intervene through screening, counseling, community engagement, and advocacy, and can mobilize the health care systems they serve to engage with injury prevention." (Abdallah and Kaufman 2021)

The role of physicians in gun violence intervention and prevention can occur at multiple steps within the healthcare field. These include in the outpatient setting, prevention, where physicians can discuss firearms with families and recommend courses on gun safety. Consider this in the context of classic safety questions at every Well visit. Physicians ask about medications being easily accessible to children, whether seat belts are being worn/car seats being used, and if helmets are being worn when riding a bike/motorcycle. Incorporating questions about whether there is a firearm in the house creates the opportunity for education and safety.  Furthermore, interviews with both parents and children have shown that while parents may believe children are not aware of the location of firearms in the home or cannot access them, their children have a quite

different experience. A study conducted by interviewing families in rural Alabama demonstrated that 39% of parents who believed their child did not know where the gun was stored and 22% of parents who believed their child had never handled the firearm were directly contradicted by the information their children provided (Baxley and Miller 2006). Asking patients about their ability access firearms without a parent in the room may provide greater insight into an individual's risk level. By integrating these conversations into day-to-day practice, pediatricians can address safety concerns as well as discrepancies in access between parents and children. This is an area where the prevention of accidental or intentional firearms can be addressed.

In Holt et al, an editorial published on physician's role in gun violence, they "recommend an approach similar to how physicians evaluate individuals for a commercial driver's license. Namely, doctors should complete a certification process to standardize their understanding of and ability to evaluate the physical and mental capacities required to own and operate a firearm safely" (2019). Gun safety and violence prevention efforts can be modeled off currently utilized practices to minimize impact on patient-physician relationships while creating a stronger safety net (Holt et al 2019).

In the setting where office prevention was not possible, physicians have the opportunity for intervention at the time of hospitalization or during injury follow-up after a violent incident. When a patient has experienced gun violence and is hospitalized, they can be at their most receptive to breaking the cycle. There are gun violence intervention structures which partner physicians and community members trained in violence

intervention to address these situations. These programs are called Hospital-based violence intervention programs (HVIPs).

## Part Two of Chapter Four: Hospital-Based Violence Intervention Programs (HVIPs)

HVIPs have four major components: intervention at the bedside in the ED or hospital, care in the form of case management services over a prolonged period, follow-up services provided by culturally competent front-line workers, typically from the community they serve, and social determinants of health-centered work (HAVI 2022). These programs were first developed in the 1990s and have evolved/expanded since. The first of these programs, Youth ALIVE!'s Caught in the Crossfire program, founded by Sherman Spears, was established in Oakland, CA. Caught in the Crossfire reports that 98% of clients, persons who have been a victim of a violent crime, were not re-hospitalized for violence related injuries (Youth ALIVE! 2022)**.** While much of the day-to-day work is conducted by non-physician staff, physicians play a key role in the development of these programs, lobbying for interventions and establishing/maintaining hospital-program relationships.

The Health Alliance for Violence Intervention describes HVIPs as "multidisciplinary programs that combine the efforts of medical staff with trusted community-based partners to provide safety planning, services, and trauma-informed care to violently injured people." (2022) Physicians and frontline workers from community-based partners meet with individuals in the hospital at a moment that has the possibility of becoming an inflection point. Participants give insight into their environment and needs (HAVI 2022). In HVIPs physicians leverage the solidarity built with their patients to introduce them to credible community-based frontline workers who can address patient

needs beyond traditional medical intervention. This partnership between the physician and the frontline worker creates an opportunity for case managers to explain the violence intervention program services and enroll interested parties before their hospital discharge. HVIPs provide a variety of services either in-house or through referral including GED support, driver's license assistance, emergency housing, and mental health counseling (Dicker 2016). The goal of these interventions is to reduce the potential for retaliatory actions and break the cycle of violence (Dicker 2016).

A study of community care management services in intentionally injured persons aged 10-24 years old demonstrated the impact of such resources (Aboutanos et al. 2011). The study participants were seventy-five individuals who were seen at a level 1 trauma center found to meet initial criteria. These persons were then randomized into two groups, one with brief intervention services and group two with brief intervention services and community care management services (Aboutanos et al. 2011). While the authors express limitations of funding support and that recidivism outcomes were strongly derived from the effort put in by injury prevention teams and community partners, neither group experienced recidivism (Aboutanos et al. 2011).

Cheng et al, a randomized control trial looking at the impact of utilizing mentors for violence prevention in at-risk youth and parents, had a similar result to Aboutanos et al. The study consisted of 166 families which were split into intervention (87) and comparison (79) groups. The intervention groups youths had six problem solving sessions with a mentor while parents had three home visits with a health educator. The

comparison group, in contrast, received a list of community resources and two follow-up phone calls. The result was that youth in the intervention group showed a decrease in aggression scores, misdemeanor offenses and number of fights at 6-month follow-up. This study demonstrated effectiveness but was limited in scope because only 22% of potential clients were enrolled in the study and follow-up times demonstrated short term impact only (Cheng et al. 2008).

The Prescription for Hope program (RxH) reviewed 8 years of data on 328 program clients to find that the recidivism rate was 4.4% (Bell et al. 2018). Fifteen of the original cohort recidivated and of those five were admitted to the hospital for their injury (Bell et al. 2018). This research concluded that participation in HVIP's had significant effects on breaking the cycle of violence (Bell et al. 2018). However, this conclusion is limited as no control group was utilized (Bell et al. 2018). A continual point of contention for intervention programs due to the viewpoint that developing a control group would be unethical. Comparing participants in the program to the non-client population is one-way programs can ethically evaluate their impact. A quantitative study of SF General's Wraparound program found that participation in the program cut recidivism in half, going from 8% in the general population to 4% in Wraparound's clients (Juillard et al. 2016).

One area that is rapidly expanding for both gun violence data and studies of HVIPs is qualitative research. There was one qualitative study of twenty participants for the Violence Intervention Advocacy Program in Boston that reviewed the mindset and experiences of clients (James et al. 2014). Every person enrolled expressed that they had

received crucial support through enrollment in the program (James et al. 2014). The majority also explicitly expressed positive experiences with the program and valuing their advocates as improving their quality of life (James et al. 2014).

Initial analysis of these HVIPs demonstrate quantitative and qualitative efficacy in addressing gun violence. Physicians play a key role in developing, maintaining, and enhancing these programs. Federal and state funding opportunities for these programs are growing, making hospital-based violence intervention an expanding area of opportunity for healthcare workers to address gun violence.

# CHAPTER FIVE: CONCLUSION

Hospital-based violence intervention programs are one avenue of opportunity for partnership between the healthcare system and communities. These programs are strengthened through the credibility that comes from partnerships with health care professionals. In addition, the in/outpatient settings provide opportunities for basic education and intervention on firearms. While physicians may not be trained to teach gun safety courses, they are able to ask basic safety questions and speak on the increased risk of injury by firearm that comes with having one in the home. Incorporating questions on gun violence into the standard patient intake form and the patient interview conducted during visits opens the door for discussion and education.

Gun violence is a public health crisis which physicians are duty bound to address, like lung cancer or substance use disorder. Physicians have an ethical obligation to improve their patient's health, so they must take action to address the environmental and social factors that impact patient health. In the case of gun violence, doctors have a responsibility to access patient's risk of victimization, work to change the environment that increases their risk and support them when prevention efforts are not effective.

# BIBLIOGRAPHY

Abdallah, Hatem O., and Elinore J. Kaufman. 2021. "Before The Bullets Fly: The Physician’S Role In Preventing Firearm Injury". Yale Journal Of Biology And Medicine 94 (1).

Aboutanos, Michel B., Anne Jordan, Robert Cohen, Robin L. Foster, Kimberly Goodman, Raquel W. Halfond, and Rachel Poindexter et al. 2011. "Brief Violence Interventions With Community Case Management Services Are Effective For High-Risk Trauma Patients". Journal Of Trauma: Injury, Infection &Amp; Critical Care 71 (1): 228-237. doi:10.1097/ta.0b013e31821e0c86.

Baxley, Frances, and Matthew Miller. 2006. "Parental Misperceptions About Children And Firearms". Archives Of Pediatrics &Amp; Adolescent Medicine 160 (5): 542. doi:10.1001/archpedi.160.5.542.

Beard, Jessica H., Sara F. Jacoby, Richard James, Beidi Dong, Mark J. Seamon, Zoë Maher, Amy J. Goldberg, and Christopher N. Morrison. 2019. "Examining Mass Shootings From A Neighborhood Perspective: An Analysis Of Multiple-Casualty Events And Media Reporting In Philadelphia, United States". Preventive Medicine 129: 105856. doi:10.1016/j.ypmed.2019.105856.

Bell, Teresa M., Dannielle Gilyan, Brian A. Moore, Joel Martin, Blessing Ogbemudia, Briana E. McLaughlin, Reilin Moore, Clark J. Simons, and Ben L. Zarzaur. 2018. "Long-Term Evaluation Of A Hospital-Based Violence Intervention Program Using A Regional Health Information Exchange". Journal Of Trauma And Acute Care Surgery 84 (1): 175-182. doi:10.1097/ta.0000000000001671.

Benns, Matthew, Matthew Ruther, Nicholas Nash, Matthew Bozeman, Brian Harbrecht, and Keith Miller. 2020. "The Impact Of Historical Racism On Modern Gun Violence: Redlining In The City Of Louisville, KY". Injury 51 (10): 2192-2198. doi:10.1016/j.injury.2020.06.042.

Betz, Marian E., Deborah Azrael, Catherine Barber, and Matthew Miller. 2016. "Public Opinion Regarding Whether Speaking With Patients About Firearms Is Appropriate". Annals Of Internal Medicine 165 (8): 543. doi:10.7326/m16-0739.

Blustein, Jeffrey, and Alan R. Fleischman. “Urban Bioethics: Adapting Bioethics to the Urban Context.” *Academic Medicine* 79, no. 12 (2004): 1198–1202. https://doi.org/10.1097/00001888-200412000-00013.

Butkus, Renee, Robert Doherty, and Sue S. Bornstein. 2018. "Reducing Firearm Injuries And Deaths In The United States: A Position Paper From The American College Of Physicians". Annals Of Internal Medicine 169 (10): 704. doi:10.7326/m18-1530.

CDC. “The History of Violence as a Public Health Issue,” n.d.

"Violence Prevention: Risk And Protective Factors". 2020. Centers For Disease Control And Prevention. https://www.cdc.gov/violenceprevention/youthviolence/riskprotectivefactors.html

Cheng, Tina L., Denise Haynie, Ruth Brenner, Joseph L. Wright, Shang-en Chung, and Bruce Simons-Morton. 2008. "Effectiveness Of A Mentor-Implemented, Violence Prevention Intervention For Assault-Injured Youths Presenting To The Emergency Department: Results Of A Randomized Trial". Pediatrics 122 (5): 938-946. doi:10.1542/peds.2007-2096.

Chiaravalloti, Deborah. “Physician-Patient Relationship: It’s About the Patient.” Web log. Board Vitals (blog), February 22, 2018. https://www.boardvitals.com/blog/physician-patientrelationship/#:~:text=The%20American%20Medical%20Association%20Code,self%2Dinterest%20or%20obligations%20to

Dicker, Rochelle A. 2016. "Hospital-Based Violence Intervention: An Emerging Practice Based On Public Health Principles". Trauma Surgery &Amp; Acute Care Open 1 (1): e000050. doi:10.1136/tsaco-2016-000050.

"Gun Violence In America | Everytown Research & Policy". 2022. Everytown Research & Policy. https://everytownresearch.org/report/gun-violence-in-america/.

"Impact Of Gun Violence On Black Americans | Everytown Research & Policy". 2022. Everytown Research & Policy. https://everytownresearch.org/issue/gun-violence-black-americans/.

“Mass Shootings in America.” Everytown Research & Policy, March 4, 2022. https://everytownresearch.org/maps/mass-shootings-in-america/.

Fairbairn, Jordan, Peter Jaffe, and Myrna Dawson. “Challenges in Defining Domestic Homicide: Considerations for Research and Practice.” *Domestic Homicides and Death Reviews*, 2017, 201–28. https://doi.org/10.1057/978-1-137-56276-0_7.

"Statistics | Giffords". 2022. Giffords. https://giffords.org/lawcenter/gun-violence-statistics/.

Holt, Stephen R., Julie Rosenbaum, Matthew Ellman, Benjamin Doolittle, and Daniel G. Tobin. 2019. "Physicians Should Play A Role In Ensuring Safe Firearm Ownership". Journal Of General Internal Medicine 34 (8): 1637-1640. doi:10.1007/s11606-019-05034-2.

James, Thea L., Salma Bibi, Breanne K. Langlois, Elizabeth Dugan, and Patricia M. Mitchell. 2014. "Boston Violence Intervention Advocacy Program: A Qualitative Study Of Client Experiences And Perceived Effect". Academic Emergency Medicine 21 (7): 742-751. doi:10.1111/acem.12409.

Juillard, Catherine, Laya Cooperman, Isabel Allen, Romain Pirracchio, Terrell Henderson, Ruben Marquez, Julia Orellana, Michael Texada, and Rochelle Ami Dicker. 2016. "A Decade Of Hospital-Based Violence Intervention". Journal Of Trauma And Acute Care Surgery 81 (6): 1156-1161. doi:10.1097/ta.0000000000001261.

Kivisto, Aaron, and Meagan Porter. 2019. "Firearm Use Increases Risk Of Multiple Victims In Domestic Homicides". The Journal Of The American Academy Of Psychiatry And The Law.

Haag, Matthew. 2022. "Doctors Revolt After N.R.A. Tells Them To ‘Stay In Their Lane’ On Gun Policy (Published 2018)". Nytimes.Com. https://www.nytimes.com/2018/11/13/us/nra-stay-in-your-lane-doctors.html.

Pallin, Rocco, Amanda Charbonneau, Garen J. Wintemute, and Nicole Kravitz-Wirtz. 2019. "California Public Opinion On Health Professionals Talking With Patients About Firearms". Health Affairs 38 (10): 1744-1751. doi:10.1377/hlthaff.2019.00602.

Pane, Lisa Marie. “Mass School Shootings Mostly Happening in Small-Town America.” Chicago Tribune. May 22, 2018.

Peterson, Sarah. “Community Violence.” The National Child Traumatic Stress Network, May 25, 2018. https://www.nctsn.org/what-is-child-trauma/trauma-types/community-violence.

Poulson, Michael, Miriam Y Neufeld, Tracey Dechert, Lisa Allee, and Kelly M. Kenzik. 2021. "Historic Redlining, Structural Racism, And Firearm Violence: A Structural Equation Modeling Approach". The Lancet Regional Health - Americas 3: 100052. doi:10.1016/j.lana.2021.100052.

Solnick, Sara J., and David Hemenway. 2019. "Unintentional Firearm Deaths In The United States 2005–2015". Injury Epidemiology 6 (1). doi:10.1186/s40621-019-0220-0.

Spicer, R.S., and T.R. Miller. 2000. "Suicide Acts In 8 States: Incidence And Case Fatality Rates By Demographics And Method". American Journal Of Public Health 90 (12): 1885-1891. doi:10.2105/ajph.90.12.1885.

"The HAVI — What Is An HVIP?". 2022. The HAVI. https://www.thehavi.org/what-is-an-hvip.

White, Kailey, Forrest Stuart, and Shannon L. Morrissey. 2020. "Whose Lives Matter? Race, Space, And The Devaluation Of Homicide Victims In Minority Communities". Sociology Of Race And Ethnicity 7 (3): 333-349. doi:10.1177/2332649220948184.