

POLICY FORUM

Stop Posturing and Start Problem Solving: A Call for Research to Prevent Gun Violence

Kelsey Hills-Evans, MD, Julian Mitton, MD, MPH, and Chana A. Sacks, MD

Abstract

Gun violence is a major cause of preventable injury and death in the United States, leading to more than 33,000 deaths each year. However, gun violence prevention is an understudied and underfunded area of research. We review the barriers to research in the field, including restrictions on federal funding. We then outline potential areas in which further research could inform clinical practice, public health efforts, and public policy. We also review examples of innovative collaborations among interdisciplinary teams working to develop strategies to integrate gun violence prevention into patient-doctor interactions in order to interrupt the cycle of gun violence.

An Ethical Obligation to Address Gun Violence

More than twenty survivors of the Pulse nightclub massacre traveled together to Boston, Massachusetts, in the days before the one-year anniversary of that horrific night. They met with a group of physicians, nurses, social workers, administrators, and others at our hospital to talk about their experience. They recounted their memories of the sounds of gunfire, the screams of those around them, and the moans from those felled beside them. They described the ups and downs that have characterized their attempts to rebuild in the year since gunfire shattered their sense of normalcy. They shared their stories in the hopes that if more people could understand what it means to be affected by gun violence, then we, as a nation, would be compelled to act.

Gun violence is an enduring public health crisis in the United States, and, by now, many of the statistics are well known: firearm-related violence results in more than 33,000 deaths each year, or an average of 93 deaths every day. Nearly two-thirds of those deaths are the result of suicide [1]. Firearm-related violence is the third leading cause of death for children in America [2] and the twelfth leading cause of death for Americans of all ages [3]. While devastating, these statistics still underestimate the human toll of this violence because for the tens of thousands of people who are killed every year as a result of gun-related injuries, more than twice as many suffer nonfatal gunshot wounds [1]. These injuries can result in long-term physical disabilities, are a leading cause of spinal cord injuries in the United States, and can lead to mental health problems, including

posttraumatic stress disorder (PTSD) [4]. When viewed through this lens, the issue of gun violence and its sequelae is clearly a medical problem—and one that health care professionals must be better prepared to confront.

We clinicians have an ethical obligation to approach gun violence in the same ways that we do other health concerns facing our patients, no matter the politics. For heart disease, sepsis, and fatalities from car crashes—to name just a few examples—the medical and public health communities have been successful in reducing mortality through a research-driven approach, grounded in the implementation of evidence-based practices [5-7]. Efforts to reduce morbidity and mortality from firearm-related violence should be no different. Our conversations with survivors from Pulse brought into specific focus how we in the medical community can learn from and partner with those affected by gun violence. In this article, we will review the barriers to research in the field of gun violence prevention, outline a research agenda, and discuss innovative interventions that can serve as models in efforts to effect change and reduce the complex toll that firearm-related violence takes on our society.

Gun Violence: A Politicized Public Health Problem

As a major cause of preventable injury and death in the United States, gun violence should be an important focus of research to inform clinician counseling, public health efforts, and public policy. Yet research remains scarce. In a recent study, investigators quantified the funding and the number of research publications for the top 30 causes of death based on the Centers for Disease Control and Prevention (CDC) mortality statistics between 2004 and 2014 [8]. Relative to mortality rates of other leading causes of death in the United States, gun violence is the least researched and the second least funded (only falls were funded less). Although gun violence killed approximately the same number of people annually as sepsis, gun violence received less than 1 percent of the funding allocated to sepsis research and resulted in 1/25th the number of publications [8].

This lack of funding for gun violence research at the federal level reflects political, not scientific, priorities. In the 1990s, CDC-funded research showed that having a gun in the home was associated with increased risks of homicide and suicide [9, 10]. In response, the National Rifle Association lobbied Congress to end this line of research [11]. In 1996, Congressman Jay Dickey of Arkansas included language in an appropriations bill stating that no CDC funds for injury prevention and control “may be used to advocate or promote gun control” [12]. The Consolidated Appropriations Act of 2012 used similarly restrictive language with regard to funding from the National Institutes of Health (NIH) [13]. While not outlawing gun violence research explicitly, this language had the intended effect: since 1996, federal funding for research dedicated to gun violence has plummeted [14]. Controlling for the growth of scientific literature over time, publications related to gun violence fell more than 60 percent between 1998 and 2012 [15].

Consistent financial and leadership support from academic and private sector institutions is currently lacking but desperately needed to overcome this lack of federal funding for research. Other disease-specific organizations, from breast cancer to suicide prevention, have been successful in raising public awareness and research funding [16, 17]; gun violence prevention foundations could learn from this model to raise the financial resources needed to attract research interest and proposals, to motivate communities to stand in solidarity to address this public health crisis, and to help initiate collaborative research teams in hospitals, clinics, and communities around the country. Without reliable funding, motivated investigators will continue to be unable to build careers dedicated to gun violence prevention research.

A Gun Violence Prevention Research Agenda

There are many concrete ways that research can inform clinical efforts. When caring for patients with a history of suicidal ideation or mental illness that increases the risk of suicide, how often do clinicians [screen](#) for access to firearms? How comfortable do clinicians feel discussing gun ownership and counseling on [safe storage](#)? If counseling does take place, does this reliably lead to safer gun storage and improve patient outcomes? Survivors from Pulse remind us that while the toll of gun violence is often measured by the numbers of people who died, our work must also be grounded in understanding how we can best support those who witness and survive this type of violence. What measures can we institute, initially and over time, to decrease the risk of developing posttraumatic stress disorder (PTSD) among survivors? Many of these basic questions remain unanswered. And these questions are just a start: Ranney and colleagues have outlined an extensive research agenda for gun violence prevention in the field of emergency medicine [18]; other specialties can follow this lead.

Gun violence touches nearly every field in medicine: from emergency department clinicians, nurses, and surgical teams who face the grueling initial presentations of penetrating trauma to social workers, mental health professionals, rehabilitation specialists, and primary care clinicians who manage the downstream consequences of spinal cords severed by bullets or survivors' struggle with depression. And so our response must be rooted in interdisciplinary action.

While we should advocate strongly for increased CDC and NIH research funding, we cannot allow the lack of federal funds to continue to be the excuse for not doing this work. Medical and scientific research enterprises have been increasingly funded by the private sector over the past two decades [19], and the field of gun violence prevention would benefit by following suit. Support from nonfederal sources, including academic institutions, the private sector, state governments, and foundations, can bring together resources to fund this research enterprise. Some efforts in this space are growing, but more are urgently needed.

Community-Based Efforts Underway

As we build a movement for community leadership and implementation science research to study the uptake of gun violence prevention interventions in routine clinical practice, we can learn from those engaged in developing best practices. At Drexel University College of Medicine, the Hahnemann University Hospital Emergency Department and the Center for Nonviolence and Social Justice have responded to a rise in urban youth violence with an interdisciplinary hospital-based violence intervention program called Healing Hurt People. By bringing mentorship and support for victims into the emergency department, this innovative program attempts to reduce re-injury and retaliatory violence among youth who present to the hospital after a violent episode that often involves a firearm [20]. At our own institution, we brought together a multidisciplinary group of nurses, attending physicians, resident trainees, social workers, physical therapists, and administrators to recognize routine clinical encounters as opportunities to screen for risk factors for violence or misuse of a firearm. As an initial step, we drafted informational documents for clinicians that offer guidance for counseling and outline local resources to promote safe gun practices.

State government can be an important source of partnerships. In Massachusetts, the office of Attorney General Maura Healey partnered with the Massachusetts Medical Society to develop guidelines for health care professionals to discuss gun safety with patients. The end products were endorsed by state police organizations [21]. In a statement introducing this initiative, Attorney General Healey highlighted its nonpartisan, public health approach: “While the vast majority of gun owners are responsible and deeply committed to gun safety, this remains a public health issue, and conversations between patients and health care providers are critically important to preventing gun-related injury and death” [21]. These are examples of how local academic collaborations are attempting to bring innovative models of gun violence prevention into clinical practice. But more work is needed, starting with rigorous research on how best to integrate gun violence prevention practices into clinicians’ workflow and to understand the effectiveness of these programs as they are implemented.

Moving Forward on Common Ground

Recognizing gun violence as a public health issue allows the conversation to be redirected from political posturing toward problem solving. We need to define specific research needs, build broad interdisciplinary coalitions, call on diverse funding sources for research to answer these questions, and partner with community leaders to implement change. Although the Dickey Amendment stripped federal funding and had a chilling effect on gun violence research, its namesake later became an advocate for the idea that research is essential in reducing gun violence. Forming perhaps an unlikely friendship, Jay Dickey partnered with Mark Rosenberg, a former director of CDC’s National Center for Injury Prevention and Control, who claimed he had been fired as a

result of his commitment to advancing gun violence prevention research. Together, they authored a *Washington Post* editorial, "How to Protect Gun Rights While Reducing the Toll of Gun Violence," that described the vast common ground that exists and called for research funding to "let science thrive and help us determine what works" [22]. Dickey reiterated this sentiment in a letter he wrote to the US House of Representatives Gun Violence Prevention Task Force: "Doing nothing," he wrote, "is no longer an acceptable solution" [23].

Survivors from Pulse echo this call for action. When asked how he thought the medical community could best support survivors of gun violence, one survivor who was just 18 years old the night that gun violence changed his life forever did not hesitate. "Don't forget about us," he replied. "Do something."

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Kelsey Hills-Evans, MD, is a resident physician in internal medicine at Massachusetts General Hospital in Boston. Her interests focus on the intersection of social justice and critical care medicine, including violence prevention, substance use disorders in intensive care settings, and preventable harms in the critically ill. She is also interested in finding ways to engage physicians in community activism and leads multiple initiatives in her residency for social change.

Julian Mitton, MD, MPH, is a primary care physician at Massachusetts General Hospital in Boston, where he is also a fellow in the Rural Health Leadership program. He is also an instructor in medicine at Harvard Medical School and a physician with the Rosebud Indian Health Service Unit in South Dakota. He is involved in social justice and physician advocacy curricular programming and has a research interest in substance use disorders.

Chana A. Sacks, MD, is a general internist at Massachusetts General Hospital (MGH) in Boston. She is also a research fellow in the Division of Pharmacoepidemiology and Pharmacoeconomics at Brigham and Women's Hospital and an instructor in medicine at Harvard Medical School. Since the death of a relative in the 2012 shooting at Sandy Hook Elementary School, she has worked to keep a spotlight on the importance of a public health approach to the issue of gun violence. She is the co-creator of the MGH Gun Violence Prevention Coalition and has lectured regularly and published articles on the topic of physicians' role in gun violence prevention.

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