SPECIAL ARTICLE

Proceedings from the Medical Summit on Firearm Injury Prevention: A Public Health Approach to Reduce Death and Disability in the US

Eileen M Bulger, MD, FACS, Deborah A Kuhls, MD, FACS, Brendan T Campbell, MD, FACS, Stephanie Bonne, MD, FACS, Rebecca M Cunningham, MD, FACEP, Marian Betz, MD, FACEP, Rochelle Dicker, MD, FACS, Megan L Ranney, MD, MPH, FACEP, Chris Barsotti, MD, FACEP, Stephen Hargarten, MD, MPH, Joseph V Sakran, MD, MPH, FACS, Frederick P Rivara, MD, MPH, FAAP, Thea James, MD, FACEP, Dorian Lamis, PhD, Gary Timmerman, MD, FACS, Selwyn O Rogers, MD, FACS, Bechara Choucair, MD, Ronald M Stewart, MD, FACS

An historic meeting of 44 major medical and injury prevention organizations and the American Bar Association was hosted by the American College of Surgeons (ACS) February 10-11, 2019. Leaders of these professional organizations met with the goal of building consensus around opportunities to work together to address the growing problem of firearm injury and death in the US. A multidisciplinary planning committee invited speakers who are leading experts and researchers in this field to review the epidemiology of firearm injury, discuss structural violence and the social determinants of health, review the public health approach to the problem, and discuss opportunities for injury prevention interventions. The goal was to be maximally inclusive and include organizations that represent physicians, nurses, public health professionals, and emergency medical services providers who are both on the front lines in caring for injured patients and also manage the long-term consequences of violence in the community. All invited organizations were encouraged to submit digital materials related to their organization's firearm injury prevention initiatives and these were shared before the Medical Summit. A list of the organizations that have agreed to support the consensus statements from this conference can be found in Appendix 1.

For the past 30 years, many medical organizations have led efforts to address firearm injury and firearm violence, but most (if not all) of these efforts have become mired in a debate about personal liberty and the Second Amendment to the US Constitution. Some of this controversy has been internal to professional organizations, and some has been external. In general, this debate has not been productive—while death rates from other medical conditions such as traffic injury, heart disease, cancer, and HIV have decreased, firearm death rates in the US are increasing. The ACS Committee on Trauma has worked steadily to move beyond this debate, and to move from published statements to constructive action. The keys to this approach center on addressing firearm injury as a medical and public health problem, not a political problem; developing research agendas to understand and address root causes of violence; and committing to a professional and civil dialogue centered on how best to reduce and prevent firearm injury, death, and disability. This mirrors the public health model that has been so effective in improving outcomes in traffic-related injury.

Disclosure Information: Nothing to disclose.

Received May 3, 2019; Accepted May 6, 2019.

From the American College of Surgeons Committee on Trauma (Bulger, Kuhls, Campbell, Bonne, Dicker, Sakran, Timmerman, Rogers, Stewart), Department of Surgery, University of Chicago (Rogers), Chicago, IL, Departments of Surgery (Bulger) and Pediatrics (Rivara), University of Washington, Seattle, WA, Department of Surgery, University of Nevada, Las Vegas, NV (Kuhls), Department of Surgery, University of Connecticut, Hartford, CT (Campbell), Department of Surgery, Rutgers New Jersey Medical School, Newark, NJ (Bonne), Department of Emergency Medicine, University of Michigan, Ann Arbor, MI (Cunningham), Department of Emergency Medicine, University of Colorado, Denver, CO (Betz), Department of Surgery, University of California-Los Angeles, Los Angeles, CA (Dicker), Department of Emergency Medicine, Brown University, Alpert Medical School, Providence, RI (Ranney), Department of Emergency Medicine, Berkshire Medical Center, Pittsfield (Barsotti), Department of Emergency Medicine, Boston University School of Medicine, Boston (James), MA, Department of Emergency Medicine, Medical College of Wisconsin, Milwaukee, WI (Hargarten), Department of Surgery, Johns Hopkins University, Baltimore, MD (Sakran), Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta, GA (Lamis), Department of Surgery, University of South Dakota Sanford School of Medicine, Sioux Falls, SD (Timmerman), Kaiser Permanente, Oakland, CA (Choucair), and Department of Surgery, University of Texas San Antonio, San Antonio, TX (Stewart).

Correspondence address: Eileen M Bulger, MD, FACS, Department of Surgery, University of Washington, Box 359796, Harborview Medical Center, 325 9th Ave, Seattle, WA 98104. email: ebulger@uw.edu

https://doi.org/10.1016/j.jamcollsurg.2019.05.018
ISSN 1072-7515/19

The following were the objectives of this Summit:

1. Identify opportunities for the medical community to reach a consensus-based, non-partisan approach to firearm injury prevention
2. Discuss the key components of a public health approach and define interventions this group will support
3. Develop consensus on actionable items for firearm injury prevention using the public health framework

We also sought to learn about the current independent efforts of all participating organizations to identify gaps and collaborative opportunities (Appendix 2).

These objectives focus on injury prevention, which is integrated into a healthcare and trauma system framework that also functions to turn bystanders into immediate responders, and ensures the delivery of optimal prehospital, hospital/trauma center, and rehabilitative care. This system also serves as a framework for disaster and mass casualty response. This systematic approach requires engagement, stakeholder partnerships, data collection, research, education, advocacy, communication, and cooperation.

The public health approach to firearm injury prevention is identical to other highly successful injury prevention initiatives. The underlying philosophy is grounded in an ethical framework centered on the principles of beneficence, autonomy, and honesty. Although not speaking specifically about injury prevention, Dr Richard Moulton sums up the philosophic approach well about the rationale for professionals leading in this sphere. He states, "We dedicate ourselves to the service of humanity, and most importantly we place the needs of the patient above those of the doctor…" And, "We will base our knowledge and actions on objective scientific truth as best we can determine it." This ethical framework is the foundation of why professional societies are engaged in injury prevention programs. Firearm injury is a significant health problem for our patients and the communities we serve; therefore, it is important that we develop effective injury prevention strategies. Coming together as a professional community and approaching this epidemic as a disease and a public health problem promises to make our neighborhoods and our country safer, stronger, and more resilient. We believe that this can be done in a manner that preserves (or even enhances) freedom. This professional approach requires freedom with responsibility.

The group reviewed survey data from the ACS that, on the surface, are consistent with a philosophic divide concerning the general benefit of firearms and views of firearms and freedom. In previous surveys of surgeons, a majority in the US adheres to 1 of 2 contrasting and conflicting narratives about firearm ownership.[1] The visual abstract in Figure 1 graphically depicts this polarized debate and an inclusive alternative.[2] This philosophic divide is most evident on the extremes, but these competing philosophies lead to polarized personal narratives and create the perception of a large chasm between 2 groups. One of 2 dominant narratives asserts that firearms are beneficial, necessary, and a protected right. The strongest adherents of this philosophic view very tightly link freedom and firearms; so for them, the term *gun control* is synonymous with *freedom control*. The second narrative asserts that firearms are harmful, generally

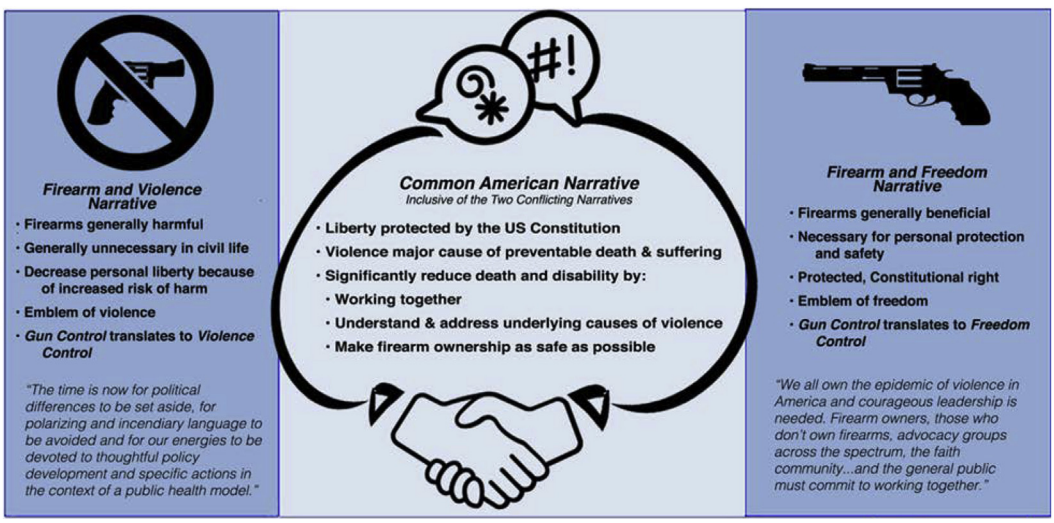

Figure 1. Visual abstract describing the American College of Surgeons Committee on Trauma Consensus–based approach to the dialog related to firearm injury prevention.

unnecessary in civil life, and decrease personal liberty because of increased risk of harm (in homes and in communities). Strong adherents of this philosophic view very tightly link guns with violence, so for them *gun control* is synonymous with *violence control*.

When faced with a perceived stress or crisis, those who view firearms as critical for personal freedom and protection push for greater availability and tend to purchase more firearms. Those who view firearms as emblematic of violence and harm push for increased restriction on access to firearms, and protest the violence. Both sides appear convinced they are absolutely correct, and both often react to each other by reinforcing their own position, while simultaneously villainizing the other. When searching for constructive solutions that realistically could positively impact hundreds of thousands of American lives annually, this gap can initially appear uncrossable.

However, the chasm is not as wide as it might seem. In surveys of both medical professionals and the lay public there are many areas of agreement about firearm injury prevention. In a recent survey of ACS members, most respondents believe that firearms are both beneficial and harmful. When questioned about the role of firearms in protecting or restricting freedom, the most common response was that firearms neither protect nor limit personal freedom (unpublished data, ACS membership survey). The view of 2 conflicting narratives creates a false dichotomy. As Figure 1 depicts, there is a common narrative, inclusive of both philosophic views: firearm ownership is a constitutionally protected right and we also have a major firearm violence problem. The way to address the epidemic of firearm violence is to work together to fully understand and address the underlying causes of violence, while simultaneously working to make firearm ownership as safe as possible (for those who own firearms and for those who do not).

The emergency healthcare community has led the implementation of a systematic approach to developing emergency medical services, trauma, disaster, and emergency healthcare systems. Through the development of these systems, important lessons have been learned that are relevant to addressing complex health problems. The general approach to implementation of these systems is based on the following 5 key principles: be maximally inclusive with engagement of stakeholders, create a dialogue and develop a consensus plan centered on what is the right thing to do for the patient or the population being served, establish systems that ensure timely and structured cooperation and communication, develop data systems with strong support for research and quality improvement, and cultivate a bias for action with a focus on implementing and hardwiring system improvements. This inclusive, consensus, action-oriented approach requires professional freedom with responsibility to the patient and the community. This approach generates trust and leads to productive teams and durable solutions. These professional principles are generalizable to solving or effectively managing other complex problems—such as firearm injury prevention.

This systems approach, based on the public health model, requires engagement, responsibility and partnership across disciplines, geographic regions, and philosophic differences. It requires commitment to values of civility, professionalism, humility, and mutual respect. When applied to firearm injury prevention, this approach requires engaging firearm owners as a part of the solution rather than as a part of the problem; engaging underserved community members as a part of the solution rather than as a part of the problem; a commitment to addressing structural factors and social determinants of health that lead to and potentiate the cycle of violence; and a commitment to develop investigators and adequately fund research at a level commensurate with the burden of the health problem. These proceedings will summarize the presentations at the conference and conclude with a consensus-based approach to this issue that all of the professional organizations listed in Appendix 1 have agreed to support.

EPIDEMIOLOGY OF FIREARM INJURY

In 2017, there were 39,773 firearm-related deaths in the US, of which 60% were suicides, 37% were homicides, 1% were unintentional injuries, and approximately 1% were related to legal intervention (2017 data from CDC WISQARS [Web-Based Injury Statistics Query and Reporting System; https://www.cdc.gov/injury/wisqars/nvdrs.html]). Although mass shootings have garnered recent attention and are increasing in frequency, they represent <1% of homicide deaths. As shown in Figure 2, the death rate peaked in the early 1990s, but has been increasing during the past 3 years. We do not have adequate data systems to accurately define the rate of non-fatal firearm injuries in the US. Although firearm injuries represent only 4% of injuries seen at major trauma centers, based on analysis from the National Trauma Databank, due to the high case fatality rate, the deaths attributed to firearms in the population are equivalent to motor vehicle crashes and falls (Fig. 3). Figure 4 shows the varying population-based mortality rates by state. Among those with serious injury, the case fatality rate for motor vehicle crashes has declined in the past 10 years, while there has been no similar improvement for firearm injuries.[3] In addition, for patients hospitalized as a result of a firearm injury, the injury severity has

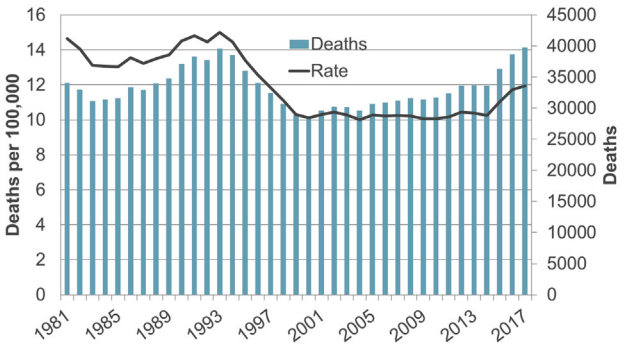

Figure 2. Mortality rates from firearm injury in the US over time based on data from CDC WISQARS (Web-Based Injury Statistics Query and Reporting System, https://www.cdc.gov/injury/wisqars/nvdrs.html).

increased steadily over time.[4] Suicide by firearm carries an 85% fatality rate, which is significantly higher than all other mechanisms.[5-7] Firearm suicide disproportionately involves older, white males in rural environments, and firearm homicide disproportionally affects young men of color in urban environments. Unintentional injury disproportionally impacts children with access to firearms. Ninety-one percent of children killed by guns in high-income countries are in the US. Worldwide it is estimated that 251,000 people died from firearm injury in 2016.

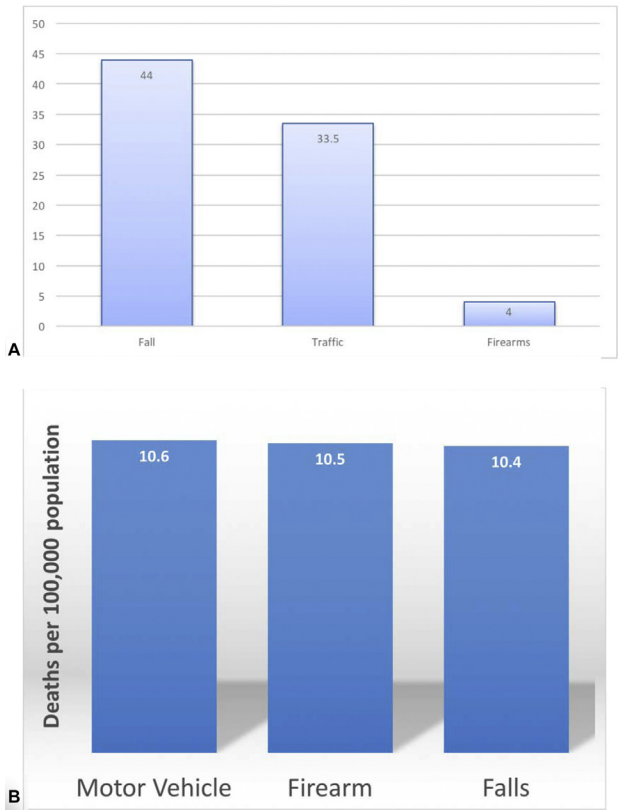

Figure 3. (A) The percentage of patients seen at trauma centers in the US based on mechanism of injury, data from the National Trauma Databank, 2014. (B) Population-based mortality for the top 3 mechanisms of injury in the US, data from CDC.

SOCIAL DETERMINANTS OF HEALTH AND STRUCTURAL VIOLENCE

The social determinants of health are the conditions in which people are born, grow, live, work, and age, and are shaped by the distribution of money, power, and resources at global, national, and local levels. They are the major drivers of health and disparate health outcomes across communities and populations. The lack of opportunities to thrive and be successful in life contributes to shorter lives, particularly for people of color. Entire neighborhoods across the US can be seen suffering from a host of chronic diseases, including gun violence, as a result of inequity in the social determinants of health. Creation of heat maps across the US of diseases such as early heart ailments, certain cancers, environmental disorders, COPD, obesity, diabetes, and gun violence illustrate the clear inequity of our ethnic minority populations; our poor; and our populations with poor access to equitable education, housing, and employment. Turning this equation around, addressing socioeconomic factors appropriately has the largest potential impact of any intervention on the health of our population.

The US spends >17% of its gross domestic product on healthcare, a proportion much higher than any other high-income country. Despite this statistic, the US life expectancy, infant mortality, and age of the population that is older than 65 years old are lower than our economic counterparts. The number of comorbidities and the obesity rates are also relatively higher than other high-income countries (OECD [Organisation for Economic Co-operation and Development] Health Statistics database; http://www.oecd.org/els/health-systems/health-data.htm). Understanding the factors responsible for population health requires that we examine the daily realities that affect the lives and the health of our people and fund the needed research to better understand the complexities. In the US and around the world, there are extensive data linking socioeconomics to health. Gradients of wealth parallel gradients of health. Low life expectancy is clearly related to living below the federal poverty level and to poor levels of education.

Structural violence is a term coined by Johan Galtung and colleagues[8] that describes social structures—economic, political, legal, religious, and cultural—that keep individuals, groups, and societies from reaching their

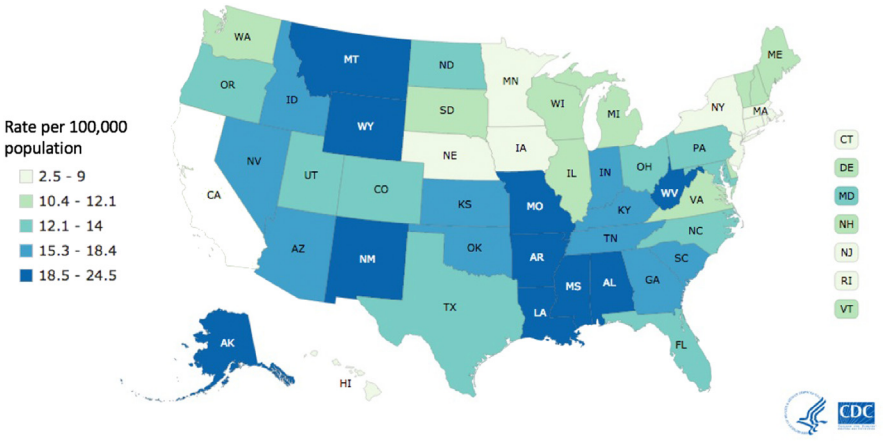

Figure 4. Firearm Mortality by State, 2017. Age-adjusted firearm death rates per 100,000 population from the US Centers for Disease Control: https://www.cdc.gov/nchs/pressroom/sosmap/firearm_mortality/firearm.htm.

full potential. As a fish cannot see water, these structures are mostly invisible to most of us, but they put individuals and populations in harm's way.[9] One example of this is the practice of "red-lining," which is the practice of refusing loans (such as mortgages) to people who live in a neighborhood deemed a poor financial risk. Social arrangements creating structural violence result in profound disparities in access to education, income, opportunities for wealth building, and housing. It is in these neighborhoods that we find interpersonal violence exceedingly prevalent. These inequities are a key underlying factor in interpersonal firearm violence. These neighborhoods represent the places where young African Americans and Latinos experience gun violence at epidemic rates. Homicide is the leading cause of death in young African Americans, and the second leading cause of death among young Latinos. Homicide is a downstream consequence of profound inequities upstream. A paradigm shift for treatment and interventions for victims of violence should begin there.

THE DISEASE MODEL AND THE PUBLIC HEALTH APPROACH

Firearm violence can be viewed as a complex biopsychosocial disease.[10] The biology of this disease is treated acutely every day in emergency departments (EDs) and trauma centers across the US. Increasingly, the care of the patients and their families (and communities) are being informed and strengthened by behavioral health and social interventions that reduce subsequent risk, such as posttraumatic stress disorder, and can inform at-risk assessments for youth and other vulnerable populations. Furthermore, by framing gun violence as a complex disease, the public health approach to preventing these deaths rests on a scientific basis that provides structure to healthcare systems, public health agencies, and other organizations that wish to reduce this burden in our communities. Framing gun violence as a complex disease also provides a basis for systematic research that improves our understanding of these deaths and non-fatal events, similar to approaches for other diseases, such as HIV/AIDS.

Among the key goals of the summit was to define "the public health approach" to firearm injury prevention. The public health approach to any issue is a comprehensive, multidisciplinary approach that includes population level screening and multiple interventions spanning the disciplines of health, education, culture, law, and policy. This approach involves 4 stages including understanding the epidemiology, program development, research to evaluate program outcomes, and dissemination of successful programs. Each injury prevention program that is developed should undergo this rigorous process. However, research funding has been lacking to adequately develop and assess efforts in this systematic way, underscoring the need for significant federal funding directed at injury prevention and firearm violence research. As a deliverable from this summit, we sought to evaluate the current firearm injury prevention programs provided by the participating organizations, to understand where organizations are overlapping in their approach and where there might be gaps. These are summarized in Appendix 2.

To evaluate existing programs, we elected to use a tool that forms the basis of many public health injury prevention initiatives: the Haddon Matrix.[11] Developed by William Haddon in 1970, this matrix forms a 3 × 4 box of intersecting cells. On one side are 3 rows representing primary, secondary, and tertiary prevention. Primary

prevention occurs before the event, secondary prevention involves decreasing magnitude of the impact on the individual at the time of the event, and tertiary prevention is about lessening the effect of the event on the individual's life moving forward, or, more simply, to help in recovery. There are 4 columns that describe the 4 opportunities for intervention: the host, vector, social environment, and physical environment. In the case of firearm injury, these 4 opportunities are clear: the host is the individual who is injured by firearm, the vector/agent is the firearm, and the social and physical environment encompass the communities where people live, work, and play, and the laws, regulations, and cultures of those communities. This approach led to a dramatic decrease in motor vehicle deaths per miles driven in the latter half of the 20th century. Given the variability in epidemiology and risk factors, we elected to complete a Haddon matrix for each of the 3 main types of firearm injury: suicide, unintentional injury, and intentional interpersonal violence. Intentional interpersonal violence encompasses homicide, mass shootings, and intimate partner violence (Figs. 5–7).

For suicide, primary prevention involves addressing underlying mental health problems and social stressors, secondary prevention involves reducing the risk of death from attempted suicide, and tertiary prevention is lessening the effect of a suicide attempt on the individual's life. Similarly, if we consider violence as an affliction or disease, primary prevention is about preventing violence, secondary prevention is about lessening the effects of violence or the severity of injury, and tertiary prevention involves helping an individual recover from violence. Prevention of unintentional injury focuses largely on safety training to avoid mishandling of firearms and limiting access to children, and strengthening the safety features of firearms. The Haddon Matrices provided in this document represent a summary of the work currently being done by the medical community and areas in need of further development. Although these provide a summary of potential interventions, we did not seek to reach consensus on all of the items in the Haddon's matrices, but rather offer them as a strategy to develop a comprehensive approach to this complex problem.

	Host Factors	Agent Factors (Firearm)	Physical Environment	Social Environment
Pre-Injury: Before the gun is fired (Primary Prevention)	• Access to mental health services • Screening to identify individuals at risk • Lethal means counseling • Education on physician burnout (for physician suicide prevention) • Substance abuse treatment	• Provide safe storage devices/encourage their use • Develop smart gun technology (gun can only be fired by authorized user/owner) • Store ammunition away from the firearm	• Extreme Risk Protection Orders: remove firearms from home • Lethal means safety (reduce home access to firearms) • Provision of places for temporary storage of firearms outside of the home	• Suicide hotlines • Community support system for individuals in crisis • Suicide prevention messaging to firearm owners in the community • Education and tools to encourage physicians to counsel patients/families • Screening algorithms for suicidal ideation on social media • Waiting period for firearm purchase
Injury: When the gun is fired (Secondary Prevention)	• Stop the Bleed bystander training	• Modify ammunition so it is less lethal e.g. smaller caliber ammunition • Smart gun technology: will not fire if pointed at head	• Alarm systems to call 911 when gunfire detected	• Family/community support to interrupt attempt
Post Injury: After the victim is shot (Tertiary Prevention)	• Post-injury access to mental health services	• N/A	• Trauma system development	• Community support for survivors and families • Stop the Bleed training in communities

Figure 5. Haddon's Matrix describing potential injury prevention initiatives for firearm suicide prevention.

	Host Factors	Agent Factors (Firearm)	Physical Environment	Social Environment
Pre-Injury: Before the gun is fired (Primary Prevention)	• Identify individuals at risk (SaFETy score) • SafERteens Brief intervention • Substance abuse treatment • Active shooter training • Domestic violence screening • Human trafficking screening • Alcohol screening and brief intervention	• Enhanced background checks • Extreme risk protection orders • Develop smart gun technology (gun can only be fired by owner) • Regulate access high capacity, magazine fed, semiautomatic rifles • Regulate access to large capacity magazine	• Address the social determinants of health in urban communities • Health landscape mapping • Metal detectors • Enhance school/ workplace safety	• Cure violence model to intervene in the community before violence occurs • Community policing, gang units • Job training: Employment opportunities • Address school and cyber bullying • Engage community to report potential events
Injury: When the gun is fired (Secondary Prevention)	• Stop the Bleed bystander training	• Smaller caliber ammunition • Reduce capacity of guns firing multiple bullets	• Community gunshot monitoring systems to activate 911	• Community police presence
Post Injury: After the victim is shot (Tertiary Prevention)	• Hospital-based Violence intervention programs • Screening & Treatment for PTSD • Alcohol screening and brief intervention	• N/A	• Address the social determinants of health in urban communities • Trauma system development and implementation • Rapid access to EMS and trauma care	• Case management after hospital discharge • Minimize media notoriety of mass shooters • Hold firearm owner accountable if firearm was not stored safely

Figure 6. Haddon's Matrix describing potential injury prevention initiatives for intentional interpersonal injury by firearms.

FIREARM INJURY PREVENTION RESEARCH: GAPS AND OPPORTUNITIES

The science of injury prevention—a systematic strategy for reducing the public health burden of firearm epidemics—was established in the 1960s in the face of an epidemic of motor vehicle crash injuries. Healthcare providers and researchers can reduce the incidence and health consequences of firearm injuries in precisely the same manner as was done with motor vehicle crashes: through a rigorous, coordinated strategy for research and the application of research evidence to medical and public health practice. However, healthcare providers have been limited in their ability to use this standard approach to firearm injury prevention because of lack of funding.[12]

We can track the effect of funding restrictions on both the science and the burden of injury. In 1996, the Dickey Amendment was passed, stating "none of the funds made available for injury prevention and control at the Centers for Disease Control and Prevention (CDC) may be used to advocate or promote gun control."[13] Although the Dickey amendment did not technically prevent firearm research from being conducted, since that time, Congress and CDC have failed to appropriate any designated support for firearm injury research. The level of NIH funding for this disease process is only 1.6% of the amount predicted for conditions with similar mortality burdens.[14]

Commensurate with the level of funding, publications and number of active researchers addressing firearm injury had also decreased,[15] although there has been a recent increase in articles in the medical literature on firearms. A recent systematic review demonstrated that only 72 articles addressed clinically relevant firearm injury prevention; of these, only 12 assessed patient-level interventions and only 6 were randomized controlled trials.[16] Although these studies provide preliminary evidence for the value of provider-level interventions in increasing safe storage and decreasing weapon carriage and fights, injury-specific outcomes are lacking.[17-21]

Reflecting the current lack of rigorous research on firearm injury prevention, multiple organizations have developed high-quality research agendas.[22,23] But these agendas remain unanswered. Without adequate funding, the medical and public health community will not be able to address key unanswered questions around the epidemiology of firearm injury; effective primary, secondary, and tertiary prevention interventions; and how best to disseminate and implement effective programs.

	Host Factors	Agent Factors (Firearm)	Physical Environment	Social Environment
Pre-Injury: Before the gun is fired (Primary Prevention)	• Require firearm safety training for new firearm owners • Safe storage counseling for parents • Teach children about risks • Screen for dementia and counsel caregivers on firearm access risk	• Provide safe storage devices/encourage their use • Store ammunition separate from firearm • Develop smart gun technology (gun can only be fired by authorized user/ owner)	• Gun range safety features	• Supervision of youth when handling firearms • Education and tools to encourage physicians to counsel patients/families
Injury: When the gun is fired (Secondary Prevention)	• Stop the Bleed bystander training	• Modify ammunition so it is less lethal e.g. smaller caliber ammunition • Smart gun technology: Children cannot fire it	• Alarm systems to call 911 when gunfire detected	
Post Injury: After the victim is shot (Tertiary Prevention)	• PTSD screening and Intervention	• Remove guns from home if non fatal injury occurs with older/demented patients	• Trauma system development • Rapid access to EMS and trauma care	• Hold firearm owner accountable if firearm was not stored safely

Figure 7. Haddon's Matrix describing potential injury prevention initiatives for unintentional firearm injury.

Answering these questions will require significant public and private investment. It is essential for the medical community to continue its advocacy for adequate research funding at the federal level (eg NIH, CDC, and National Institute of Justice). While continuing this advocacy, we also have a responsibility to our patients and communities to expedite lifesaving, high-quality research through alternate means of funding. The American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) is a non-profit organization recently founded by several medical organizations to provide an opportunity for private individuals, foundations, and corporations to invest in the research that will lead to solutions to our firearm injury epidemic, and to directly support professionals who will design, implement, and evaluate the necessary public health approaches.

THE AMERICAN COLLEGE OF SURGEONS' EXPERIENCE: ENGAGING FIREARM OWNERS IN THE SOLUTION

After the Sandy Hook shooting in 2012, the ACS revised its statement on firearm injuries and the response of members to this revised statement revealed that many surgeons hold very polar views on personal firearm ownership. In early 2015, the ACS joined 7 other health professional organizations and the American Bar Association in a call to action to address firearm-related injury and death in the US.[24] With the support of the ACS Board of Regents, the ACS Committee on Trauma embarked on a public health approach to decrease firearm injuries and deaths, leveraging our network of more than 500 ACS-verified trauma centers throughout the US, which routinely treat those injured by firearms. The experience of the ACS in developing this approach can provide insight for other professional organizations that seek to address this issue without polarizing their membership.

The first step was to survey the membership of the ACS Committee on Trauma and the ACS Board of Governors to better understand their views on firearm ownership and advocacy issues.[25] Members agreed that the ACS should give high priority to reducing firearm injuries, as well as preserving healthcare professionals' rights to counsel patients (or parents of patients) about prevention of firearm injuries and the importance of providing federal funds for research on firearm injury. Significant consensus on a broad range of advocacy initiatives informed the ACS strategy of "Freedom with Responsibility: A Consensus Strategy for Preventing Injury, Death and Disability from Firearm Violence"[2] (Fig. 1).

Subsequently, the ACS leadership approved a 9-point strategic action plan to address firearm violence, including support trauma system development and promulgation of the Stop the Bleed program; create a Firearm Strategy

Team group of firearm-owning surgeons to inform injury prevention and advocacy; survey all US ACS members (n = 50,000); develop collaborative partnerships with other organizations; implement firearm injury prevention initiatives; develop a research agenda and advocate for federal and private research funding; promote responsible gun ownership and non-violent conflict resolution; advocate for mental health funding; and support expanded background checks.

One of the most important components of this plan was the formation of the Firearm Strategy Team group, which includes surgeons who own firearms for hunting, sport shooting, self-defense, law enforcement, and military service. Analogous to engaging bicyclists to help develop an action plan to decrease bicycle injuries, the ACS engaged members who own firearms to help develop durable and informed injury prevention and advocacy strategies. Although their recommendations do not represent all firearm-owning ACS members, this group's initial recommendations address ownership, registration, licensure, education and training, ownership responsibilities, mandatory reporting and risk mitigation, safety innovation and technology, research, culture of violence, social isolations, and behavioral health.[26]

Additional injury prevention initiatives included development of a brochure on firearm safety that healthcare professionals can use to talk with their patients, as well as a primer on how to establish a hospital-based violence intervention program. These are available at: https://www.facs.org/quality-programs/trauma/advocacy/ipc/firearm-injury.

The ACS is also actively advocating for federal and private research funding of firearm injury prevention research and expanded background check legislation. This Medical Summit was convened to further develop collaborative relationships across the medical community to support this public health approach.

INTERVENTIONS FOR FIREARM INJURY PREVENTION

Safe storage: counseling patients and families

It is important for clinicians to appreciate that injury is the leading cause of death for American children and adolescents, and that firearm injuries are the second most common cause of injury-related death after motor vehicle crashes. Every year, nearly 1,300 children (0 to 19 years) are killed and another 5,790 are injured by firearms in the US.[27] Survey studies of American households have shown that more than one-third (35%) have at least 1 firearm, which means approximately 22 million American children live in a home where at least 1 firearm is present. Of those households with guns, 43% keep at least 1 firearm unlocked, and nearly 1 in 10 (9%) have firearms that are stored unlocked and loaded.[28] Many parents fail to appreciate the limitations of their children's developmental stages, and erroneously believe younger children can distinguish between real and toy guns, and loaded and unloaded firearms, when they are unable to do so.[29-31]

Safe storage (and related counseling) is also important for prevention of suicide and in the context of dementia or other cognitive impairment. The association between firearms and increased incidence and death from firearms has been known for more than 40 years, and well-designed epidemiologic studies have repeatedly demonstrated a strong association between the presence of household firearms and an increased risk of firearm-related homicide, suicide, and unintentional shooting.[32,33] The public health significance of firearms in the home is a function of both their relative risk of exposure and the prevalence of firearms where children and adolescents live.[34] The 4 practices of keeping a gun locked, storing a gun unloaded, keeping ammunition locked, and storing ammunition and guns separately are associated with incremental decreases in firearm-related injury.[33]

There is broad support from major American medical organizations encouraging physicians to provide counseling on safe firearm ownership and to incorporate primary prevention of firearm-related injury into clinical practice, and no legal barriers to doing so, but developing effective ways to incorporate this into clinical practice has proven challenging.[24,35-38] A recent survey showed that most gun owners (81%) did not think that physicians would be good or excellent messengers to teach them about safe firearm storage.[39] These data illustrate the importance of engaging firearm owners in this work because some clinicians and medical organizations frame their message about firearm safety in a way that can be off-putting to families who keep guns for hunting or personal protection. It is important for physicians to recognize that the public health message about the importance of storing firearms safely is very similar to the safe storage message promoted by gun rights and shooting sports groups, and should be consistent with other injury prevention strategies for parents, such as the safe storage of medicines and other harmful products.

Many firearm injury prevention programs are developed by well-meaning groups concerned about this issue, and they focus on behavioral interventions. Unfortunately, these programs are rarely based on theoretical models or preliminary effectiveness data (eg Scared Straight, Eddie Eagle, and Straight Talk about Risks). Based on these shortcomings, the National Research

Council Committee to Improve Research Information and Data on Firearms recommends that firearm prevention programs be based on general prevention theory and research, and that they incorporate rigorous evaluation into the design and implementation of these programs. There is an extreme paucity of data to support the best approach to counseling children and adults for child access prevention; however, there have been 2 recent studies that have shown that the counseling of the parents of young children about safe storage is effective, when they are provided with free or low-cost safety devices.[17,40] Broad, multidimensional measures using a public health approach will be required to lower the incidence of firearm injury in the US, and should engage gun owners and non-gun owners alike in devising scientifically sound public health interventions that can be applied broadly to clinical practice.

Lethal means safety for suicide prevention

Suicide accounted for 60% of firearm deaths in the US in 2017, with particularly high firearm suicide rates among middle-aged and older white males (2017 data, CDC WISQARS database) "Lethal means safety" is an evidence-based approach to suicide based on the concept that reducing access to highly lethal means of suicide during a time of vulnerability can prevent suicide by reducing the lethality of attempts.[41-44] These research findings demonstrate that there is often a short period of final deliberation before an attempt; means substitution (choosing a different method if the first preferred method is unavailable), if it occurs, reduces the risk of fatal outcomes; and only a small minority of individuals with nonfatal attempts die by suicide later.[7] Firearms are a key focus of lethal means safety because of their high case fatality rate—approximately 90%—which is higher than other methods of suicide. Counseling by healthcare providers about reducing access to lethal means (lethal means counseling) is recommended as part of standard care for individuals at risk of suicide. Counseling typically includes messages about voluntarily, and often temporarily, reducing access by moving firearms out of the home (for storage with trusted others, at law enforcement, gun ranges/retailers, pawn shops, armories, or storage facilities), or by securing them in the home (with a locking device and/or by removing ammunition) so the person at risk cannot access them.

Lethal means counseling is often not routine, in part because of clinician ignorance or discomfort discussing firearms.[45,46] Yet, research suggests many patients are open to respectful, nonjudgmental education from clinicians, including in the context of suicide risk assessment.[41,47,48] Close attention to messaging can enhance patient receptivity to counseling.[49-51] For example, emphasizing firearm safety and personal responsibility—both core tenets of responsible gun ownership—and engaging trusted family or friends can reduce suspicion or resistance.[52] Partnerships between suicide prevention professionals and firearm retailers offer promising new opportunities for collaborative development of interventions and for dissemination of lethal means messages to firearm owners.[53,54] Examples include the partnership between the American Foundation for Suicide Prevention and the National Shooting Sports Foundation (http://www.nssfblog.com/nssf-afsp-suicide-prevention-partnership/) and the Utah Suicide Prevention Coalition's "Is Your Safety On?" campaign (https://vimeo.com/175761640). Future research examining the effectiveness of messaging and other interventions should engage diverse stakeholders from varied geographic areas (including urban and rural and different areas of the US) to optimize generalizability of findings. Materials and training for healthcare providers about when and how to discuss firearm safety should continue to include suicide as a key point of intervention, given the high proportion of firearm deaths due to suicide. Similarly, suicide prevention will require comprehensive, multi-pronged approaches, but should include lethal means safety as a core component.

Hospital-based violence intervention programs

The public health approach applied to violence intervention focuses attention on modifiable risk factors and on protective factors. Within that framework, the social determinants of health allow us to outline the root causes of interpersonal violence. Since the inception of hospital-based violence intervention programming more than 20 years ago, more than 35 programs with fidelity in the public health model currently exist.[55]

Hospital-based violence intervention (HVIP) is deeply rooted in the communities these programs serve. The programs have 3 core principles:

1. There is a teachable moment shortly after an individual is injured from interpersonal violence, when he/she is actively feeling a sense of a "second chance," looking for a way to safety and a way to thrive.
2. A culturally competent case manager/intervention specialist sees the injured person at the bedside, during this critical time alongside the provider team. This begins the opportunity to form a mentoring relationship with victim and case manager. A risk assessment and needs assessment is developed through this partnership.
3. A long-term plan for case management and shepherding victims to risk reduction resources in the

community is set in motion. There is a strong understanding in these programs of the trauma informed approach. This approach recognizes that long-standing psychological wounds in our victims of interpersonal violence are critical to address up front. Many of the programs have mental health professionals embedded on staff. Others have close working relationships with mental health providers.

Hospital-based violence interventions exemplify a paradigm shift in treating trauma victims by practicing a more comprehensive approach to reduce the risk factors of violent injury. Although the hospital is the critical portal of entry, case managers build essential partnerships with services in the community that provide for employment opportunities, tattoo removal, immigration services, educational pathways, and housing services. Case managers stay with clients for months and sometimes years as clients navigate these services. Case managers often provide essential court advocacy for clients. There are data to support the value of HVIPs. Programs have been successful in addressing the risk factors associated with violent injury.[56] Studies have demonstrated reductions in injury recidivism and in cost-effectiveness.[57] It is also essential to track the qualitative value of HVIPs. Preliminary work supports this value through the voices of clients themselves. Programs are currently sustained financially in a number of pathways. There is legislation being developed that would allow billing for fee-for-service for case management. Programmatic development, working group opportunities, and technical assistance are supported by the National Network of Hospital-Based Violence Intervention (www.NNHVIP.org).

Screening for patients at risk for firearm injury or death

Routine screening for the risk of domestic violence and suicide have been implemented in many EDs, primary care offices, and mental health visits. Screening of all patients should be considered where comprehensive resources are available and interventions have been developed that support this screening and support patients and families identified as high risk for injury, with specific interventions for those who have access to a firearm. In some states, Extreme Risk Protection orders can be issued, which allow the temporary removal of firearms from the homes of those at risk. Restraining orders can also restrict an abusers access to purchase firearms. Patients identified as at-risk for domestic violence or suicide need to be asked routinely about the access to firearms in the home and be advised, along with family members, on the steps to take to mitigate this risk.

Interpersonal firearm violence among youth and young adults 14 to 24 years is a substantial public health problem, and physicians require a clinical screening tool to identify high-risk youth to guide resource allocation. The SaFETy score is a 4-item score based on clinically feasible questionnaire items and is associated with firearm violence in urban settings.[58] The SaFETy screen shows potential to guide resource allocation for prevention of firearm violence. The specific questions are "In the past 6 months, including today, how often did you get into a serious physical fight?" "How many of your friends have carried a knife, razor, or gun?" "In the past 6 months, how often have you heard guns being shot?" "How often, in the past 6 months, including today, has someone pulled a gun on you?" The SaFETy instrument, which can be administered in 1 to 2 minutes, defines a gradient of future firearm violence risk that can be adapted to a variety of settings.

SafERteens (https://saferteens.org) is an evidence-based brief intervention to prevent youth violence that has been translated into routine ED clinical practice.[59-61] This 30-minute single therapy session one-on-one with the teen during the ED visit uses motivational interviewing techniques to change behavior in a respectful, nonconfrontational, and non-judgmental manner. The program has been shown to be efficacious to decrease peer fighting (aggression and victimization) and dating victimization in multiple randomized controlled trials, with number needed to treat = 8 for decreasing peer aggression/fights with sustained effects at 1 year post session. In cost analysis, SafErteens was found to cost approximately $17/event averted.[62] Additional trials have demonstrated efficacy when provided to youth living in high-risk communities without individual screening.[63] It has not been evaluated for firearm violence outcomes but instead works to interrupt the cycle of violence among youth earlier in a spectrum of violent behaviors.

Another patient population deserving attention is older adults with dementia, a population that will grow to an estimated 13.8 million by 2050. Among older adults aged 65 years and older, approximately 45% personally own a gun or live with someone who does.[64] The few available studies suggest that firearm prevalence among those with dementia might be similar or even higher (60% in one small study[65]). For individuals with dementia, suicide is the primary risk for firearm injury or death, with 91% of all older adult firearm deaths due to suicide.[66] However, the mood and behavioral changes that often accompany dementia (such as agitation, anxiety, and paranoia) can lead to potentially deadly situations if firearms are accessible. Advance planning, counseling, and materials for family members and other caregivers

can be useful in helping navigate the sensitive topic of when a person with dementia is no longer safe to have firearm access.[67,68] Additional research is needed on when and how to screen and intervene with patients with dementia, while still supporting their independence and rights. Widespread education of healthcare providers who will encounter patients at risk for firearm injury or death is needed to optimize screening and intervention.

Mental health and firearm injury

The overwhelming majority of individuals diagnosed with mental illnesses are not violent, and the majority of people who are violent do not have an identifiable mental illness.[69] Researchers have estimated that only 4% of criminal violence can be attributed to mentally ill individuals.[70,71] In addition, individuals with mental illnesses are 3 times more likely to be targets than perpetrators of violence.[72] In one recent study, researchers did not find significant temporal associations between mental health symptoms and gun violence (ie gun carrying and threatening someone with a gun).[73] Another study demonstrated that gun violence committed by individuals with severe mental illness occurs in <2% of patients in the year after discharge from inpatient facilities.[74] In fact, people with mental illnesses are far more likely to hurt themselves than others.[75] Research has consistently demonstrated that individuals with mental disorders (eg schizophrenia, bipolar disorder, depression) have a significantly increased risk of suicide.[76] However, in a study conducted by CDC examining data from the National Violent Death Reporting System, 54% of individuals who died by suicide did not have a known mental health condition.[77] In addition, the odds of having a mental disorder have been found to be lower among cases of firearm suicide compared with suicide involving other methods.[78]

Research findings suggest that only 18% of suicidal patients in EDs were assessed for lethal means access and <8% had someone discuss an action plan to reduce access.[79] Similarly, in a study evaluating practices in hospital-based EDs across 8 states, fewer than one-third of them had discussed firearm storage with suicidal patients at discharge.[46] Although mental illness does confer some risk for suicide and violence, there are other stronger predictors, namely access to firearms, which need to be considered as targets of intervention. Health professionals play a critical role in assessing their patients for suicide and violence risk; counseling about firearm safety; and incorporating education on suicide, violence, and firearm injury prevention into medical/graduate schools, residency programs, and continuing medical education, creating rational and evidence-based public policy to reduce firearm injuries and deaths without unnecessarily stigmatizing people with mental illness.[80]

A PUBLIC POLICY APPROACH

Tackling this complex health problem necessitates a multifaceted approach to decrease firearm-related injury and death in our communities across the US, and policy is one facet of the public health approach. It is important to recognize that most governing in the US happens at the local and state level. Therefore, it is critical to ensure that policies created are being adapted to the needs and are culturally relevant on both the local/state and federal levels.

Although there are some differences about where we should begin from a policy perspective, there are multiple areas that have significant support from the medical community. Examples of this are providing federal dollars for firearm injury prevention research at a level that is proportional to the burden of disease, expansion of background checks to all firearm sales, and ensuring access to behavioral health services.

Policy happens in the public sector but can also be institutional. Some healthcare systems, such as Kaiser Permanente, have committed to providing financial support for firearm injury research. Other healthcare systems have partnered with the local community to address the social determinants of health and improve the physical environment in urban setting with high rates of violence. At the hospital level, institutional/organizational level policies can be developed at all trauma centers to have a clinical psychologist and social service practitioner as part of the inpatient team caring for the injured patient, or to develop a formal hospital-based violence intervention program. The house of medicine, along with other healthcare disciplines, has an opportunity to help inform our policy and decision makers as we work toward implementing data-driven solutions to reduce firearm-related injury and death.

CONSENSUS STATEMENT

The following represent a consensus-based approach to the issue of firearm injury prevention supported by all of the organizations listed in Appendix 1.

1. Firearm injury in the US is a public health crisis.
2. A comprehensive public health and medical approach is required to reduce death and disability from firearm injury.
3. Research is needed to better understand the root causes of violence, identify people at risk, and determine the most effective strategies for firearm injury prevention.

4. Federal and philanthropic research funding must be provided to match the burden of disease.
5. Engaging firearm owners and populations at risk is critical in developing programs and policies for firearm injury prevention.
6. Healthcare providers should be encouraged to counsel patients and families about firearm safety and safe storage. Educational and research efforts are needed to support appropriate culturally competent messaging.
7. Screening for the risk of depression, suicide, intimate partner violence, and interpersonal violence should be conducted across all healthcare settings and in certain high-risk populations (such as those with dementia). Comprehensive resources and interventions are needed to support patients and families identified as high risk for firearm injury and who have access to a firearm.
8. Hospitals and healthcare systems must genuinely engage the community in addressing the social determinants of disease, which contribute to structural violence in underserved communities.
9. Our professional organizations commit to working together and continuing to meet to ensure these statements lead to constructive actions that improve the health and well-being of our fellow Americans.

Author Contributions

Acquisition of data: Bulger, Kuhls, Campbell, Bonne, Cunningham, Betz, Dicker, Ranney, Barsotti, Hargarten, Sakran, Rivara, James, Lamis, Timmerman, Rogers, Choucair, Stewart

Analysis and interpretation of data: Bulger, Kuhls, Campbell, Bonne, Cunningham, Betz, Dicker, Ranney, Barsotti, Hargarten, Sakran, Rivara, James, Lamis, Timmerman, Rogers, Choucair, Stewart

Drafting of manuscript: Bulger, Kuhls, Campbell, Bonne, Cunningham, Betz, Dicker, Ranney, Barsotti, Hargarten, Sakran, James, Lamis, Stewart

Critical revision: Bulger, Kuhls, Campbell, Bonne, Cunningham, Betz, Dicker, Ranney, Barsotti, Hargarten, Sakran, Rivara, James, Lamis, Timmerman, Rogers, Choucair, Stewart

APPENDIX 1. MEDICAL AND INJURY PREVENTION ORGANIZATIONS THAT SUPPORT THE CONSENSUS STATEMENTS FROM THE MEDICAL SUMMIT ON FIREARM INJURY PREVENTION

American Academy of Family Physicians (AAFP)
American Academy of Pediatrics (AAP)
American Association for the Surgery of Trauma (AAST)
American Association of Neurological Surgeons (AANS)
American College of Emergency Physicians (ACEP)
American College of Obstetrics and Gynecology (ACOG)
American College of Physicians (ACP)
American College Radiology (ACR)
American College of Surgeons (ACS)
American Congress of Rehabilitation Medicine (ACRM)
American Foundation for Firearm Injury Reduction in Medicine (AFFIRM)
American Geriatrics Society (AGS)
American Medical Association (AMA)
American Medical Women's Association (AMWA)
American Academy of Orthopaedic Surgeons (AAOS)
American Public Health Association (APHA)
American Pediatric Surgical Association (APSA)
American Psychiatric Association (APA)
American Psychological Association (APA)
American Society for the Surgery of the Hand (ASSH)
American Society of Plastic Surgeons (ASPS)
American Surgical Association (ASA)
American Spinal Injury Association (ASIA)
American Trauma Society (ATS)
Association of Academic Chairs of Emergency Medicine (AACEM)
Association for Academic Surgery (AAS)
Council of Medical Specialty Societies (CMSS)
Cure Violence
The Eastern Association for the Surgery of Trauma (EAST)
Emergency Nurses Association (ENA)
Injury Free Coalition for Kids
National Association of Emergency Medical Technicians (NAEMT)
National Medical Association (NMA)
National Network of Hospital-based Violence Intervention Programs (NNHVIP)
National Trauma Institute (NTI)
Pediatric Trauma Society (PTS)
Safe States Alliance
Society for Academic Emergency Medicine (SAEM)
Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)
Society for the Advancement of Violence and Injury Research (SAVIR)
Society of Black Academic Surgeons (SBAS)
Society of Critical Care Medicine (SCCM)
Society of Trauma Nurses (STN)
Trauma Center Association of America (TCAA)

ThinkFirst National Injury Prevention Foundation
Western Trauma Association (WTA)

REFERENCES

1. Kuhls DA, Campbell BT, Burke PA, et al. Survey of American College of Surgeons Committee on trauma members on firearm injury: consensus and opportunities. J Trauma Acute Care Surg 2017;82:877–886.
2. Stewart RM, Kuhls DA, Rotondo MF, Bulger EM. Freedom with responsibility: a consensus strategy for preventing injury, death, and disability from firearm violence. J Am Coll Surg 2018;227:281–283.
3. Tessler RA, Arbabi S, Bulger EM, et al. Trends in firearm injury and motor vehicle crash case fatality by age group, 2003-2013. JAMA Surg 2018 Dec 19 [Epub ahead of print].
4. Kalesan B, Zuo Y, Xuan Z, et al. A multi-decade joinpoint analysis of firearm injury severity. Trauma Surg Acute Care Open. BMJ Spec J 2018;3[1]:e000139.
5. Miller M, Azrael D, Barber C. Suicide mortality in the United States: the importance of attending to method in understanding population-level disparities in the burden of suicide. Annual review of public health. Annu Rev 2012;33:393–408.
6. Miller M, Azrael D, Hemenway D. The epidemiology of case fatality rates for suicide in the northeast. Ann Emerg Med 2004;43:723–730.
7. Spicer RS, Miller TR. Suicide acts in 8 states: incidence and case fatality rates by demographics and method. Am J Public Health 2000;90:1885–1891.
8. Galtung J, Hoivik T. Structural and Direct Violence: A Note on Operationalization. Journal of Peace Research 1971;8:79–76.
9. Farmer PE, Nizeye B, Stulac S, Keshavjee S. Structural violence and clinical medicine. PLoS Med 2006;3[10]:e449.
10. Hargarten SW, Lerner EB, Gorelick M, et al. Gun violence: a biopsychosocial disease. West J Emerg Med 2018;19:1024–1027.
11. Haddon W. The changing approach to the epidemiology, prevention, and amelioration of trauma: the transition to approaches etiologically rather than descriptively based. 1968. Inj Prev 1999;5:231–235.
12. Betz ME, Ranney ML, Wintemute GJ. Frozen funding on firearm research: "doing nothing is no longer an acceptable solution". West J Emerg Med 2016;17:91–93.
13. US 104th Congress, Public law 104-208, September 30, 1996. Available at: https://www.gpo.gov/fdsys/pkg/PLAW-104publ208/pdf/PLAW-104publ208.pdf.
14. Stark DE, Shah NH. Funding and publication of research on gun violence and other leading causes of death. JAMA 2017;317:84–85.
15. Alcorn T. Trends in research publications about gun violence in the United States, 1960 to 2014. JAMA Intern Med 2017;177:124–126.
16. Roszko PJD, Ameli J, Carter PM, et al. Clinician attitudes, screening practices, and interventions to reduce firearm-related injury. Epidemiol Rev 2016;38:87–110.
17. Barkin SL, Finch SA, Ip EH, et al. Is office-based counseling about media use, timeouts, and firearm storage effective? Results from a cluster-randomized, controlled trial. Pediatrics 2008;122:e15–e25.
18. Cunningham RM, Carter PM, Ranney M, et al. Violent reinjury and mortality among youth seeking emergency department care for assault-related injury: a 2-year prospective cohort study. JAMA Pediatr 2015;169:63–70.
19. Brent DA, Baugher M, Birmaher B, et al. Compliance with recommendations to remove firearms in families participating in a clinical trial for adolescent depression. J Am Acad Child Adolesc Psychiatry 2000;39:1220–1226.
20. Zatzick D, Russo J, Lord SP, et al. Collaborative care intervention targeting violence risk behaviors, substance use, and posttraumatic stress and depressive symptoms in injured adolescents: a randomized clinical trial. JAMA Pediatr 2014;168:532–539.
21. Kruesi MJ, Grossman J, Pennington JM, et al. Suicide and violence prevention: parent education in the emergency department. J Am Acad Child Adolesc Psychiatry 1999;38:250–255.
22. Ranney ML, Fletcher J, Alter H, et al. A consensus-driven agenda for emergency medicine firearm injury prevention research. Ann Emerg Med 2017;69:227–240.
23. Institute of Medicine, National Research Council. Priorities for Research to Reduce the Threat of Firearm-related Violence. Washington, DC: National Academies of Sciences, Engineering, and Medicine; 2013.
24. Weinberger SE, Hoyt DB, Lawrence HC, et al. Firearm-related injury and death in the United States: a call to action from 8 health professional organizations and the American Bar Association. Ann Intern Med 2015;162:513–516.
25. Puls MW, Kuhls DA, Campbell BT, et al. Survey of the American College of Surgeons Board of Governors on firearm injury prevention: consensus and opportunities. Bull Am Coll Surg 2017;102:30–36.
26. Talley CL, Campbell BT, Jenkins DH, et al. Recommendations from the American College of Surgeons Committee on Trauma's Firearm Strategy Team (FAST) Workgroup: Chicago Consensus I. J Am Coll Surg 2019;228:198–206.
27. Fowler KA, Dahlberg LL, Haileyesus T, et al. Childhood firearm injuries in the United States. *Pediatrics* 2017;140(1):e20163486. Pediatrics 2017;140:e20172298.
28. Schuster MA, Franke TM, Bastian AM, et al. Firearm storage patterns in US homes with children. Am J Public Health 2000;90:588–594.
29. Webster DW, Wilson ME, Duggan AK, Pakula LC. Parents' beliefs about preventing gun injuries to children. Pediatrics 1992;89:908–914.
30. Jackman GA, Farah MM, Kellermann AL, Simon HK. Seeing is believing: what do boys do when they find a real gun? Pediatrics 2001;107:1247–1250.
31. Baxley F, Miller M. Parental misperceptions about children and firearms. Arch Pediatr Adolesc Med 2006;160:542–547.
32. Kellermann AL, Reay DT. Protection or peril? An analysis of firearm-related deaths in the home. N Engl J Med 1986;314:1557–1560.
33. Grossman DC, Mueller BA, Riedy C, et al. Gun storage practices and risk of youth suicide and unintentional firearm injuries. JAMA 2005;293:707–714.
34. Johnson RM, Coyne-Beasley T, Runyan CW. Firearm ownership and storage practices, U.S. households, 1992-2002. A systematic review. Am J Prev Med 2004;27:173–182.

35. Dowd MD, Sege R, Smith GA, Wright JL. Firearm injury prevention: failure of gun-safety education. Pediatrics 2004;113:1847−1848. author reply 1847−1848.
36. Grossman DC, Cummings P, Koepsell TD, et al. Firearm safety counseling in primary care pediatrics: a randomized, controlled trial. Pediatrics 2000;106[1 Pt 1]:22−26.
37. Dowd MD, Sege RD, Council on Injury, Violence, and Poison Prevention Executive Committee, American Academy of Pediatrics. Firearm-related injuries affecting the pediatric population. Pediatrics 2012;139:e1416−e1423.
38. Rivara FP, Fan MD. Pediatricians, firearms, and the First Amendment. JAMA Pediatr 2017;171:723−724.
39. Crifasi CK, Doucette ML, McGinty EE, et al. Storage practices of US gun owners in 2016. Am J Public Health 2018;108:532−537.
40. Rowhani-Rahbar A, Simonetti JA, Rivara FP. Effectiveness of Interventions to promote safe firearm storage. Epidemiol Rev 2016;38:111−124.
41. Barber CW, Miller MJ. Reducing a suicidal person's access to lethal means of suicide: a research agenda. Am J Prev Med 2014;47[Suppl 2]:S264−S272.
42. Mann JJ, Apter A, Bertolote J, et al. Suicide prevention strategies: a systematic review. JAMA 2005;294:2064−2074.
43. Zalsman G, Hawton K, Wasserman D, et al. Suicide prevention strategies revisited: 10-year systematic review. Lancet Psychiatry 2016;3:646−659.
44. Jin HM, Khazem LR, Anestis MD. Recent advances in means safety as a suicide prevention strategy. Curr Psychiatry Rep 2016;18[10]:96.
45. Betz ME, Miller M, Barber C, et al. Lethal means restriction for suicide prevention: beliefs and behaviors of emergency department providers. Depress Anxiety 2013;30:1013−1020.
46. Runyan CW, Brooks-Russell A, Tung G, et al. Hospital emergency department lethal means counseling for suicidal patients. Am J Prev Med 2018;54:259−265.
47. Betz ME, Wintemute GJ. Physician counseling on firearm safety: a new kind of cultural competence. JAMA 2015;314:449−450.
48. Walters H, Kulkarni M, Forman J, et al. Feasibility and acceptability of interventions to delay gun access in VA mental health settings. Gen Hosp Psychiatry 2012;34:692−698.
49. Marino E, Wolsko C, Keys S, Wilcox H. Addressing the cultural challenges of firearm restriction in suicide prevention: a test of public health messaging to protect those at risk. Arch Suicide Res 2018;22:394−404.
50. Betz ME, Knoepke CE, Siry B, et al. "Lock to live": development of a firearm storage decision aid to enhance lethal means counselling and prevent suicide. Inj Prev 2018 Oct 13 [Epub ahead of print].
51. Stanley IH, Hom MA, Rogers ML, et al. Discussing firearm ownership and access as part of suicide risk assessment and prevention: "means safety" versus "means restriction." Arch Suicide Res 2017;21:237−253.
52. Pallin R, Siry B, Azrael D, et al. "Hey, let me hold your guns for a while": A qualitative study of messaging for firearm suicide prevention. Behav Sci Law 2019;47[Suppl]:S264.
53. Barber C, Frank E, Demicco R. Reducing suicides through partnerships between health professionals and gun owner groups—beyond docs vs Glocks. JAMA Intern Med 2017;177:5−6.
54. Vriniotis M, Barber C, Frank E, et al. A suicide prevention campaign for firearm dealers in New Hampshire. Suicide Life Threat Behav 2015;45:157−163.
55. Dicker RA. Hospital-based violence intervention: an emerging practice based on public health principles. Trauma Surg Acute Care Open 2016;1[1]:e000050.
56. Juillard C, Cooperman L, Allen I, et al. A decade of hospital-based violence intervention: Benefits and shortcomings. J Trauma Acute Care Surg 2016;81:1156−1161.
57. Purtle J, Dicker R, Cooper C, et al. Hospital-based violence intervention programs save lives and money. J Trauma Acute Care Surg 2013;75:331−333.
58. Goldstick JE, Carter PM, Walton MA, et al. Development of the SaFETy score: a clinical screening tool for predicting future firearm violence risk. Ann Intern Med 2017;166:707−714.
59. Walton MA, Chermack ST, Shope JT, et al. Effects of a brief intervention for reducing violence and alcohol misuse among adolescents: a randomized controlled trial. JAMA 2010;304:527−535.
60. Cunningham RM, Chermack ST, Zimmerman MA, et al. Brief motivational interviewing intervention for peer violence and alcohol use in teens: one-year follow-up. Pediatrics 2012;129:1083−1090.
61. Cunningham RM, Whiteside LK, Chermack ST, et al. Dating violence: outcomes following a brief motivational interviewing intervention among at-risk adolescents in an urban emergency department. Acad Emerg Med 2013;20:562−569.
62. Sharp AL, Prosser LA, Walton M, et al. Cost analysis of youth violence prevention. Pediatrics. Am Acad Pediatr 2014;133:448−453.
63. Carter PM, Walton MA, Zimmerman MA, et al. Efficacy of a universal brief intervention for violence among urban emergency department youth. Acad Emerg Med 2016;23:1061−1070.
64. America's Complex Relationship with Guns. Pew Research Center. Available at: http://www.pewsocialtrends.org/2017/06/22/americas-complex-relationship-with-guns/. Published 2017. Accessed April 28, 2019.
65. Spangenberg KB, Wagner MT, Hendrix S, Bachman DL. Firearm presence in households of patients with Alzheimer's disease and related dementias. J Am Geriatr Soc 1999;47:1183−1186.
66. Betz ME, McCourt AD, Vernick JS, et al. Firearms and dementia. Ann Intern Med 2018;169:740.
67. VHA Dementia Steering Committee Recommendations for Dementia Care in the VHA Health Care System 2016. US Department of Veterans Affairs. Available at: https://www.va.gov/GERIATRICS/docs/VHA_DSC_RECOMMENDATIONS_SEPT_2016_9-12-16.pdf. Accessed March 4, 2019.
68. Staying Safe. Available at: http://www.alz.org/greaterdallas/documents/StayingSafe.pdf. Accessed March 4, 2019. Published 2007.
69. Choe JY, Teplin LA, Abram KM. Perpetration of violence, violent victimization, and severe mental illness: balancing public health concerns. Psychiatr Serv 2008;59:153−164.
70. Metzl JM, MacLeish KT. Mental illness, mass shootings, and the politics of American firearms. Am J Public Health 2015;105:240−249.
71. Swanson JW. Explaining rare acts of violence: the limits of evidence from population research. Psychiatr Serv 2011;62:1369−1371.

72. Latalova K, Kamaradova D, Prasko J. Violent victimization of adult patients with severe mental illness: a systematic review. Neuropsychiatr Dis Treat 2014;10:1925–1939.
73. Lu Y, Temple JR. Dangerous weapons or dangerous people? The temporal associations between gun violence and mental health. Prev Med 2019;121:1–6.
74. Steadman HJ, Monahan J, Pinals DA, et al. Gun violence and victimization of strangers by persons with a mental illness: data from the MacArthur Violence Risk Assessment Study. Psychiatr Serv 2015;66:1238–1241.
75. Swanson JW, McGinty EE, Fazel S, Mays VM. Mental illness and reduction of gun violence and suicide: bringing epidemiologic research to policy. Ann Epidemiol 2015;25:366–376.
76. Hoertel N, Franco S, Wall MM, et al. Mental disorders and risk of suicide attempt: a national prospective study. Mol Psychiatry 2015;20:718–726.
77. Stone DM, Simon TR, Fowler KA, et al. Vital signs: trends in state suicide rates—United States, 1999-2016 and circumstances contributing to suicide—27 states, 2015. MMWR Morb Mortal Wkly Rep 2018;67:617–624.
78. Boggs JM, Beck A, Hubley S, et al. General medical, mental health, and demographic risk factors associated with suicide by firearm compared with other means. Psychiatr Serv 2018;69:677–684.
79. Betz ME, Kautzman M, Segal DL, et al. Frequency of lethal means assessment among emergency department patients with a positive suicide risk screen. Psychiatry Res 2018;260:30–35.
80. Rozel JS, Mulvey EP. The link between mental illness and firearm violence: implications for social policy and clinical practice. Annu Rev Clin Psychol 2017;13:445–469.

Appendix 2. SUMMARY OF FIREARM INJURY PREVENTION ACTIVITIES BY PARTICIPATING ORGANIZATIONS

American Academy of Family Physicians

The American Academy of Family Physicians (AAFP) representative, John Cullen, MD, FAAFP, provided an overview of activities of the AAFP. The AAFP is heavily involved in advocacy around reducing firearm violence. The AAFP has multiple advocacy efforts and a position on prevention of gun violence. These documents frame firearm-related injuries and death as a major public health issue for patients and communities. The AAFP supports increased research into all areas of how firearm-related injuries and death affect public health, including but not limited to, research into the epidemiology, prevention, safety, and risks related to gun violence in the US. The AAFP supports screening and treatment of depression, screening for intimate partner violence, referring patients to appropriate services, and talking with patients about the safe storage and handling of guns. Additionally, the AAFP provides education on prevention, screening, and counseling for family physicians and patients (familydoctor.org) related to violence. The AAFP is actively developing an interface to the electronic medical record that incorporates the social determinants of health and Adverse Childhood Events.

The AAFP recognizes that violence disproportionately affects vulnerable populations. The AAFP is taking a leadership role in addressing diversity and the social determinants of health as they impact individuals, families, and communities through "The EveryONE Project," which aims to help family physicians take action and confront health disparities head on by providing tools and resources.

The AAFP has outlined multifaceted issues surrounding violence in position papers and describes both the challenges and opportunities to address the health consequences, as well as to help prevent a continued cycle of violence.

Violence position paper: This paper discusses the incidence and prevalence of violence, the impact it has on health, causes of violence, and the family physician's role in preventing violence and serving patients who have been impacted by violence (www.aafp.org/about/policies/all/violence.html).

Violence as a public health concern: This policy discusses the AAFP's stance on violence as a public health concern (www.aafp.org/about/policies/all/violence-public-health.html).

Firearms and safety issues: This policy covers the AAFP's stance on firearms, guns, and violence as a public health issue (www.aafp.org/about/policies/all/weapons-laws.html).

Prevention of gun violence: This policy discusses the AAFP's stance on background checks as a mechanism to prevent gun violence (www.aafp.org/about/policies/all/prevention-gun-violence.html).

AAFP believes that multidisciplinary, interprofessional collaboration is critical to bringing about meaningful changes to reduce the burden of firearm-related injuries and death on persons, families, communities, and society in general.

American Academy of Pediatrics

The American Academy of Pediatrics (AAP) approach was presented by Marlene Melzer-Lange, MD, FAAP. The AAP has a long-standing policy statement about firearm-related injuries affecting the pediatric population. The AAP has multiple publications about childhood firearm injuries in the US and has led efforts to advocate for the CDC to fund research for firearm violence prevention and for universal background check legislation.

The AAP has produced educational materials for parents around how to work with their children, especially their developmental stages, knowing that children are curious and are able to pull a trigger, and has also developed screening and education around domestic violence prevention similar to the AAFP's efforts. Most domestic violence victims are women aged younger than 35 years and probably three-quarters of them have children. Of the children who are abused, the mothers of at least half are the victims of abuse as well.

For parents, besides what pediatricians do in the clinic when working with patients, the AAP has developed a program called Connected Kids, developed by Bob Sege. This program has abundant information that goes by age as to what one should be concerned about with respect to violence and violence prevention—more on the resiliency side than on the violence side.

The AAP website (healthychildren.org) also has information on firearms, as well as firearms safety, suicide, and your child. The AAP has modular educational materials about toxic stress and childhood, working at those underpinnings for violence. This educational material addresses questions about the events that children perceive, either because they were abused, or they witnessed domestic violence, or were affected by the violence that they see in their communities.

The AAP has a very active injury prevention committee with a violence prevention subcommittee. The AAP supports 6 research investigators. These investigators are working to understand how the AAP can prevent firearm violence and initiate policy statements. In the AAP's firearm policy statement, the AAP notes that the safest home for children is a home without a gun. This is made with the understanding that this is controversial, but the group of pediatricians really believes that it is an important point to make.

Funding for public health research into firearm-related injury and death is a top AAP priority in the new Congress. The Academy led a sign-on letter of more than 160 medical and public health organizations urging Congress to fund this work to identify evidence-based policy interventions to reduce gun violence.

American Association for the Surgery of Trauma

The American Association for the Surgery of Trauma (AAST) was represented by their President, Dr Martin Croce. The AAST has developed and published a position statement on firearm injury in the *Journal of Trauma and Acute Care Surgery*. This was followed by an editorial from the President about the position statement and the imperative to do more with respect to injury prevention. The AAST Injury Prevention Committee has developed projects and partnerships with other injury-related professional organizations to address firearm violence as a major public health problem.

The AAST's prime efforts have been in research. Through this research, we know a lot about the injury itself and how to manage particular injuries, but the organization's leadership and membership believe there is a gap in pre-injury prevention and post-injury recovery and reintegration. The AAST is actively pursuing addressing these knowledge/data gaps and has been a strong advocate for research funding to match the burden of the disease.

American Association of Neurological Surgeons

The American Association of Neurological Surgeons (AANS) was represented by the organization's president, Shelly Timmons, MD, PhD, FACS, FAANS. Somewhat similar to the AAST, the AANS efforts around firearm violence have been along the lines of research and education.

The Washington Committee of the AANS and Congress of Neurological Surgeons issued a position statement around firearm injury in 2013. The statement supports the development and promotion of public education programs designed to prevent firearm injuries by teaching and encouraging proper firearm use, safety, storage, and ownership responsibility. The AANS position statement also supports and encourages appropriate mental health services and limitation of firearms for those with a certain behavioral medical conditions.

In the AANS/Congress of Neurological Surgeons Washington Committee survey of membership, the survey team separated out the issues of "gun control" from education and research on injury/violence prevention, and there was an increase compared with earlier surveys in the number of members who wanted the organization to take more proactive positions on firearm injury prevention. This issue was higher on the priority list than it had been in the past, so the Washington Committee is exploring a targeted survey to help clarify the memberships' views around advocacy. Think First, a neurosurgical injury prevention organization, is also working on related injury prevention efforts.

American Bar Association

The American Bar Association (ABA) efforts were presented by Sayre Weaver, JD, member of the ABA's Standing Committee on Gun Violence. The ABA Standing Committee on Gun Violence seeks to address the problem of gun violence through efforts that are evidence-informed and incorporate public health perspectives. In addition to its policy work, the Standing Committee has undertaken and continues to develop initiatives in collaboration with medical and public health organizations. In 2017, the ABA, the American Medical Association, and 11 other legal and medical health professional organizations co-sponsored "Preventing Gun Violence: Moving from Crisis to Action," a program exploring workable public health strategies to reduce gun violence. Expert panelists presented on evidence-based interventions, how the law can be used to support a public health approach to reducing gun violence, and strategies physicians can use to promote gun safety. In 2015, the Standing Committee collaborated with 8 national health professional organizations in articulating the recommendations set forth in the 2015 Joint Statement "Firearm-Related Injury and Death in the United States: A Call to Action from 8 Health Professional Organizations and the American Bar Association."

For more than 50 years the ABA has been active on the issue of gun violence prevention. Recognizing that there is no simple solution to this complex national crisis, the ABA has adopted a wide range of policies to address it, including policies on research, education, prevention, and regulation. The Standing Committee seeks to ensure that all this work is evidence-informed and advances the public health approach to preventing gun violence. Once the ABA's House of Delegates adopts a policy on

an issue related to gun violence prevention, the ABA can weigh in on that issue in many ways, including by taking a position on proposed legislation; submitting a friend of the court brief in litigation; developing educational materials and presenting educational events; and developing collaborative, interdisciplinary strategies with other professional organizations.

Through its Standing Committee on Gun Violence, the ABA is now working on a project with the American Medical Association that will assist physicians in understanding their state laws that are germane to discussions with their patients about firearms. The ABA looks for opportunities to collaborate with all the health professional organizations attending the Summit.

American College of Emergency Physicians

The American College of Emergency Physicians' (ACEP) efforts around firearm injury and firearm injury prevention were presented by the organization's president, Vidor E Friedman, MD, FACEP. ACEP has focused organizational efforts recently on research with our Emergency Medicine Foundation highlighting that and the efforts that Dr Barsotti and Dr Ranney have done with the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM). ACEP is very supportive of these endeavors. ACEP is rewriting its firearm injury policy from 2013. The position statement of 2013 addresses 9 areas relevant to firearm injury prevention.

ACEP has advocated for the physician's right to counsel patients about firearm injury prevention. Through individual members, the organization is working on risk of violence assessments and how best to implement strategies to reduce the risk of violence. ACEP has also recently developed a new bedside tool (www.acep.org/icar2e) to assist emergency physicians to identify and risk stratify patients at risk of self harm. The ICAR2E tool has been endorsed by the American Foundation for Suicide Prevention, American Association for Emergency Psychiatry, and Emergency Nurses Association.

ACEP has developed a high-threat task force that works with the American College of Surgeons and would like to work with many of the surgical societies in terms of coming together around these high-threat situations.

American College of Obstetrics and Gynecology

The American College of Obstetrics and Gynecology (ACOG) was represented by Coy Flowers, MD, FACOG. Similar to other organizations that have reported today, ACOG has focused on clinical care and in our examination rooms vs advocacy on most levels. ACOG has also recognized that homicide is the second leading cause of injury-related deaths among pregnant and postpartum women, and most of those are carried out with firearms. ACOG recognizes that women are disproportionately at risk with firearm injury because of intimate power violence interactions; therefore, ACOG is committed to moving forward with national policies and recommendations focusing on education and training of OB/GYN physicians throughout the country to benefit our patients.

ACOG recommends routine screening for intimate partner violence on every office visit. ACOG recommends periodic injury prevention evaluation and counseling on firearms, and has developed standard forms and tools for their members. ACOG has opposed restrictions or requirements dictating the content of physician-patient counseling about firearms. ACOG supports appropriate Federal and State agencies to support and fund research, surveillance activities, and public education on anti-violence activities and initiatives that recognize and address the role of intimate partner violence and firearms in the health and safety of women.

ACOG is interested in working with the organizations at this summit as a part of the coalition moving forward to have maximal impact on reducing injury and violence that impacts our patients and their families.

American College of Physicians

The American College of Physicians (ACP) was represented by Sue Bornstein, MD, FACP. Similar to the ABA and other organizations, the ACP has been involved in this field for a number of years, at least back to 1998. The way that the ACP has expressed its position on firearm injury and firearm injury prevention is through a series of policy papers published in the *Annals of Internal Medicine*, which is the organization's professional journal. Some attendees might be aware that one of these policy papers published last October created quite a stir. This was an updated policy paper from 2014, which included review of new data and studies that resulted in a couple of new positions. One was expanding the definition of domestic violence and who is a domestic violence offender, because it was previously limited to spouses.

The ACP and the editors of the *Annals of Internal Medicine* believe that, as primary care physicians, they have a unique responsibility and opportunity to educate patients with respect to firearm injury and firearm violence, and also to speak out on non-interference with the physician-patient relationship.

The ACP and its policy staff put together a toolkit for ACP state chapters. This provides tools for state-level advocacy for legislation, such as extreme protection laws and child access prevention. The ACP does believe that something has changed. The sense is that there are

opportunities in a lot of places in this country to make a difference in reducing firearm injury and violence.

American College of Surgeons

Deborah Kuhls, MD, FACS, Chair of the American College of Surgeons (ACS) Committee on Trauma (COT) Injury Prevention and Control Committee (IPCC), gave a summary of the ACS activities during the Medical Summit program. The ACS COT has been active in developing a system of care of injured patients, including those injured as a result of firearms, for decades, through its network of more than 500 ACS-verified trauma centers in the US. Statements related to firearm injury prevention date back to 1991, with the most recent revision in 2013. In 2015, ACS was 1 of 8 medical organizations along with the ABA that co-authored an *Annals of Internal Medicine* call to action publication. Shortly thereafter, the COT engaged its IPCC to embark on a public health approach to firearm injury prevention. The COT embarked on a series of surveys to understand members' positions on the role(s) that the ACS should take about firearm injury prevention and advocacy. Most recently, the entire US ACS membership of approximately 50,000 have been surveyed. There was significant support for preserving the right to talk with patients and the parents of pediatric patients about firearm injury prevention; support for federal funding of research to decrease firearm deaths and injuries; and a high level of support for ACS to prioritize efforts to decrease death, injury, and suffering related to firearm events. Additionally, there was consensus on many advocacy initiatives.

Membership survey results informed a strategy entitled "Freedom with Responsibility: A Consensus Strategy for Preventing Injury, Death and Disability from Firearm Violence." The ACS Board of Regents approved a 9-point strategic action plan to address firearm violence, including trauma system development and promulgation of the Stop the Bleed program; create a Firearm Strategy Team Group of firearm-owning surgeons (FAST group) to inform injury prevention and advocacy; survey all US ACS members; develop collaborative partnerships with other organizations; implement firearm injury prevention initiatives; develop a research agenda and advocate for Federal and private research funding; promote responsible gun ownership and non-violent conflict resolution; advocate for mental health funding, and support expanded background checks. The FAST group has worked for more than a year and recently published their initial recommendations, addressing a broad range of topics including ownership, registration, licensure, education and training, ownership responsibilities, research, culture of violence, and other topics.

The COT IPCC has developed a brochure entitled *Gun Safety and Your Health* to assist healthcare providers talking with their patients. The brochure can be downloaded for free and interested organizations are welcome to use it and add their logo. A tablet-based survey and brief educational intervention has been developed and piloted in pediatric outpatient setting focusing on safe storage in younger children and suicide prevention in older children. A best practices document in firearm safety is also being developed. Given that violence is one of the root causes of firearm injury and death, the IPCC developed a "primer" on how to set up a hospital-based violence intervention program and has an active Memorandum of Understanding with the National Network of Hospital-Based Violence Intervention Programs (NNHVIP). The ACS COT has also partnered with AFFIRM to support funding for firearm injury research.

American Congress of Rehabilitation Medicine and American Spinal Cord Injury Association

These 2 organizations were represented by Stephanie Kolakowsky-Hayner, PhD, CBIST, FACRM. The American Congress of Rehabilitation Medicine (ACRM) does not have an injury prevention committee, but the American Spinal Injury Association prevention committee has a goal of primary, secondary, and tertiary prevention of spinal cord injury. They have a strategic planning session upcoming where they will discuss their approach to this issue.

American Foundation for Firearm Injury Reduction in Medicine

American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) was represented by Megan Ranney, MD, MPH, FACEP and Chris Barsotti, MD, FACEP. AFFIRM is a non-profit corporation composed of healthcare leaders and researchers who seek to end the epidemic of gun violence through research, innovation, and evidence-based practice. AFFIRM is partnering with professional societies and private sector financial resources to fund public health research for firearm injury prevention. Drs Ranney and Barsotti presented on the need for enhanced funding for research in this area at the summit and this is outlined in the proceedings document.

American Geriatrics Society

The American Geriatrics Society (AGS) was represented by Marian (Emmy) Betz, MD, MPH, FACEP. The AGS is a society of geriatrics healthcare professionals dedicated to improving the health, independence, and quality of life of older people. Its nearly 6,000 members include geriatricians, geriatric nurses, social workers, family

practitioners, physician assistants, pharmacists, and internists who are pioneers in advanced-illness care for older individuals, with a focus on championing interprofessional teams, eliciting personal care goals, and treating older people as whole persons. The AGS endorsed the joint letter that came out in 2015 with a few additions. The AGS would prefer to emphasize the impact of firearm violence in older Americans, particularly due to suicide and access to firearms in patients with cognitive impairment/dementia. The AGS is active in addressing the social environment, including social isolation and feelings of burdensomeness among older adults are particular risk factors for suicide. The AGS endorses efforts to strengthen communities because it really benefits older adults as well. The new diagnosis of dementia itself might be a risk factor for suicide. Patients with dementia might live in a home with a firearm, and so understanding how to work with those patients and their caregivers to balance independence and personal rights with safety of the patient and those of the home healthcare providers is a very relevant concern.

American Medical Association

The American Medical Association (AMA) was represented by Albert Osbahr, MD, who presented an overview of the AMA efforts and strategy. The AMA is on record as calling firearm injury, death, and disability a public health crisis. The AMA articulated this in a letter to Congress in the past year. The AMA supports and is working with AFFIRM as a part of its strategy to support research. The AMA house is firmly supporting research and is opposed to limitations on research. The AMA has extensive gun violence policy work that is dynamic and actively evolving.

The AMA has partnered with a number of groups represented at the summit and has worked to develop an educational program on counseling in physician offices about the risk of firearms, with regard to post-traumatic stress disorder, depression, or suicidality or unintentional shootings in children.

The AMA, along with 8 other organizations, was instrumental in fighting and continuing to fight the appeals that the State of Florida filed on their intervention into the physician office, and the AMA continues to monitor and support the physicians right to counsel. Lastly, *JAMA* and the associated *JAMA* family of journals have been active in promoting efforts toward reducing firearm-related death and injury.

American Medical Women's Association

The American Medical Women's Association (AMWA) recognizes that gun violence is a public health issue and, as such, organized a Gun Violence Prevention Task Force in 2016. This task force undertook a comprehensive literature review to inform AMWA's opinion and states the following: Gun violence should be treated as a public health issue, gun violence research should be supported with Federal funding commensurate with the burden of disease, the ability of physicians to speak about gun violence prevention in the context of the doctor-patient relationship should be preserved, medical students should be provided with gun-free zones in which they can study safely, and gun violence prevention should be taught to medical students as part of the medical curriculum.

To support these positions, AMWA's Gun Violence Task Force has 2 main aims. The first aim is to participate in advocacy on behalf of the organization to support these positions, and train women physicians and medical students in individual advocacy for these positions, as well as to disseminate our positions and the evidence that supports them through presentations, education, and social media. The second aim is to create and sustain a comprehensive curriculum that teaches gun violence as a public health issue for dissemination to medical schools, training programs, and hospitals. We welcome individuals and organizations to learn more about our work on our website and to follow us on social media (@AMWAGVTF).

American Pediatric Surgical Association

The American Pediatric Surgical Association (APSA) was represented by John Petty, MD, FACS. APSA has recently completed a statement on firearm injury that should be published soon. APSA is interested in pursuing meaningful injury prevention programs and supporting implementation in pediatric trauma centers. There will be a session on firearm injury management and counseling patients and families about firearm safety at an upcoming meeting. APSA also recently completed a survey of their membership similar to the ACS survey. They have also recently released a child abuse statement that speaks to the environment of violence for children. They are looking for opportunities to partner with other organizations.

American Psychiatric Association

The American Psychiatric Association (APA) was represented by Cheryl Wills, MD, DFAPA. The APA recognizes firearm violence as a public health crisis. They are involved in suicide prevention programs in the community, including training and education, and have a book on suicide prevention that is in final stages of editing. In addition, APA runs a program called "Typical or Troubled," which is a free educational program for schools to educate everyone in the school, including secretaries,

coaches, school officials, teachers, and support staff, to recognize the signs of suicide risk, talking to youth about mental health, and providing access to care. This program has been implemented in more than 100 cities so far.

Another area that the APA has been focused on is physician burnout. To address this, a task force was created along with a website survey. Educational materials and resources have also been created, as physician burnout can be a precursor to suicide and these numbers are growing.

The APA has position statements on firearm access, acts of violence, and the relationship of mental illness and mental health service delivery. The APA recently published a resource document on "red flag laws." This occurs in certain states where law enforcement can remove firearms from patients deemed at-risk and then mental health professionals are in a position of having to do assessments to determine whether the firearms can be returned.

The APA is currently updating their guidelines on suicide prevention and suicide risk assessments and are supporting firearm injury prevention research through partnership with AFFIRM.

And last but not least, given that the violence is disproportionately in African-American communities, in response to previous reports of the dearth of African-American male psychiatrists, APA has started a black men in psychiatry pipeline program to recruit college students interested in medicine or interested in psychiatry and pay for their trips to meetings so they can meet other psychiatrists. They also get high-level mentors in the organization. Eventually this will be rolled out to other ethnic groups and minority groups. The APA is very excited about that program because nothing like that has been seen before and we know that African Americans are disproportionately more likely to return to practice in those communities where there is a dearth of services.

American Psychological Association

The American Psychological Association was represented by Deborah Gorman-Smith, PhD. The American Psychological Association advocates for a public health approach to gun violence prevention, supporting evidence-based programs and policies that can reduce the occurrence and impact of firearm-related violence in the US. We strongly support the growing consensus among health professionals and scientists that to reduce the deaths and injuries associated with firearms, our nation must engage in rigorous research to define the problem; identify factors that increase or decrease the risk; and develop, implement, and evaluate prevention strategies. The American Psychological Association gun violence prevention priorities include improving and expanding school-based violence prevention efforts; enhancing access to mental health and substance use services; supporting research and evidence-based public policies on violence; and supporting policies that reduce access to firearms by individuals who are at risk of harming themselves or others.

American Public Health Association

The American Public Health Association (APHA) was represented by its President, Pamela Aaltonen, PhD, RN, who opened by thanking all of the participants for being partners in defining this as a public health issue, and recognizing Dr Linda Degutis in the audience, who has been a cornerstone of their injury prevention work. The APHA has been advocating for funding for both CDC and Health Resources and Services Administration and working to counteract the Dickey Amendment. They have advocacy efforts on a national, as well as state and local level. They have published both editorials and position statements. The APHA passed a policy at the last governing council in November focused on reducing suicides by firearms, and that is available on our website (www.apha.org).

Education of members and the general public is important to APHA, so all of the articles that are published on firearm injury in the *American Journal of Public Health* are Open Access so everyone can have access to that information. In addition, APHA has hosted several webinars on gun violence, including strategies for communicating about gun violence, both to the community at large and to coworkers. The APHA is also putting together a book on the public health approach to gun violence prevention, which hopefully we will be finishing up this year, and will be posted on the APHA publications board.

American Surgical Association

The American Surgical Association (ASA) was represented by its President, E Christopher Ellison, MD, FACS, who indicated that this is a new area of discussion for the ASA and, as such, it will be an agenda item at the spring council meeting for discussion. The impact of the ASA would largely be in the realm of research. There is a paper on the psychological impact of gun violence for a podium presentation during the annual meeting in April, which will likely be published in the *Annals of Surgery*, along with a complete discussion. The contributions of the ASA will largely be in the area of research and academic presentations at our annual meeting.

American Trauma Society

The American Trauma Society (ATS) was represented by its President, Christopher Michetti, MD, FACS. The

ATS revised their position paper on firearm violence last year and published it in September, which included the declaration that firearm violence is a public health crisis. The ATS, in partnership with the Society for Trauma Nurses, organizes, plans, and promotes National Trauma Awareness Month, which is in May. The theme that was selected for this year is firearm injury prevention.

The ATS also manages the Trauma Prevention Coalition, which is a group of societies targeting injury prevention. This group will meet at the Injury Prevention Symposium, which will be in Las Vegas, and Dr Kuhls will be speaking on this topic. The ATS is promoting education and providing resources for injury prevention specialists so they can take the message out at the grass roots level.

The ATS also has a program called the Trauma Survivors Network, which involves helping trauma survivors through their recovery and reintegration into society and dealing with issues such as post-traumatic stress disorder. The ATS advocates involving patients in these conversations because they are often the strongest advocates for injury prevention. The ATS has identified a small handful of gun violence survivors that have shared their stories. These stories are posted online and their patients are willing to go out and speak for occasions to try to bring this message forward from the patient perspective.

Association for Academic Surgery

The Association for Academic Surgery (AAS) was represented by its President-elect, Karl Bilimoria, MD. They have no current activities on this topic.

Association of American Medical Colleges

The Association of American Medical Colleges (AAMC) was represented by its Executive Vice President, Atul Grover, MD, PhD, FACP, FCCP. The AAMC is a unique organization in that it does not represent individual physicians but rather medical schools, teaching hospitals, and health systems. The AAMC brings leaders in academic medicine to the table so they might be able to help bridge these national conversations across practitioners and health systems. With their tripartite mission of research, education, and patient care, the nation's medical schools and teaching hospitals serve both their immediate communities and regional/national healthcare needs, providing services (eg Level I trauma centers) often inaccessible elsewhere. Given this multidimensional perspective, the AAMC strongly agrees with the broader healthcare community that firearm injury in the US is a public health crisis that should be addressed with the same commitment to evidence-based study and intervention as other public health challenges. For example, the AAMC supports funding for firearm injury-related research and opposes gag rules that limit the ability of physicians to talk with patients about these issues.

Another area of interest to AAMC is the development and dissemination of teaching and learning resources in the health professions. The AAMC publishes MedEdPORTAL, an open-access repository of medical educational curriculum tools developed by educators nationwide that have been peer-reviewed using a standardized review instrument grounded in the tenets of educational scholarship. MedEdPORTAL currently includes some health professions educational resources on firearm violence and could be expanded, similar to a recent call for submissions the AAMC coordinated for a collection of educational resources to address the opioid crisis. The AAMC is also interested in promoting physician wellness.

Council of Medical Specialty Societies

The Council of Medical Specialty Societies (CMSS) was represented by Helen Burstin, MD, MPH. The CMSS is an organization of organizations, 10 of which are attending this summit. As a broad, multispecialty group, CMSS would like to identify strategies that seem to be working and promote these to their member organizations. Thirty of the CMSS societies have clinical registries so there can be an opportunity to better track trauma patients across the full continuum of care. The CMSS is part of both the physician wellness collaborative at the National Academy of Medicine (NAM) and has a task force focused on burnout, and is represented on the steering committee of the NAM Opioid Collaborative. The CMSS frequently engages in multi-sector initiatives on behalf of specialty societies, including National Academy collaborative. The CMSS would be interested in helping convene specialty groups to address this issue.

Cure Violence

Cure Violence was represented by Dr Charlie Ransford, Director of Science and Policy. Cure Violence is dedicated to violence prevention using a health and epidemic control approach. They understand violence as having contagious qualities that make it like an epidemic disease. The focus is to serve as a guiding and training organization, to help communities and community organizations and agencies to implement these approaches. They provide training and technical assistance and work with them through the entire process. Cure Violence is currently operating in 10 different counties and about a hundred communities. In the US, 25 cities are currently implementing the model, but there is also substantial work underway in Latin America and the Middle East.

In addition, the Cure Violence model is evidence-based with about 7 independent evaluations. A recent study in Trinidad and Tobago showed a 45% decrease in all violent crime. Most evaluations have shown reductions in killings and shootings between 40% and 70% in the communities that implement this approach, and that reduction happens in the first month. Largely, it happens within 1 or 2 months and is sustained throughout the program.

There are 3 steps in the Cure Violence model. Its first is managing violence and eruption, pre-injury, injury, and post-injury. Cure Violence addresses conflicts that are currently evolving in the community and interrupting them before they erupt into violence. Cure Violence also works with the person that is injured in the hospital to make sure they understand what is happening to them and understand mental health issues so they attend follow-up appointments to get the care that they need. In addition, post-injury Cure Violence intervenes both in the hospital and in the community to prevent retaliation by the injured victim, their family and friends, or a rival group. The second step is to provide case management for people at the highest risk for violence, by providing them services, by mentoring them, by giving them a risk-reduction plan, and doing home visits. Finally, the third element is to address the social environment for all members of the community to create norm change and decrease the culture of violence. Credible, culturally competent staff from the community are vital to the success of this approach.

Cure Violence is also focused on advocacy and health policy. They have formed a collaborative of about 500 people and about 125 organizations. Most of these are either community-based organizations or public health agencies that are working to advance 3 goals. The first goal is to change the language in how we talk about violence, with a focus on a health and public health approach. This includes resources and educational sessions for organizations and curriculum development for both medical schools, nursing schools, undergraduate education and then first, primary, and secondary education as well. The second goal is policy change at the State and Federal levels. Cure Violence is supporting legislation to fund health approaches to violence prevention. The third goal is to develop systems of care that engage all of the agencies that touch a high-risk person. This includes defining how police, schools, hospitals, community groups, and primary care providers can be connected together so that when a high-risk person is identified, they can be connected to the services that they need. Cure Violence is defining what that system looks like and encouraging these connections between agencies.

Eastern Association for the Surgery of Trauma

Eastern Association for the Surgery of Trauma (EAST) was represented by its President, Elliott R Haut, MD, PhD, FACS. A primary focus for EAST is defining evidence-based medical care for trauma treatment. This includes more than 50 practice management guidelines. EAST has published 3 evidence-based reviews on gun violence and safety topics, including gun safety devices and storage, licensing and concealed carry, and hospital-based violence intervention programs. A fourth review underway includes gun buyback programs and community-based violence intervention.

Another main focus is support for research. EAST dedicates a session each year at its annual scientific assembly meeting to injury prevention and awards The John M Templeton Jr, MD, Injury Prevention Research Scholarship, named after Jack Templeton, who was a pediatric trauma surgeon, for injury prevention projects. Six of the past 11 years these projects have been related to violence. EAST is also involved in numerous multi-institutional trials related to the care of patients after injury. EAST supports the push for increased Federal funding for firearm injury research.

From an advocacy and education standpoint, EAST has a new firearm injury statement from 2018 with more than 50 peer-reviewed references to support this statement. EAST has also generated 5 podcasts on violence prevention, aimed mostly at clinicians, but some are applicable to the general public as well. Finally, every year at the EAST meeting there is a community outreach event that is frequently focused on injury and violence prevention.

Reference links:

Prevention of firearm injuries with gun safety devices and safe storage: An Eastern Association for the Surgery of Trauma Systematic Review. (https://www.ncbi.nlm.nih.gov/pubmed/29521806)

Prevention of firearm-related injuries with restrictive licensing and concealed carry laws: An Eastern Association for the Surgery of Trauma systematic review. (https://www.ncbi.nlm.nih.gov/pubmed/27602894)

Hospital-based violence intervention programs targeting adult populations: an Eastern Association for the Surgery of Trauma evidence-based review. (https://www.ncbi.nlm.nih.gov/pubmed/29766064)

Eastern Association for the Surgery of Trauma Firearm Injury Prevention Statement. (https://www.ncbi.nlm.nih.gov/pubmed/30489510)

Emergency Nurses Association

The Emergency Nurses Association (ENA) was represented by its President, Patricia Howard, PhD, RN.

The ENA has a suicide clinical practice guideline that is aimed at screening and management of the patient population. They also have an interpersonal violence position statement that also yielded an interpersonal violence clinical practice guideline with screening as well. The ENA has had spirited discussions at their house of delegates about firearms since around 2000. Their first position statement was published in 2003, and in 2017 there was a resolution that supported a more robust position statement around firearm safety and injury prevention, which they expect to have approved at the board meeting in 2 weeks. The ENA research staff and volunteers completed a research study about the barriers emergency nurses experienced in doing screening for the presence of firearms in the home and counseling, and that was published in the *Journal of Emergency Nursing* last year. The ENA also has part of their public policy agenda that is specifically addressing supporting firearm safety and injury prevention with lifting some of the restrictions around the Dickey Amendment, as well as extending the national violent death reporting. Finally, ENA also has a workplace violence toolkit to address ways to manage workplace violence in the ED.

Injury Free Coalition for Kids

The Injury Free Coalition for Kids (IFCK) was represented by Michael P. Hirsh, MD. This is a consortium of 42 injury prevention programs based at Level I pediatric trauma centers around the country. The organization has a long history of advocating for firearm injury prevention. One of their main focus points has been around gun buy-back programs, and they are trying to push this nationally. Dr Hirsh also voiced concerns about the resource use of Stop the Bleed campaign, and the potential psychological impact when taught to younger individuals. Finally, there have been efforts to develop a curriculum surrounding firearm injury prevention for the medical community, although this has yet to be defined.

National Association of Emergency Medical Technicians

The National Association of Emergency Medical Technicians (NAEMT) was represented by its immediate Past-President, Mr Dennis Rowe. The NAEMT Board of Directors has not taken any official position concerning firearm injury prevention to date. The NAEMT's Prehospital Trauma Life Support course does cover injury prevention. The NAEMT trains more than 114,000 students each year, offering 18 courses at 2,500 training centers in 71 countries, and more than 13,000 faculty. The NAEMT's educational and membership network can be a vehicle to help deliver information in the future. The NAEMT is interested in working together with other medical organizations at the local/state, national, and international levels.

National Medical Association

The National Medical Association (NMA) was represented by Ronald Collier, MD, MPH, FACS and Mallory Williams, MD, MPH, FACS. The organization functions primarily through education and advocacy. They have a Gun Violence Task Force that reports directly to the executive committee of the NMA. Violence has been an annual agenda item for the scientific assembly. They collaborate with and provide direct advocacy to the Congressional Black Caucus and participate in the annual meeting of the Congressional Black Caucus in Washington, DC. The NMA also hosts an annual colloquium in Washington, DC, to both discuss health issues and lobby Congress. Gun violence has been featured on the program for the last 3 years. There is an NMA firearm position statement (http://media.mlive.com/kzgazette_impact/other/NMA%20Position%20on%20Gun%20Violence.pdf) with the following 4 recommendations:

1. Keep criminals and prohibited individuals from obtaining firearms
2. Make universal background checks a requirement for all purchases and strengthen the background check system
3. Make gun trafficking a federal crime
4. Improve access to mental health

The NMA has also published a manuscript in the *Journal of the National Medical Association* entitled, "The Violence Epidemic in the African American Community: A Call by the National Medical Association for Comprehensive Reform" (https://www.sciencedirect.com/science/article/pii/S0027968417302134?via%3Dihub). Homicide-, intimate partner violence-, and law enforcement-related morbidity and mortality are covered in the article. One of the main focuses of the NMA is the racial disparity that exists with respect to the rate of firearm-related injury and death. An emphasis is also placed on gun trafficking. There is direct advocacy that is taking place, specifically in relation to federal funding, with a focus on suicide in pediatric age group (ages 5 to 12 years) and intimate partner violence due to the racial disparity that exist in this population. The *Journal of the National Medical Association* continues to publish articles dedicated to issues of gun violence.

National Network of Hospital-Based Violence Intervention Programs

The National Network of Hospital-Based Violence Intervention Programs (NNHVIP) was represented by Ms Fatimah Muhammad, who currently serves as Executive Director. The organization assembles hospital-based and hospital-linked programs that build robust community hospital partnerships to address violence. The goal is to look at the cycles of violence and trauma in communities, specifically those at high risk for violent injury and recidivism. The patients' experience is utilized in the hospital as a teachable moment, as an opportunity to provide services, to connect them to mental health supports, and social services. This serves as wrap around services centered on the patient with job readiness training, art programs, and as many resources that can be provided. The idea is to connect them to community resources so that there is this robust relationship that is built. There is interest to create learning opportunities for hospitals, emergency medicine clinicians, and trauma surgeons to have conversations about implementing and succeeding at growing these programs within their respective communities. They also use community leaders, and violence prevention professionals that allow have a firsthand understanding of the struggles within the community and become the ones to really speak with patients becoming an invaluable resource.

National Trauma Institute

The National Trauma Institute (NTI) was represented by Rosemary Kozar, MD, FACS. The organization partners with a number of other groups to serve as research infrastructure for large clinical studies, including the Coalition for National Trauma Research (CNTR). They are interested in many aspects around research for care of the injured patient, including firearm injury prevention. They have a current grant with CNTR from the Department of Defense to develop a National Trauma Research Action Plan, which will include a comprehensive research agenda on injury prevention. Most recently, a grant was submitted to the Laura and John Arnold Foundation that, if funded, will help advance this field forward.

Orthopaedic Trauma Association

The Orthopaedic Trauma Association (OTA) was represented by its President, David Teague, MD. The focus of the organization has been emphasizing broader disaster and mass casualty domestic readiness and the incorporation of ballistic lessons learned via the Extremity War Injuries symposia. Millions of dollars flow annually to research in major musculoskeletal trauma from the Congressionally directed research program and support entities like the Major Extremity Trauma and Rehabilitation Consortium (METRC). The majority of orthopaedic advocacy occurs in conjunction with the American Academy of Orthopaedic Surgery (AAOS). The OTA recognizes an opportunity to take a leadership role within the discipline and continue working with and through the strong contingent of orthopaedic surgeons on the ACS COT.

Pediatric Trauma Society

The Pediatric Trauma Society (PTS) was represented by its President, Randall Burd, MD, PhD. After the Parkland, FL shooting, the organization issued a position statement on firearm injury prevention. PTS membership has favored an active and not reactionary role in gun violence prevention. A task force of diverse members was formed in January 2019 with a directive to develop action-oriented task for the PTS committees and the overall organization to pursue to mitigate the health-burden of gun violence in children.

Safe States Alliance

Safe States' representative, Richard Hamburg, Executive Director, gave an overview of Safe States Alliance, which was formed approximately 25 years ago and is a national nonprofit organization. Members are injury and violence prevention professionals from state and local health departments, universities, trauma hospitals, and other organizations. Safe States is in the process of finalizing an updated firearm safety prevention statement, leveraging a public health approach. Safe States focuses on evaluating the risks and benefits of proposed public policies and works with many organizations to address policy barriers and opportunities. Safe States, along with several other organizations present at the Medical Summit, supports investment in governmental research and the adoption of policies to improve safety practices for entire communities, for those who own and those who do not own firearms.

Society for the Advancement of Violence and Injury Research

The Society for the Advancement of Violence and Injury Research's (SAVIR) approach to firearm injury prevention was presented by Linda Degutis, DrPH, MSN, FRSPH, President-elect. SAVIR's focus includes taking a public health approach to research, enhancing surveillance and advocating for research funding, including Injury Control Research Centers funding. SAVIR educates its members how to advocate via webinars and by offering preconference workshops. SAVIR is a member of the Injury and Violence Prevention Network, as is Safe States, and they work together with state health

departments to prevent injuries and violence. SAVIR is finalizing its first policy statement on gun violence research funding. SAVIR is moving from a biannual to an annual conference, providing opportunities for networking and mentoring of injury prevention specialists.

Society for Academic Emergency Medicine and Association of Academic Chairs of Emergency Medicine

The Society for Academic Emergency Medicine (SAEM) and Association of Academic Chairs of Emergency Medicine (AACEM) were both represented by Angela M. Mills, MD. Because AACEM is a part of SAEM, they provided a joint report. The main focus of SAEM is on research and education rather than advocacy. SAEM recently issued a statement on firearm injury noting that it is a public health problem and supporting efforts to advance research and education as well as implement of evidence-based interventions. At the upcoming annual meeting, the keynote address on firearm injury prevention will be given by Drs Rebecca Cunningham and Gary Wintemute. There will also be a preconference for clinician education. SAEM is also sponsoring a consensus conference on physician wellness where they will establish a research agenda that will include physician suicide prevention.

Society of American Gastrointestinal and Endoscopic Surgeons

Society of American Gastrointestinal and Endoscopic Surgeons' (SAGES) board member Brent Matthews, FACS, indicated that SAGES is the second largest surgical organization in the US representing general surgeons. SAGES core competencies include education, patient safety, and research related to the minimally invasive surgical management of gastrointestinal diseases. Concurrently, SAGES has formed an Acute Care Surgery Task Force to represent trauma and emergency general surgeons who are SAGES members, and are working to integrate minimally invasive techniques into acute care surgery. In line with this, in November 2018 the SAGES Board of Governors affirmed the 2013 American College of Surgeons' statement on firearms. In addition, during the 2018 Annual Congress, SAGES hosted a panel on firearm injury and violence, and featured Dr Ronald Stewart as a guest speaker. As a Society, SAGES is interested in collaborating and partnering with other organizations on the topic of firearm injury prevention as a means of serving its membership, patients, and ultimately society in addressing the challenges of firearms injury and its consequences.

Society of Black Academic Surgeons

Malcolm Brock, President of the Society of Black Academic Surgeons (SBAS), established in 1989, provided an overview of the organization's commitment to violence intervention programs. One of its founding members, Dr Eddie Cornwell, has been involved in violence intervention for several decades, first in Los Angeles, where his earlier work was summarized in 1995 and 1996 *JAMA* publications, and then in Baltimore. In Baltimore, another SBAS member, Dr Carnell Cooper, was also working citywide in violence intervention programs. These SBAS members' evidence-based violence intervention programs in Baltimore were both supported by Maryland Governors Ehrlich and Hogan, with a combined funding of nearly $4 million. Recently, SBAS has evolved from advocating for violence intervention and prevention to advocating for drastically reducing firearm violence. A 2018 position paper publication in the *American Journal of Surgery* by Joseph and colleagues entitled, "Reducing the Impact of Violence on the Health Status of African-Americans: Literature Review and Recommendations from the Society of Black Academic Surgeons," highlights the impact of firearm violence as an adverse childhood event on minorities and at risk inner city youth.

Society of Trauma Nurses

Sarah Mattocks, MSN, RN, CRNP, TCRN, NE-BC, President Elect of the Society of Trauma Nurses (STN), indicated that STN is organized to provide education and support for trauma program managers, to ensure that accreditation criteria are in place, are effective, and that a performancce improvement and loop closure process is followed to ensure optimal care of the injured patient. As more bedside providers are becoming involved with STN, the education needs of our members are changing, and STN has provided education about abuse screening tools across the spectrum of all ages from pediatric to geriatric. STN recently developed an Injury Prevention Professionals Course and actively teaches Stop the Bleed training. STN actively collaborates with other organizations, including the ACS COT Injury Prevention and Control Committee, EAST, American Trauma Society, Trauma Center Association of America, and other organizations. STN collaborates with ATS on National Trauma Awareness Month and the theme this year is "Firearm Injury Prevention: Everyday, Everyone, Everywhere." The organization has an active government affairs and public policy committee and attends the National Conference of State Legislators. Lastly, although STN has often taken a neutral position on topics, they are

drafting a position statement on firearms and anticipate this being released soon.

ThinkFirst National Injury Prevention Foundation

Rocco Armonda, MD, represented the ThinkFirst National Injury Prevention Foundation (TFF) at the Medical Summit. The TFF is a nonprofit organization founded by the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) in 1986 with a mission to prevent brain, spinal cord, and other traumatic injuries through education, research, and advocacy.

TFF is focused on primary injury prevention through educational programs. The origins for the education programs are based on the Health Belief Model stating people must understand that they could become seriously injured (or ill) and understand they could prevent injury (or illness), before they are convinced to change their behavior.

TFF incorporates violence prevention, including firearms, in the educational programs developed for injury prevention professionals to present at schools from elementary through college, in age-appropriate learning from younger kids understanding what to do if they come across a gun, to the middle school and high school program where people who have been seriously injured by gun violence share their personal stories in video or live presentations about how a gun-related brain or spinal cord injury changed their life. Injury prevention professionals explain the devastation injury can cause to the body, including injuries caused by violence and firearm violence, explaining the science behind injury. In the ThinkFirst For Your Baby program, storing firearms locked and away from children is emphasized.

ThinkFirst programs are used by injury prevention professionals who provide community outreach education through hospitals, medical universities, and rehabilitation centers throughout the US and internationally. A ThinkFirst chapter is formed with a chapter director (injury prevention professional) and a medical director (physician), with training and presentation materials provided by TFF. The TFF advocates for funding allowing or mandating injury prevention professionals to focus full-time on providing injury prevention outreach programs to expose all students and community members to prevention to shift the firearms culture to one of safety. TFF recommends additional federal funding for studies on injury prevention programs to assure they are evidence-based. TFF supports governmental and community efforts to direct resources toward firearm safety education and joins the medical community in supporting incorporation of firearm safety questions and education into standard patient interactions.

Trauma Center Association of America

Samir Fakhry, MD, Immediate Past Chair of the Trauma Center Association of America (TCAA), indicated that TCAA is not an individual member organization, but rather a trade association of sorts for trauma centers around the country, with approximately 380 member trauma centers. The overall mission is to increase the survival of victims of injury and to optimize their other outcomes. TCAA is also interested in improving the welfare and professional satisfaction of healthcare workers. The 3 pillars of TCAA are advocacy, finance, and operations. TCAA collaborates with STN, ACS, and ATS on advocacy, with a focus on supporting trauma systems and trauma centers. On the finance front, TCAA has supported trauma activation fees to compensate trauma hospitals for the significant resources required to provide excellent care. The TCAA started a post-traumatic mental health course to support trauma center screening and referral for PTSD and suicide. The TCAA is re-evaluating its 2014 statement on firearms and the attendees and speakers at this Medical Summit are providing valuable information that will be helpful in this effort.

Western Trauma Association

Bellal Joseph, MD, FACS represented Western Trauma Association (WTA) and provided an overview of WTA's focus on injury prevention and care of the injured victim. The WTA published a 2018 statement on firearms that focused on non-fatal injuries, deaths, and mass shootings, with an emphasis on the ban of military-style assault weapons. The WTA focuses on the development of evidence-based treatment algorithms for injuries, including penetrating injuries as well as injury prevention.