The Role of Academic Medical Centers in the Prevention of Violence and Firearm-Related Morbidity and Mortality

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In the past decade, firearm fatality rates have increased 34.9% and from 2010 to 2020 accounted for more than 400,000 deaths and an estimated 1.2 million nonfatal firearm injuries. Among children and teenagers, aged 1 through 19 years, firearms are now the leading cause of death, surpassing motor vehicle crash injury in 2020. The societal cost of firearm injury and death is substantial, estimated at $400 million annually for acute medical treatment before including long-term medical and disability care costs, lost work and productivity, and criminal justice proceeding costs.

Scientific advances in firearm injury prevention have lagged substantially behind those for other injuries (eg, motor vehicle crashes) and medical diseases (eg, HIV/AIDS, cancer) of similar size and scope due to the lack of federal research funding during the past 30 years. When compared with the incidence and severity of disease and federal funding response for other leading causes of death (eg, motor vehicle crash, cancer, and HIV), firearm injury prevention was estimated to be 96.7% to 98.4% underfunded during the past decade. From 2008 to 2017, only $22 million of federal funding ($1 million per year for pediatrics) was allocated to study firearm injury prevention. Given the incidence and severity of firearm injury, the lack of substantial progress over the past 30 years, and the cumulative effects of firearm injury across US communities, academic medical centers (AMCs) have a vital role in addressing this public health issue. This responsibility extends across the tripartite academic mission of clinical care, education, and research in both urban and rural AMCs.

Within clinical settings, physicians, nurses, social workers, and other clinicians routinely treat patients injured by and at risk of firearm injuries, providing opportunities across multiple interactions (eg, emergency medicine, primary care, psychiatric visits) for primary, secondary, and tertiary prevention. An emerging body of evidence supports the efficacy of preventive screening and interventional efforts that focus on locked firearm storage, lethal means counseling, and firearm injury prevention, especially among at-risk populations (eg, those with depression, suicidality, interpersonal violence, risky firearm behaviors). Furthermore, while research efforts to identify evidence-based practices in secondary violence prevention are ongoing, hospitals are increasingly implementing trauma-informed practices to intervene with patients who have been injured due to violence to reduce their risk of repeat injury or retaliatory violence, as well as mitigate the secondary and long-lasting effects of violence (eg, posttraumatic stress disorder, criminal justice risk).

Core to the mission of AMCs and fundamental to improved clinical care is educating the next generation of health care professionals. Currently, less than 20% of US medical schools include firearm injury prevention as a core component of their curricula in medical training at the graduate or postgraduate level. The incidence and severity of firearm morbidity and mortality necessitate that AMCs expand their current efforts to educate the next generation of health care professionals to be knowledgeable in preventing and mitigating firearm-related harm that may affect their patients and the regions they serve.

Optimal clinical care and current educational efforts are made possible by robust research efforts within AMCs. AMCs play a large role in the creation of biomedical knowledge and scientific advances, translation to practice, and the health of the public. In recent years, researchers have used consensus techniques to synthesize the key scientific questions of importance in the field of firearm injury prevention at the individual, social, community, and policy levels. AMC support in answering these research questions, in the same way they have advanced the science of other biomedical and behavioral research efforts, is necessary to continue to make progress. Such research efforts are needed to expand the knowledge of evidence-based solutions that can improve the clinical care provided to patients.

Systematically applying rigorous injury prevention science methods can develop the best screening and intervention tools, as well as the implementation science to translate these efforts into routine clinical care delivery in ways that are most effective and acceptable to patients. AMCs can also provide support for developing clinician scientists who are interested in pursuing this field of research by supporting research training programs and fellowships, funding pilot science to open up new lines of scientific inquiry, and providing protected time for faculty to develop successful federally funded research careers in the emerging field of firearm injury prevention. In 2022, a small but growing number of AMCs (currently 6) across the US have taken the next step and dedicated research funding to centers or institutes that focus on firearm injury prevention.
Although it is important to advance the aspects of the tripartite mission, it is not sufficient for AMCs to limit their efforts to those occurring within the medical center. Reducing firearm morbidity and mortality, similar to other public health issues (eg, HIV, smoking, COVID-19, opioid overdoses) requires a comprehensive focus that addresses factors across the individual, social, and community levels of the socioecological spectrum. In addition to clinical interventions, AMC research and community engagement should also include community-based approaches, especially those that address the structural factors (eg, poverty or employment, rural mental health access) that perpetuate key disparities underlying firearm injury outcomes. This includes supporting faculty and student research and outreach efforts across a range of settings (eg, schools, churches, jails and prisons, and urban and rural community settings) and incorporating the voices of key stakeholders (eg, firearm owners, violence prevention groups, youth, tribal nations) disproportionately affected by this epidemic.

Increasingly, AMCs also have a role in influencing health policy that is set at the state and national levels, most recently in response to epidemics (eg, HIV/AIDS, COVID-19) and policy changes that affect health care access (eg, Affordable Care Act, reproductive health care). AMCs are state, regional, and federal leaders and along with their affiliated professional organizations can elevate consensus-based, data-driven, and nonpartisan policy approaches to prevent injury and death and can give voice to a leading health problem experienced by the patients they serve. The politicization of firearm death and injury over the past decades has chilled the response of many AMCs into inaction in addressing this health care crisis. In 2019, 44 medical societies and multidisciplinary organizations (public health, law) from across the US convened with the goal of creating consensus around working together to generate opportunities for firearm injury prevention. This meeting broke decades of silence on this leading cause of death, and for the first time delineated a consensus-based approach for advancing clinical care, research, and health care policy solutions forward. If AMCs are to be true to their mission, there is no room for them to remain silent again on the relationship of firearms and health and the progress needed to move forward in reducing death and injury.

Firearm-related morbidity and mortality represent an ongoing and current public health problem. AMCs have a responsibility to the health of the patients and the communities they serve that goes beyond bearing witness to the decades’ long epidemic, caring for the wounded, and counting deaths. Silence or inaction on this mechanism of morbidity and mortality would be an abdication of the fundamental mission of the nation’s AMCs. AMCs, by focusing on core missions in an apolitical manner, have the opportunity to lead the provision of evidence-based firearm clinical care, educate the next generation of health care professionals in firearm injury prevention, support the needed biomedical firearm research in and beyond the hospital walls, and provide state and regional organizational voice and leadership. These efforts can alter the course of the preventable morbidity and mortality from firearms.

REFERENCES


