How to identify gun-violence hot spots to prevent injuries, deaths

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Jennifer Lubell
Contributing News Writer

Buffalo, New York. Uvalde, Texas. Tulsa, Oklahoma. Across the United States, the death toll continues to mount as shooters acquire guns, enter public places, and mass murder takes place.

Firearm injuries and deaths have accelerated over the last two years, said Megan Ranney MD, MPH, an emergency physician and academic dean at the Brown University School of Public Health. “Depending on what community that you live in, you've seen somewhere between a 10% and a 35% increase in the number of firearm deaths during the COVID pandemic.”

In 2020, firearm deaths became the top leading cause of death for children in the United States, said Dr. Ranney, a researcher who advocates approaching gun violence as a public health problem and co-founded the American Foundation for Firearm Injury Reduction in Medicine (AFFIRM) at the Aspen Institute.

At the 2022 AMA Annual Meeting, the House of Delegates adopted additional policy on firearm violence to support regulating homemade weapons known as “ghost guns,” research warning labels on ammunition packages, and considering the mental health of schoolchildren as they engage in active-shooter drills.

“This cannot be our new normal,” said AMA Immediate Past President Gerald E. Harmon, MD, in special remarks delivered at the Annual Meeting’s opening session. “Gun violence is out of control. Enough is enough.”

During an episode of “AMA Moving Medicine” recorded prior to the Annual Meeting, Dr. Ranney said individual physicians can also take actions through clinical strategies and advocacy.

ID root causes, patients at high risk


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Most owners never use firearms to harm themselves or someone else. It’s important to distinguish the groups of patients with a higher risk of harmful outcomes and develop interventions at the individual, family, neighborhood and societal levels, said Dr. Ranney.

That includes talking about safe storage of firearms with those patients with a higher risk of a bad outcome. Physicians should also consider the root causes of gun misuse.

“When we’ve all been separated, sitting on social media, we get hopeless. We’re not looking out for each other and we see firearm injury and death, both self-directed and other-directed, increase,” added Dr. Ranney, who played an instrumental role in developing the AMA Ed Hub™ CME module, "The Physician's Role in Firearm Safety."

**The strength of physician voices**

Physicians in the clinical space can prevent firearm injuries by screening patients for risk factors and counseling them when appropriate.

“But there are also actions that we can take and lead, that we are in a truly unique position to lead within our hospitals, within our community and on the larger national stage,” said Dr. Ranney.

“Our voices do make a difference, particularly when amplified by our peers and colleagues,” she said, pointing to her involvement with the AMA and AFFIRM, among others.

The AMA applauded bipartisan congressional legislation on firearm safety, but expressed its deep disappointment with a Supreme Court ruling striking down New York’s reasonable concealed-carry law.

**Leveraging data on gun deaths**

Knowing the data about firearm suicide risk factors, the epidemiology of firearms, domestic violence, and homicide, and what actually drives mass shootings, is also important, stressed Dr. Ranney.

Data can identify hot spots, offering support to avoid mass shooting tragedies. The problem is the U.S. lacks accurate tracking of such data, she said.

The Gun Violence Archive has comprehensive tracking of shootings across the country but it’s incomplete. The Centers for Disease Control and Prevention (CDC) “isn’t able to accurately track the number of firearm injuries that happen across the United States, much less to accurately track...
demographics or risk factors, even our counts of deaths,” said Dr. Ranney.

This calls for more funds and empowering CDC to support accurate data around firearm injury and death.

“We need to be all hands on deck in ways that both protect privacy, which we always do with clinical research, and that help us move the data conversation forward so that we can design better interventions that actually work,” Dr. Ranney said.

“AMA Moving Medicine” highlights innovation and the emerging issues that impact physicians and public health today. You can catch every episode by subscribing to the AMA’s YouTube channel or the audio-only podcast version, which also features educational presentations and in-depth discussions.