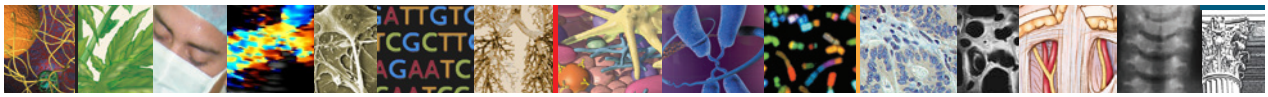

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Firearm Injuries and Violence Prevention — The Potential Power of a Surgeon General's Report

John Maa, M.D., and Ara Darzi, M.D.

In the aftermath of the mass shooting at a social services center in San Bernardino, California, in 2015, President Barack Obama suggested that the relationship between firearm ownership and gun injuries might be as strong as the connection between cigarette smoking and lung cancer. The full extent of the burden of firearm injuries is incompletely understood because of historical restrictions on federal funding for research on firearm violence by the Centers for Disease Control and Prevention (CDC). But recent increases in the frequency and lethality of mass shootings in the United States — and the approximately 90 gun deaths that occur each day — argue for efforts to reframe the national debate about firearms as a public health issue.

The 5-year anniversary of the Newtown, Connecticut, school shooting arrived in the shadow of mass shootings in Las Vegas and Sutherland Springs, Texas, in 2017, and shootings in Parkland, Florida, and Santa Fe, Texas, served as additional reminders of the risks for children attending school. As the United States came to understand a different set of health hazards — those associated with cigarette smoking — and the burden of smoking-related diseases on the health care system, a major step was the 1964 Surgeon General's report on smoking and health.[1] This publication was the first of several Surgeon General's reports on tobacco control, and similar reports on AIDS, mental health, and substance use disorders have influenced national discussions. A powerful step now would be a Surgeon General's report to fully characterize the complex problem of firearm injuries and violence in the United States and to sharpen efforts to identify new solutions by revealing how the country got to its current state.

Objective data on the history, epidemiology, health effects, and financial costs of firearm violence, as well as the factors that contribute to it, could inform this discussion by conveying the full scope of the problem. The nearly 20,000 gun suicides and estimated 760 gun deaths related to domestic violence in the United States each year would be worthy areas of focus for such a report, given the programs already supported by the CDC and other federal agencies that are aimed at preventing suicide and intimate-partner violence. A definitive statement could also summarize the overwhelming scientific evidence that having a firearm in the home increases the risk of suicide. The report could serve as an urgent call to action for professional medical organizations and federal authorities. Interna-

tional leaders could help by describing the changes in both gun laws and social norms that have reduced firearm violence in their countries.

A study of World Health Organization (WHO) mortality data found that Americans are 25 times more likely to be victims of a gun-related murder and 8 times more likely to die by firearm suicide than people in other developed countries.[2] Japan, on the other hand, has among the lowest per capita rates of firearm ownership and gun murders and has the highest life expectancy in the world, as ranked by the WHO in 2015. The U.S. health care system is often blamed for the country's ranking as 31st worldwide in life expectancy. But the complex and incompletely understood problem of firearm violence cuts across legal, political, educational, and financial systems. The new Surgeon General's report could begin to tease apart entangled issues in these systems. The consequence of such system failures is enormous: beyond the deaths caused by gun violence, survivors often have lifelong physical and psychological problems, including disability, depression, and substance abuse.

The increasing burden from mass-casualty incidents on the country's emergency departments, health care system, and law-enforcement agencies has highlighted the urgent need for action. After the mass shooting in Las Vegas, patient needs rapidly overwhelmed the capacity of emergency responders and paramedics. Miscommunications led to patients being taken to the closest hospitals, rather than to the trauma hospitals that were best equipped to treat them. But a surge of nearly 600 gunshot victims — many transported by private vehicles — is a nightmare that is nearly impossible for any institution or city to prepare for without the assistance of state or federal agencies. The coordinated and effective medical response to the November 2015 mass-casualty event in Paris can be partially attributed to a master plan developed 20 years earlier but never activated until that day.[3] In the United States, a joint federal and state collaboration spearheaded by the Department of Health and Human Services could coordinate countywide emergency responses to mass shootings. Strengthening the Bureau of Alcohol, Tobacco, Firearms, and Explosives and potentially dividing it into two separate agencies could also help address gun-related threats.

As we further elucidate the problem of firearm violence, new solutions may present themselves, including ones that involve the legal system. The National Rifle Association and gun-rights advocates have used litigation (such as *District of Columbia v. Heller*) to strike down existing gun-control laws and protect what they see as their Second Amendment rights. The challenge for firearm-safety advocates is to develop an equally effective legal strategy to protect public health. Wide variability in state laws related to firearm ownership complicates this mission. California implemented an assault-weapons ban in 1989, and Governor Jerry Brown signed the first "gun violence restraining order" in 2014 to allow family members and law-enforcement officers to petition the court to disarm a person who makes threats of firearm violence.[4] The Surgeon General's report could catalogue these and other legislative efforts and help standardize firearm laws throughout the country.

The report might also stimulate new ways of thinking, shifts in societal norms, and development of new social programs related to firearm safety. The person behind the Sutherland Springs shooting had served time in prison for domestic violence and escaped from a mental health facility but was still able to acquire firearms. The Parkland shooting occurred despite repeated notifications to the Federal Bureau of Investigation and law enforcement about the threat posed by a student who had stated his violent intent on social media. Breakdowns in communication, straw purchases (buying a gun for another person who may be prohibited from purchasing one), the portrayal of gun violence in movies, limitations of background checks, lost and stolen firearms, and fragmented accountability in the chain of reporting of dangerous persons reflect larger societal challenges. A deeper understanding of the legal and administrative errors that result in firearms falling into the wrong hands could help move this discussion forward.

The United States has a long history of prioritizing the rights of gun owners over public safety. In 1992, after leaving the Office of the Surgeon General, C. Everett Koop wrote an editorial addressing violence as a public health issue.[5] He focused on firearm injuries and proposed that anyone owning or operating a firearm be required to meet specific criteria, such as being monitored in the firearm's use. The recommendations were never implemented. During his Senate confirmation hearings to become Surgeon General in 2014, Vivek Murthy char-

acterized the problems surrounding firearm violence in the United States as public health concerns. His support for gun control led to his appointment's being delayed for several months. After Murthy's confirmation, the political climate limited his office's ability to champion firearm safety. A 2011 Florida law sought to prevent physicians from discussing firearm ownership with their patients; the ban was struck down by the 11th Circuit Court of Appeals in 2017.

In the aftermath of the Las Vegas and Parkland shootings, however, the tone of the conversation has changed. Perhaps the time has arrived to commission the first Surgeon General's report on firearm injuries and violence prevention to stress the importance of collecting and disseminating data on the true nature of the public health problem we are facing. The United States could then begin using a public health approach to incorporate the principles of responsible and safe firearm ownership into the legal interpretation of the Second Amendment to ensure a safer future.

Disclosure forms provided by the authors are available at NEJM.org.

From the Division of General and Acute Care Surgery, Marin General Hospital, Larkspur, CA, and the San Francisco Marin Medical Society, San Francisco (J.M.); and the Department of Surgery, Imperial College London–St. Mary's Hospital, London (A.D.).

This article was published on June 27, 2018, at NEJM.org.

1. Smoking and health: report of the Advisory Committee to the Surgeon General of the Public Health Service. Washington, DC: Department of Health, Education and Welfare, 1964.
2. Grinshteyn E, Hemenway D. Violent death rates: the US compared with other high-income OECD countries, 2010. Am J Med 2016;129:266-73.
3. Hirsch M, Carli P, Nizard R, et al. The medical response to multisite terrorist attacks in Paris. Lancet 2015;386:2535-8.
4. Vernick JS, Alcorn T, Horwitz J. Background checks for all gun buyers and gun violence restraining orders: state efforts to keep guns from high-risk persons. J Law Med Ethics 2017;45:98-102.
5. Koop CE, Lundberg GB. Violence in America: a public health emergency: time to bite the bullet back. JAMA 1992;267:3075-6.

DOI: 10.1056/NEJMp1803295