

Health Systems Have a Role in Preventing Firearm Injury

George Isham, MD, MS,^a Jay Bhatt, DO, MPH,^b Bechara Choucair, MD,^c David Grossman, MD, MPH,^d Elizabeth McGlynn, PhD^e

Every day in the United States, health professionals confront the effects of firearm injury. In emergency rooms, trauma centers, ambulatory offices, and acute care and rehabilitation facilities, health professionals and the health systems they work within attempt to heal the wounds that firearms can inflict on individuals and their families. Thus, hospitals and health systems are in a position to grasp the scope of the issue and find opportunities to prevent firearm injury and death. In 2016 and 2017, the physicians and nurses at Kaiser Permanente treated more than 3,400 gunshot victims. These patients—from a single health system among the hundreds that operate across the United States—are a sobering reminder of the toll of firearm injury.

Firearm injury—including other-directed, self-directed, and unintentional injury and death—is a broad-based public health issue. In 2016, more than 38,000 people were killed by firearms.¹ In the same year, half of those who died by suicide used a firearm, and three quarters of homicides involved a firearm.¹ Firearm death is the third leading cause of death for children under age 17 in the United States.

A social network analysis by Kalesan and colleagues² showed that almost everyone in the United States, at some point, will know someone injured or killed by a firearm. The nature of the injury varies—homicide is the more likely cause of a firearm death in an urban area, whereas suicide is more likely in a rural area—but every community in every geographic region and every socioeconomic stratum is affected.³

When we think of how many people will know someone who is injured or killed by a firearm in their lifetime, and how many will be injured directly, it is difficult to determine who or what can mitigate the impact of this massive issue. Yet hospitals and health systems will touch nearly every life in the United States at some point and are dedicated to advancing well-being. Few societal systems have as many touch points with an individual as health care does.

Every touch point can serve as a potential intervention before injuries occur. For instance, regular screening for depression can identify those who may be at risk of suicide. These opportunities occur in pediatrics, primary care, gynecology, geriatrics, and other specialties, as well as at different sites of

^aHealthPartners Institute; ^bAmerican Hospital Association; ^cKaiser Permanente; ^dKaiser Permanente Washington Health Research Institute; and ^eKaiser Permanente Center for Effectiveness and Safety Research

This commentary was originally published in *NAM Perspectives* by the National Academy of Medicine, Washington, DC, available online at: <https://doi.org/10.31478/201904c>. It is reprinted here with permission from the National Academy of Sciences, Washington, DC.

DOI: <https://doi.org/10.1542/peds.2019-1701>

Address correspondence to: Questions or comments should be directed to Melissa French at mfrench@nas.edu.

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2019 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Isham G, Bhatt J, Choucair B, et al. Health Systems Have a Role in Preventing Firearm Injury. *Pediatrics*. 2019; 144(2):e20191701

care, such as hospitals, medical offices, and emergency departments.

Addressing social determinants to improve the health of patients and communities also can provide a chance to protect patients from firearm injury.

To be effective, health professionals need to know how to identify those at a higher risk of firearm injury, and they need to have the tools to intervene effectively. Health systems and community-based organizations have gathered data that can be used for firearm injury prevention and improvement.

Like all public health threats, firearm injury has complex social and psychological underpinnings. However, approaching firearm injury as public health and preventive health issues provides the advantage of approaching prevention systematically and scientifically. Studying firearm injury prevention in the same way we study cancer, heart disease, and other leading causes of death could offer a better way forward.

In October 2018, Kaiser Permanente and the American Hospital Association sponsored a workshop at the National Academies of Sciences, Engineering, and Medicine⁴ to examine the current state of the science and the research necessary to enable hospitals and health systems to be more effective in preventing firearm injury and death.

The workshop participants highlighted three overarching themes for hospitals and health systems to help prevent firearm injury:

- Know the epidemiology and burden of firearm injury in the communities served by your health care organization. Every community is different, and understanding the nature of the problem is key to taking steps to mitigate it.
- Invest in research that identifies those at a higher risk of firearm injury and then develop interventions to reach those individuals and communities.

- Collaborate with other organizations to develop and share best practices and evidence-based prevention programs. Despite the lack of available funding, researchers are continuing important work to prevent firearm injury across the country. Sharing that knowledge and working to add to it are crucial.

In April 2018, Kaiser Permanente dedicated \$2 million to firearm injury prevention research, one of the largest contributions to this topic ever made by a health system. As federally funded research into firearm injury prevention has been lacking for more than two decades, it is critical that we consider innovative approaches to addressing firearm injury and death to accelerate this much-needed research.

This is a complicated problem without a simple solution. Yet hospitals and health systems have confronted complicated public health problems before and, through research and practice, developed and improved preventive interventions that have saved lives. As one workshop speaker noted, “When we apply the medical model of disease to this problem, I can look at it like any other health problem that has a natural history because I am seeing these patients when they first express the risk factors or when risk factors escalate. If we are able to intervene effectively, then we can prevent the shootings.”⁴

Hospitals, health systems, and health care professionals have an opportunity to develop and implement firearm injury prevention and intervention programs in the same systematic and rigorous way that we have confronted other large-scale public health problems. Taking this opportunity will provide a path forward to reducing the crisis of firearm injury and death for us all.

AUTHOR INFORMATION

George Isham, MD, MS, is Senior Fellow, HealthPartners Institute and a member of the National Academy of

Medicine. **Jay Bhatt, DO, MPH**, is Chief Medical Officer, American Hospital Association and President, Health Research and Educational Trust. **Bechara Choucair, MD**, is Senior Vice President and Chief Community Health Officer, Kaiser Permanente. **David Grossman, MD, MPH**, is Senior Investigator and Pediatrician, Kaiser Permanente Washington, and Senior Medical Director, Washington Permanente Medical Group. **Elizabeth McGlynn, PhD**, is Vice President, Kaiser Permanente Research and Executive Director, Kaiser Permanente Center for Effectiveness and Safety Research.

ACKNOWLEDGMENTS

The authors wish to acknowledge the valuable contributions of **Melissa French**, senior program officer, Board on Population Health and Public Health Practice and **Alexis Wojtowicz**, research associate, both of the National Academies of Sciences, Engineering, and Medicine.

CONFLICT-OF-INTEREST DISCLOSURES

None to disclose.

CORRESPONDENCE

Questions or comments should be directed to Melissa French at mfrench@nas.edu.

DISCLAIMER

The views expressed in this paper are those of the authors and not necessarily of the authors' organizations, the National Academy of Medicine (NAM), or the National Academies of Sciences, Engineering, and Medicine (the National Academies). The paper is intended to help inform and stimulate discussion. It is not a report of the NAM or the National Academies. Copyright by the National Academy of Sciences. All rights reserved.

This commentary was originally published in NAM Perspectives by the

National Academy of Medicine, Washington, DC, available online at: <https://doi.org/10.31478/201904c>. It is reprinted here with permission from the National Academy of Sciences, Washington, DC.

Download the full proceedings of the Workshop "Health Systems Interventions to Prevent Firearm Injuries and Death" at: <https://www.nap.edu/resource/25354/interactive>.

REFERENCES

- Centers for Disease Control and Prevention. 2019. Firearm mortality by state. https://www.cdc.gov/nchs/pressroom/sosmap/firearm_mortality/fire-arm.htm (accessed April 22, 2019).
- Kalesan, B., M. E. Mobily, O. Keiser, J. A. Fagan, and S. Galea. 2016. Firearm legislation and fire-arm mortality in the USA: A cross-sectional, state-level study. *The Lancet* 387(10030):1847-1855, doi: 10.1016/S0140-6736(15)01026-0.
- Branas, C. C., M. L. Nance, M. R. Elliott, T. S. Richmond, and C. W. Schwab. 2004. Urban-rural shifts in intentional firearm death: Different causes, same results. *American Journal of Public Health* 94(10):1750-1755, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448529> (accessed April 22, 2019).
- The National Academies of Sciences, Engineering, and Medicine. 2019. Health systems interventions to prevent firearm injuries and death: Proceedings of a workshop. Washington, DC: The National Academies Press, <https://doi.org/10.17226/25354> (accessed April 22, 2019).

SUGGESTED CITATION

Isham, G., J. Bhatt, B. Choucair, D. Grossman, and E. McGlynn. 2019. Health systems have a role in preventing firearm injury. *NAM Perspectives*. Commentary, National Academy of Medicine, Washington, DC. <https://doi.org/10.31478/201904c>

Health Systems Have a Role in Preventing Firearm Injury

George Isham, Jay Bhatt, Bechara Choucair, David Grossman and Elizabeth McGlynn

Pediatrics 2019;144;

DOI: 10.1542/peds.2019-1701 originally published online July 17, 2019;

Updated Information & Services

including high resolution figures, can be found at:
<http://pediatrics.aappublications.org/content/144/2/e20191701>

References

This article cites 2 articles, 0 of which you can access for free at:
<http://pediatrics.aappublications.org/content/144/2/e20191701#BIBL>

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
Infectious Disease
http://www.aappublications.org/cgi/collection/infectious_diseases_sub
Influenza
http://www.aappublications.org/cgi/collection/influenza_sub
Vaccine/Immunization
http://www.aappublications.org/cgi/collection/vaccine:immunization_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Health Systems Have a Role in Preventing Firearm Injury

George Isham, Jay Bhatt, Bechara Choucair, David Grossman and Elizabeth McGlynn

Pediatrics 2019;144;

DOI: 10.1542/peds.2019-1701 originally published online July 17, 2019;

The online version of this article, along with updated information and services, is
located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/144/2/e20191701>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 345 Park Avenue, Itasca, Illinois, 60143. Copyright © 2019 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

