Using Science to Reduce Firearm Injuries and Deaths

Rebecca Cunningham, MD, University of Michigan; **Mark Rosenberg, MD,** The Task Force for Global Health (*Emeritus*); **Theodore Corbin, MD, MPP,** RUSH University; **Charles Branas, PhD,** Columbia University; **Shani A. L. Buggs, PhD, MPH,** University of California, Davis; **Sterling Haring, DO, MPH,** Southwell; **Richard Jackson, MD, MPH,** University of California, Los Angeles (*Emeritus*); **Anil Jain, PhD,** Michigan State University; **Julie Parsonnet, MD,** Stanford University; and **Ben Weston, MD, MPH,** Medical College of Wisconsin

October 8, 2023

Each day in the United States, more than 300 people are shot by a firearm, and more than one-third of them loses their lives (CDC, n.d.a). This includes people who die as a result of homicides, suicides, unintentional shootings, shootings by law enforcement, and mass shootings. Firearms are the leading cause of death among U.S. children and teens (Goldstick et al., 2022). Both cities and small towns share the immense burden of these deaths; in fact, suicides involving a firearm outnumber homicides each year, with those in rural settings representing a large portion of the increase in U.S. firearm deaths in the past few decades (Reeping et al., 2023; Mohatt et al., 2021; Branas et al., 2004). Disparities in firearm homicides by race are acute; for example, the ratio of young Black men to young White men who die as a result of homicide by firearm is 20:1 (Kegler et al., 2022). The economic cost of firearm injuries and deaths, accounting for lives lost, years of disability, and traumatized communities and families—including children—exceeds $566 billion per year (AHRQ, n.d.; Song, 2022).

Firearm injuries and deaths in the United States, with their attendant physical, psychological, and emotional consequences—for victims and perpetrators as well as families, caregivers, and communities—are at a crisis point. However, this burden is not one that we must accept. On the contrary, this crisis has solutions, some of which we already know about, and others yet to be discovered (RAND Corporation, n.d.; Roche et al., 2023; Cunningham et al., 2019a). Science can help us discover these solutions. As it has in the case of other seemingly intractable health and social crises—such as tobacco-related illness and deaths and motor vehicle crashes (MVCs)—scientific research can generate powerful knowledge and guidance to illuminate the path forward (Kahane, 2015; CDC, 2011; Dellinger and Sleet, 2010; Hemenway, 2009; Hemenway, 2001). Science has saved lives and prevented harm from tobacco use and MVCs, and it has done so without banning cigarettes or cars. Similar successes can be achieved when science is applied to the challenge of firearm injuries and deaths.

The need for additional scientific research is urgent, as deaths and injuries from firearms continue to rise to record levels. As a nation, we have the scientific resources to generate knowledge that will save lives. Health care and public health professionals can help leaders and policy makers understand the necessary science-based knowledge and solutions around this issue. However, knowledge alone is not sufficient; it will be necessary to quickly put our knowledge to work. This paper presents three core assertions about the power of science to reduce the national burden of firearm injuries and deaths.

Science can help solve the long-standing crisis of firearm injuries and deaths by rigorously assessing and illuminating what works to reduce firearm injuries and save lives while respecting citizens' rights.

It is impossible to develop effective policies without fully understanding the nature of a problem, the causes of a problem, which specific approaches will be effective, and methods to implement and scale these approaches. In the understandable rush to save lives, we have left our communities and policy makers with only partial information about what solutions might work. It is very difficult to create or vote for policies without information about the likely effects of

those policies. We can create more effective laws and policies and support more informed decision making by generating scientific knowledge to answer the following questions:

1. **What are the nature, magnitude, and characteristics of the problem?** For example, what can we learn from more accurate, complete, and timely data about who is being injured or killed by firearms; where, when, and with what types of weapons; what are the circumstances; and what are the trends in incidence?
2. **What are the causes?** For example, what is the role of alcohol, drugs, gangs, mental illness, inappropriate access to firearms, joblessness, racism, poverty, and the social and built environments? What is the role of police training and pay?
3. **What works to prevent firearm injury and death?** For example, would more mental health services help to reduce firearm injuries and deaths, and, if so, for whom and under what circumstances? What are the most effective strategies for schools to implement to reduce school shootings? The only way to know is to use science to test and evaluate approaches.
4. **How do you scale approaches that work?** After we learned what worked in the cases of smoking and road deaths, policy makers and communities were able to pass effective national, state, and local laws and programs. We know a fair amount about the nature, magnitude, and characteristics of the firearm injury problem and have an early start on solutions and interventions, but we need more timely and complete information about the nature, magnitude, and characteristics of the problem. We also need to know much more about what works, for whom, under what circumstances, and how to scale solutions.

The time to generate the knowledge needed to prevent firearm injuries is now. We need to engage many different disciplines and sectors that can contribute to generating this knowledge. Each brings its own perspectives and strengths, and they are strongest when they work together. While it is important to find better ways to treat victims, families, and communities and promote recovery after a firearm injury has occurred, the best treatment is prevention, which addresses the upstream factors.

We do not have to choose between reducing firearm injuries and protecting the rights of U.S. citizens. Science can help navigate the complex cultural and legal landscape of firearm ownership in the United States and identify practical, real-world interventions. In the process, science can measure the impact of interventions on law-abiding firearm owners. It is important that this research be conducted in a way that is rigorous, honest, and unbiased and that it be communicated with clarity and transparency.

However, as a nation, we have not adequately taken advantage of the power of science to reduce firearm injuries and save lives.

Scientific advancements have saved countless American lives in the past century. By the 1960s, deaths from automobile crashes were so high that the public demanded solutions, as they are doing today in the context of firearm injuries and deaths (Dellinger and Sleet, 2010; Hemenway, 2009). Heeding public concern, the federal government has invested $200 million per year for more than 50 years (beginning in 1970) – over $10 billion total – on scientific research into the causes and solutions of MVCs in order to generate knowledge to save lives (DOT, 2020). Thanks to this research, legislators and regulators did not have to guess whether seatbelts and airbags, better roadway design, and stricter enforcement against driving under the influence of alcohol would save lives. Instead, they had a collection of sound scientific studies to guide the policies that gave us safer cars, safer roads, and safer drivers. Between 1970 and 2020, the knowledge that was generated by this scientific research saved more than 600,000 lives (Watson and Errington, 2016; Gielen and Green, 2015; Kahane, 2015; Mozaffarian et al., 2013; CDC, 2011; Sleet at al., 2010; Doll et al., 2007; Hemenway, 2001).

Similarly, science illuminated what laws, policies, and programs reduced tobacco use, another significant driver of mortality in the United States. From 1975 to 2000, nearly 800,000 deaths were prevented by declines in smoking—with more deaths averted each year as interventions have grown increasingly effective (Moolgavkar et al., 2012).

Our nation has the capacity to change for the better when policy makers and the public have knowledge fueled by science. However, we lack the necessary knowledge in the context of firearm injuries. Until very recently, federal funding to support firearm violence and injury research had been stymied for decades (Subbaraman, 2020). Since 2021, firearm violence research has received just $25 million annually, a total that is split between the Centers for Disease Control and Prevention and the National Institutes of Health (Weir, 2021). This figure represents just one-eighth of the annual funding allocated to MVC prevention research. Despite the recent availability of federal funds, spending to support research on the scale necessary to understand and develop interventions to address this complex and seemingly intractable challenge has been scant and insufficient (Cunningham et al., 2019b).

Substantial and sustained scientific resources must be allocated to reduce firearm injuries and save lives.

The history of scientific investment in the United States shows that steady and substantial funding by the federal government is both the foundation for and the engine of progress. Progress in road

safety was fueled by billions of dollars, sustained over half a century, to do the scientific work that created lifesaving knowledge.

There is an urgent need to reduce firearm injuries and deaths as rapidly as possible, but low levels of funding mean that it will take longer to find and implement effective solutions. Lack of funding for firearm research has stalled and slowed a generation of lifesaving knowledge (Gurrey et al., 2021; Cunningham et al., 2019b; Melillo, 2019; Stark and Shah, 2017; Betz et al., 2016; Carter and Cunningham, 2016; Ladapo et al., 2013). Philanthropic support is valuable and will continue to be critical in ensuring the uptake and scaling of any identified interventions. But to attract and retain dedicated scientists to careers in firearm injury research and prevention, the funding cannot be episodic or constrained (Edwards and Roy, 2017; Gibbs, Jr., and Griffin, 2013). Federal scientific funding must be substantial and grow over time in a manner aligned with the approaches to MVCs, tobacco cessation, and other national problems of similar scale and complexity.

Finding evidence-based solutions to firearm injuries and violence across all sectors of society will require an amount of federal funding on a par with the investment in ameliorating other devastating threats like cancer, road deaths, tobacco-related lung disease, and human immunodeficiency virus. Funding to address childhood cancer alone exceeds $300 million per year (Cunningham et al., 2019b). This is an essential investment that has created great progress in caring for the more than 10,000 children per year who are afflicted with cancer in the United States (ACS, 2023). Although more children and teens are injured or killed each year by firearms than cancer, the funding to generate scientific solutions is exponentially less (CDC, n.d.b; Cunningham et al., 2019b). Substantial, sustained, and protected funding is needed to resolve existing gaps in knowledge.

Conclusion

Science has found solutions and saved countless lives in the face of many daunting societal challenges. It can do so again in the case of firearm injuries. Numerous expert groups have generated scientific questions, research agendas, and a range of solutions that would create new knowledge needed to reduce firearm injuries and save lives (RAND Corporation, n.d.; AMA, 2022; Rosenberg, 2021; John Jay College Advisory Group, 2020; Cunningham et al., 2019a; Cunningham et al., 2019c; NASEM, 2019; PERF, 2019; Butkus et al., 2018; Branas et al., 2017; Ranney et al., 2017; IOM, 2013). The critical next step is funding this science into the future. With substantial and sustained research funding, we can find interventions that decrease injuries while respecting the rights of all U.S. citizens. The health and well-being of our nation depends on it.

References

1. ACS (American Cancer Society). 2023. *Cancer facts & figures 2023*. Atlanta, GA: American Cancer Society. Available at: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/2023-cancer-facts-figures.html(accessed September 25, 2023).
2. AHRQ (Agency for Healthcare Research and Quality). n.d. *Healthcare cost and utilization project (HCUPnet)*. Available at: https://datatools.ahrq.gov/hcupnet#setup (accessed June 9, 2023).
3. AMA (American Medical Association). 2022. *Report of the Council on Science and Public Health*. Available at: https://www.ama-assn.org/sites/ama-assn.org/files/corp/mediabrowser/premium/csaph/physician-role-firearm-safety.pdf (accessed October 10, 2022).
4. Betz, M. E., M. L. Ranney, and G. J. Wintemute. 2016. Frozen funding on firearm research: "Doing nothing is no longer an acceptable solution." *The Western Journal of Emergency Medicine* 17(1):91–93. https://doi.org/10.5811/westjem.2016.1.29767.
5. Branas, C. C., A. Flescher, M. K. Formica, S. Galea, N. Hennig, K. D. Liller, H. N. Madanat, A. Park, J. E. Rosenthal, and J. Ying. 2017. Academic public health and the firearm crisis: An agenda for action. *American Journal of Public Health* 107(3):365–367. https://doi.org/10.2105/AJPH.2016.303619.
6. 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://doi.org/10.2105/ajph.94.10.1750.
7. Butkus, R., R. Doherty, and S. S. Bornstein. 2018. Reducing firearm injuries and deaths in the United States: A position paper from the American College of Physicians. *Annals of Internal Medicine* 169(10):704–707. https://doi.org/10.7326/M18-1530.
8. Carter, P. M., and R. M. Cunningham. 2016. Adequate funding for injury prevention research is the next critical step to reduce morbidity and mortality from firearm injuries. *Academic Emergency Medicine* 23(8):952–955. https://doi.org/10.1111/acem.12982.
9. CDC (Centers for Disease Control & Prevention). n.d.a. *Web-based injury statistics query and reporting system (WISQARS)*. Available at: https://www.cdc.gov/injury/wisqars/index.html (accessed June 9, 2023).
10. CDC. n.d.b. *Multiple cause of death by single race 2018-2021*. Available at: https://wonder.cdc.gov/wonder/help/mcd-expanded.html (accessed July 11, 2023).
11. CDC. 2011. Ten great public health achievements—United States, 2001–2010. *Morbidity and Mortality Weekly Report* 60(19):619–623. Available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a5.htm(accessed September 25, 2023).
12. Cunningham, R. M., P. M. Carter, and M. Zimmerman. 2019a. The Firearm Safety Among Children and Teens

(FACTS) Consortium: Defining the current state of the science on pediatric firearm injury prevention. *Journal of Behavioral Medicine* 42(4):702–705. https://doi.org/10.1007/s10865-019-00077-6.

13. Cunningham, R. M., M. L. Ranney, J. E. Goldstick, S. V. Kamat, J. S. Roche, and P. M. Carter. 2019b. Federal funding for research on the leading causes of death among children and adolescents. *Health Affairs* 38(10):1653–1661. https://doi.org/10.1377/hlthaff.2019.00476.
14. Cunningham, R. M., P. M. Carter, M. L. Ranney, M. Walton, A. M. Zeoli, E. R. Alpern, C. Branas, R. S. Beidas, P. F. Ehrlich, M. K. Goyal, J. E. Goldstick, D. Hemenway, S. W. Hargarten, C. A. King, L. Massey, Q. Ngo, J. Pizarro, L. Prosser, A. Rowhani-Rahbar, F. Rivara, L. A. Rupp, E. Sigel, J. Savolainen, and M. A. Zimmerman. 2019c. Prevention of firearm injuries among children and adolescents: Consensus-driven research agenda from the Firearm Safety Among Children and Teens (FACTS) Consortium. *JAMA Pediatrics* 173(8):780–789. https://doi.org/10.1001/jamapediatrics.2019.1494.
15. Dellinger, A. M., and D. A. Sleet. 2010. Preventing traffic injuries: Strategies that work. *American Journal of Lifestyle Medicine* 4(1):82–89. https://doi.org/10.1177/1559827609348694.
16. Doll, L. S., S. E. Bonzo, D. A. Sleet, and J. A. Mercy. 2007. *Handbook of injury and violence prevention*. New York: Springer Science & Business Media.
17. DOT (Department of Transportation). 2020. *Budget Estimates, Fiscal Years 1970-2020, National Highway Traffic Safety Administration and Federal Highway Administration.* Available at: https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/fy_2020_nhtsa_congressional_justification.pdf (accessed July 20, 2023).
18. Edwards, M. A., and S. Roy. 2017. Academic research in the 21st century: Maintaining scientific integrity in a climate of perverse incentives and hypercompetition. *Environmental Engineering Science* 34(1):51–61. https://doi.org/10.1089/ees.2016.0223.
19. Gibbs, Jr., K. D., and K. A. Griffin. 2013. What do I want to be with my PhD? The roles of personal values and structural dynamics in shaping the career interests of recent biomedical science PhD graduates. *CBE Life Sciences Education* 12(4):711–723. https://doi.org/10.1187/cbe.13-02-0021.
20. Gielen, A. C., and L. W. Green. 2015. The impact of policy, environmental, and educational interventions: A synthesis of the evidence from two public health success stories. *Health Education & Behavior* 42(1 Suppl):20s–34s. https://doi.org/10.1177/1090198115570049.
21. Goldstick, J. E., R. M. Cunningham, and P. M. Carter. 2022. Current causes of death in children and adolescents in the United States. *New England Journal of Medicine* 386(20):1955–1956. https://doi.org/10.1056/NEJMc2201761.
22. Gurrey, S., H. McCauley, M. Benson, P. Prabhu, M. D. Fan, F. P. Rivara, D. Hemenway, M. Miller, D. Azrael, and A. Rowhani-Rahbar. 2021. Firearm-related research articles in health sciences by funding status and type: A scoping review. *Preventive Medicine Reports* 24:101604. https://doi.org/10.1016/j.pmedr.2021.101604.
23. Hemenway, D. 2001. The public health approach to motor vehicles, tobacco, and alcohol, with applications to firearms policy. *Journal of Public Health Policy* 22(4):381–402.
24. Hemenway. D. 2009. *While we were sleeping: Success stories in injury and violence prevention*. Berkeley and Los Angeles, CA: University of California Press.
25. IOM (Institute of Medicine). 2013. *Priorities for Research to Reduce the Threat of Firearm-Related Violence*. Washington, DC: The National Academies Press. https://doi.org/10.17226/18319.
26. John Jay Advisory Group (John Jay College Research Advisory Group on Preventing and Reducing Community Violence). 2020. *Reducing violence without police: A review of research evidence*. New York, NY: Research and Evaluation Center, John Jay College of Criminal Justice, City University of New York. Available at: https://johnjayrec.nyc/wp-content/uploads/2020/11/AV20201109_rev.pdf(accessed September 25, 2023).
27. Kegler, S. R., T. R. Simon, M. L. Zwald, M. S. Chen, J. A. Mercy, C. M. Jones, M. C. Mercado-Crespo, J. M. Blair, D. M. Stone, P. G. Ottley, and J. Dills. 2022. Vital signs: Changes in firearm homicide and suicide rates—United States, 2019–2020. *Morbidity and Mortality Weekly Report* 71:656–663. https://doi.org/10.15585/mmwr.mm7119e1.
28. Kahane, C. J. 2015. *Lives saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards, 1960 to 2012—Passenger cars and LTVs—With reviews of 26 FMVSS and the effectiveness of their associated safety technologies in reducing fatalities, injuries, and crashes*. Report No. DOT HS 812 069. Washington, DC: National Highway Traffic Safety Administration. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812069 (accessed July 11, 2023).
29. Ladapo, J. A., B. A. Rodwin, A. M. Ryan, L. Trasande, and J. Blustein. 2013. Scientific publications on firearms in youth before and after Congressional action prohibiting federal research funding. *JAMA* 310(5):532–534. https://doi.org/10.1001/jama.2013.119355.
30. Melillo, G. 2019. Gun violence research receives federal funding for first time in 20 years. *American Journal of Accountable Care*, December 24. Available at: https://www.

ajmc.com/view/gun-violence-research-receives-federal-funding-for-first-time-in-20-years (accessed October 10, 2022).
31. Mercy, J. A., M. L. Rosenberg, K. E. Powell, C. V. Broome, and W. L. Roper. 1993. Public health policy for preventing violence. *Health Affairs* 12(4):7–29. https://doi.org/10.1377/hlthaff.12.4.7.
32. Mohatt, N. V., C. J. Kreisel, A. S. Hoffberg, L. Wendleton, and S. J. Beehler. 2021. A systematic review of factors impacting suicide risk among rural adults in the United States. *Journal of Rural Health* 37(3):565–575. https://doi.org/10.1111/jrh.12532.
33. Moolgavkar S. H., T. R. Holford, D. T. Levy, C. Y. Kong, M. Foy, L. Clarke, J. Jeon, W. D. Hazelton, R. Meza, F. Schultz, W. McCarthy, R. Boer, O. Gorlova, G. S. Gazelle, M. Kimmel, P. M. McMahon, H. J. de Koning, and E. J. Feuer. 2012. Impact of reduced tobacco smoking on lung cancer mortality in the United States during 1975–2000. *Journal of the National Cancer Institute* 104:541–548. https://doi.org/10.1093/jnci/djs136.
34. Mozaffarian, D., D. Hemenway, and D. S. Ludwig. 2013. Curbing gun violence: Lessons from public health successes. *JAMA* 309(6):551–552. https://doi.org/10.1001/jama.2013.38.
35. NASEM (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.
36. PERF (Police Executive Research Forum). 2019. Reducing gun violence: What works, and what can be done now. Available at: https://www.policeforum.org/assets/reducinggunviolence.pdf (accessed July 12, 2023).
37. RAND Corporation. n.d. *Gun policy in America*. Available at: https://www.rand.org/research/gun-policy.html (accessed July 11, 2023).
38. Ranney, M. L., J. Fletcher, H. Alter, C. Barsotti, V. S. Bebarta, M. E. Betz, P. M. Carter, M. Cerdá, R. M. Cunningham, P. Crane, J. Fahimi, M. J. Miller, A. Rowhani-Rahbar, J. A. Vogel, G. J. Wintemute, M. Waseem, M. N. Shah, and the ACEP Technical Advisory Group on Firearm Injury Research, a Subcommittee of the ACEP Research Committee. 2017. A consensus-driven agenda for emergency medicine firearm injury prevention research. *Annals of Emergency Medicine* 69(2):227–240. https://doi.org/10.1016/j.annemergmed.2016.08.454.
39. Reeping, P. M., A. Mak, C. C. Branas, A. N. Gobaud, and M. L. Nance. 2023. Firearm death rates in rural vs urban US counties. *JAMA Surgery* 158(7):771–772. https://doi.org/10.1001/jamasurg.2023.0265.
40. Roche, J. S., P. M. Carter, A. M. Zeoli, R. M. Cunningham, and M. A. Zimmerman. 2023. Challenges, successes, and the future of firearm injury prevention. *The Milbank Quarterly* 101(S1):579–612. https://doi.org/10.1111/1468-0009.12621.
41. Rosenberg, M. L. 2021. Considerations for developing an agenda for gun violence prevention research. *Annual Review of Public Health* 42:23–41. https://doi.org/10.1146/annurev-publhealth-012420-105117.
42. Sleet, D. A., A. Carlson Gielen, S. Diekman, and R. Ikeda. 2010. Preventing unintentional injury: A review of behavior change theories for primary care. *American Journal of Lifestyle Medicine* 4(1):25–31. https://doi.org/10.1177/1559827609349573.
43. Song, Z. 2022. The business case for reducing firearm injuries. *JAMA* 328(12):1185–1186. https://doi.org/10.1001/jama.2022.16890.
44. Stark, D. E., and N. H. Shah. 2017. Funding and publication of research on gun violence and other leading causes of death. *JAMA* 317(1):84–85. https://doi.org/10.1001/jama.2016.16215.
45. Subbaraman, N. 2020. United States to fund gun-violence research after 20-year freeze. *Nature* 577(7788):12. https://doi.org/10.1038/d41586-019-03882-w.
46. Watson, M. C., and G. Errington. 2016. Preventing unintentional injuries in children: Successful approaches. *Journal of Paediatrics and Child Health* 26(5):194–199. https://doi.org/10.1016/j.paed.2015.12.006.
47. Weir, K. 2021. A thaw in the freeze on federal funding for gun violence and injury prevention research. *Monitor on Psychology* 52(3). Available at: https://www.apa.org/monitor/2021/04/news-funding-gun-research (accessed September 22, 2023).

DOI

https://doi.org/10.31478/202310a

Suggested Citation

Cunningham, R. M., M. Rosenberg, T. Corbin, C. Branas, S. A. L. Buggs, L. Harbold DeStefano, S. Haring, J. Heymann, R. Jackson, A. Jain, M. Laitner, J. Parsonnet, and B. Weston. 2023. Using science to reduce firearm injuries and deaths. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. https://doi.org/10.31478/202310a.

Author Information

Rebecca Cunningham, MD, is vice president for research at University of Michigan and leads the Firearm Safety Among Children and Teens (FACTS) Consortium. **Mark Rosenberg, MD,** is president and CEO, emeritus, of The Task Force for Global Health. **Theodore Corbin, MD, MPP,** is chairperson of the Department of Emergency Medicine at RUSH University. **Charles Branas, PhD,** is chair of the Department of Epidemiology at Columbia University Mailman School of Public

Health. **Shani A. L. Buggs, PhD, MPH,** is assistant professor of emergency medicine at the University of California, Davis. **Sterling Haring, DO, MPH,** is an interventional pain physician at Southwell. **Richard Jackson, MD, MPH,** is professor emeritus of environmental health sciences at the University of California, Los Angeles. **Anil Jain, PhD,** is a university distinguished professor at Michigan State University. **Julie Parsonnet, MD,** is George DeForest Barnett Professor of Medicine and professor of epidemiology and population health at Stanford University. **Ben Weston, MD, MPH**, is an associate professor in the department of emergency medicine at the Medical College of Wisconsin.

The authors were members of a task force organized by the NAM in response to escalating rates of firearm injury in the United States. The task force was co-chaired by Corbin, Cunningham, and Rosenberg.

Acknowledgments

This paper benefitted from the contributions of **Jenna Ogilvie, Jamie Durana,** and **Jessica Roche.**

This paper benefitted from the thoughtful input of **Megan L. Ranney**, Yale School of Public Health; **Joseph V. Sakran**, The Johns Hopkins Hospital; and **Therese S. Richmond**, University of Pennsylvania.

Conflict-of-Interest Disclosures

None to disclose.

Correspondence

Questions or comments should be directed to NAMedicine@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.