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Reducing Disagreements on Gun Policy Through Scientific Research and an Improved Data Infrastructure

Testimony of Andrew R. Morral¹
The RAND Corporation²

Before the Committee on Appropriations
Subcommittee on Labor, Health and Human Services, Education, and Related Agencies
United States House of Representatives

March 7, 2019

Thank you Chairwoman DeLauro, Ranking Member Cole, and distinguished members of the subcommittee for the opportunity today to testify on federal support for gun policy research. The views I will share are based on a series of peer-reviewed reports published by RAND as part of its internally funded Gun Policy in America initiative, a multiyear effort to better understand the effects of gun laws.³ The goal of this initiative is to establish a shared set of facts that will improve public discussions and support the development of fair and effective gun policies.

This testimony is also informed by my experiences as director of the National Collaborative on Gun Violence Research, a private philanthropy that funds gun policy research. The collaborative was created with a \$20 million seed grant from Arnold Ventures, which recognized the urgent need for greater investment in gun policy research.⁴ In this role, I recently had the

¹ The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of the RAND Corporation or any of the sponsors of its research.

² The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

³ See RAND Corporation, *The Science of Gun Policy: A Critical Synthesis of Research Evidence on the Effects of Gun Policy in the United States*, Santa Monica, Calif.: RAND Corporation, RR-2088-RC, 2018; Andrew R. Morral, Terry L. Schell, and Margaret Tankard, *The Magnitude and Sources of Disagreement Among Gun Policy Experts*, Santa Monica, Calif.: RAND Corporation, RR-2088/1-RC, 2018; Terry L. Schell, Beth Ann Griffin, and Andrew R. Morral, *Evaluating Methods to Estimate the Effect of State Laws on Firearms Deaths: A Simulation Study*, Santa Monica, Calif.: RAND Corporation, RR-2635-RC, 2018; and Terry L. Schell and Andrew R. Morral, *Evaluating Methods and Findings from a Study of State Gun Policies*, Monica, Calif.: RAND Corporation, RR-1642-RC, 2016.

⁴ RAND staffs the National Collaborative on Gun Violence Research (NCGVR), but does not establish its research agenda or make decisions about which research projects to fund. Those decisions are made by an independent advisory committee. Information on NCGVR, its advisory committee and RAND's staffing roles are available at the ncgvr.org website.

opportunity to review nearly 250 gun policy research proposals from our nation's leading social scientists, which provides me with a unique vantage point for assessing the scope of the scientific questions remaining to be answered.

I will make three points:

1. We know little about gun violence and its prevention compared to other safety and health threats, because the federal government has not had a comprehensive program of research in these areas for decades.
2. Additional, high-quality research is needed to craft policies that could contribute to reducing gun injuries, deaths, and violence.
3. There are many ways Congress could help build a robust and transformative gun policy research enterprise.

We know little about gun violence and its prevention compared to other safety and health threats, because the federal government has not had a comprehensive program of research in these areas for decades

As part of RAND's Gun Policy in America initiative, we evaluated the best available scientific evidence we could find on the effects of 13 state gun policies.⁵ We were interested not just in evidence of the effects of these policies on suicides, homicides, and injuries but also evidence of how the policies affect individuals' use of guns defensively, how they affect the gun industry, how they affect participation in hunting and sport shooting, how they affect officer-involved shootings, and other possible effects of the laws.

We used standardized and rigorous criteria for evaluating scientific studies, reviewing more than 9,000 reports and papers to identify those that made scientifically credible claims about the effects attributable to specific state gun laws. This search identified relatively good evidence that laws requiring gun owners to store their weapons locked or where children cannot access them appear to reduce gun injuries and deaths. We also found more-limited evidence suggesting that

- background checks may reduce firearm suicides and homicides
- prohibiting gun ownership by individuals with certain mental health histories may reduce violent crime
- stand-your-ground laws may increase homicide rates.

Even these findings, however, are based on just a few studies—nothing like the quality and depth of evidence that had accumulated on the link between smoking and cancer by the time states started prohibiting indoor smoking. Indeed, one of the clearest findings from our study was how little strong research has been done on these and related topics. We found no scientific evidence meeting our inclusion criteria for the vast majority of more than 100 policy effects we examined. To be clear, it was not that the scientific studies had been conducted and yet failed to

⁵ See RAND Corporation, 2018.

find conclusive effects for the laws. Rather, we could not find any rigorous studies that investigated many of the laws' effects we were investigating.⁶

There have been some valuable studies of gun policies and gun violence over the past 25 years. Compared with research on other causes of injury or disease, however, the scientific output on gun policies and violence reduction is tiny. A 2017 study in the *Journal of the American Medical Association* found that, between 2004 and 2014, there were less than one-twentieth as many scientific publications on firearm injuries and deaths as there were on other causes of death in the United States that kill similar numbers of people.⁷ This inattention to gun violence among the scientific community is not because researchers are uninterested in the problem, as was shown when the National Collaborative on Gun Violence Research received nearly 250 proposals in response to its call for research ideas. Rather, I believe it is due to the lack of investment in scientific research by the federal government. Indeed, the federal government invests less than one-fiftieth as much on gun violence research as it does on other causes of death that kill similar numbers of people.⁸

In the absence of federal investment in gun policy research, a small number of investigators have continued to make progress on important questions related to gun policies and the prevention of gun violence and crime. This work has been supported by universities where academic researchers work, some states, and several private philanthropies. But these resources are insufficient to conduct some of the most promising, large-scale data collection efforts. Many critical questions require national data collection over many years, a concerted research program of basic and descriptive research on gun use and violence, and applied and policy research. Resources for a research program of this magnitude would almost certainly require a long-term commitment of support by the federal government.

Additional, High-Quality Research Is Needed to Craft Policies That Could Contribute to Reducing Gun Injuries, Deaths, and Violence

The result of the lack of investment in gun policy research is that we do not have compelling answers to very basic questions, such as:

1. Do gun-free zones deter gun violence or invite it?
2. How do child-access prevention laws affect gun owners' ability to defend themselves or their homes?
3. If we could prevent 100 firearm suicides, what percentage of those people would still die by suicide using another lethal means? Is it 10? 50? 90?

What people believe to be the answers to questions like these often strongly informs their views on gun policy, as well as what the common-sense solutions might be. Our research shows

⁶ Our criteria for studies that can provide scientific evidence of a causal effect of laws are explained in RAND Corporation, 2018, Chapter 2.

⁷ David E. Stark and Nigam H. Shah, "Funding and Publication of Research on Gun Violence and Other Leading Causes of Death," *JAMA*, Vol. 317, No. 1, January 3, 2017, pp. 84–86.

⁸ Stark and Shah, 2017, pp. 84–86.

that these are the kinds of questions for which there is strong disagreement between policy analysts and experts on opposing sides of gun policy debates.⁹ One group believes that laws such as permitless carry, stand-your-ground, and the elimination of gun-free zones, will cause there to be fewer gun injuries, deaths, and mass shootings, and the other group believes that such laws will cause the opposite effects.

Importantly, these are disagreements about facts that are knowable, in principle, but that require careful study. I would never suggest that scientific studies need to be conducted before it is possible to implement good policy. But when there have been such long-standing disagreements about facts that go to the heart of what constitutes an effective or even a fair gun law, it seems reasonable to invest in careful and objective research to discover the truth.

Gun violence is a serious problem involving human decisionmaking, and we have many examples showing that these kinds of problems can be improved with the aid of systematic research into the characteristics, causes, and prevention of those problems. Almost half a century ago, Congress created the National Highway Traffic Safety Agency (NHTSA), which has collected decades of invaluable data on car crashes and has an extensive annual research budget to investigate strategies for reducing crashes. Due in part to this investment, traffic fatalities per mile traveled are a quarter of what they were when NHTSA was established, and this improvement has occurred without any attempts to ban cars.¹⁰ Similarly, long-standing federal research investments on the causes, consequences, and prevention of smoking have been important factors in producing dramatic reductions in smoking prevalence and associated disease.

Research on gun violence prevention has already contributed to reducing firearm homicides, suicides, and accidents. But it is not enough. With significant federal investment in research, improvements as great as those seen for traffic safety and smoking may be achievable.

There Are Many Ways Congress Could Help Build a Robust and Transformative Gun Policy Research Enterprise

Finally, as requested, I will conclude this testimony by providing several recommendations that Congress could consider to improve gun policy research.

Fifteen years ago, a National Academy of Sciences study examining the state of science on firearm violence prevention concluded,

If policy makers are to have a solid empirical and research base for decisions about firearms and violence, the federal government needs to support a systematic program of data collection and research that specifically addresses that issue.¹¹

⁹ Morral, Schell, and Tankard, 2018.

¹⁰ National Highway Traffic Safety Administration, “Motor Vehicle Traffic Fatalities and Fatality Rates, 1899–2016,” in *Traffic Safety Facts Annual Report*, January 24, 2018, <https://cdan.nhtsa.gov/tsftables/Fatalities%20and%20Fatality%20Rates.pdf>.

¹¹ National Research Council, *Firearms and Violence: A Critical Review*, Washington, D.C.: National Academies Press, 2004, p. 3.

Nine years later, another National Academy of Sciences report on priorities for firearm violence research reached a similar conclusion:

High-quality data that are usable, credible and accessible are fundamental to both the advancement of research and the development of sound policies. . . . Basic information about gun possession, distribution, ownership, acquisition and storage is lacking. No single database captures the number, locations, and types of firearms and firearm owners in the United States. Because different forms of firearm violence respond to different strategies, without good data it is virtually impossible to answer fundamental questions about occurrence and risk factors or to effectively evaluate programs intended to reduce violence and harm.¹²

Not much has changed since those conclusions were drawn, although Congress's decision last year to fully fund the National Violent Death Reporting System is a noteworthy exception that will substantially improve the data available for gun policy research. More is needed, however, so I will conclude this testimony by offering several specific suggestions.

In this section, as requested, I will conclude by providing several recommendations that Congress could consider to improve gun policy research.

Appropriate Funds for a Gun Policy Research Program

In 2016, opioid overdose deaths exceeded firearm deaths for the first time since reliable records have been kept. Recognizing the urgency of the public health crisis, Congress in 2018 appropriated \$3.3 billion to respond to it, including \$500 million for research.¹³ An appropriation for gun policy research of even a fraction of this size could lead to dramatic improvements in our understanding of gun violence and of the effects of existing gun policies.

Congress should consider appropriating funds to support a diverse portfolio of research on gun policy, including not just studies on gun violence prevention—although experts and advocates on all sides of the debate agree that this is a high priority.¹⁴ The portfolio should consider a wide range of stakeholder concerns, including studies on, for instance, defensive gun use, enforcement of gun laws, prosecution of gun crimes, police officer safety and officer-involved shootings, and gun ownership. Federal funding for gun policy research should include basic and descriptive research, applied and methodological research, and policy research, ideally from diverse perspectives, such as those represented by the Centers for Disease Control and Prevention (CDC), the National Institutes of Health, the National Institute of Justice, and the National Science Foundation.

¹² Institute of Medicine and National Research Council, *Priorities for Research to Reduce the Threat of Firearm-Related Violence*, Washington, D.C.: National Academies Press, 2013, p. 9.

¹³ Opioid deaths exceeded firearm deaths in 2015, according to comparisons of firearm fatality data in the CDC's fatal injury reports (CDC, "Fatal Injury Reports, National, Regional, and State 1981–2017," WISQARS database, Atlanta, Ga., 2017, <https://webappa.cdc.gov/sasweb/ncipc/mortrate.html>) and opioid overdose deaths recorded in the National Institute on Drug Abuse, "Overdose Death Rates," webpage, January 2019, <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>. See also data on the 2018 Omnibus Appropriations Bill as summarized in German Lopez, "Congress's Omnibus Bill Adds \$3.3 Billion to Fight the Opioid Crisis. It's Not Enough", *Vox*, March 22, 2018.

¹⁴ Morral, Schell, and Tankard, 2018, Chapter Five.

Making such an appropriation would not require rescinding the Dickey amendment, a requirement attached to every CDC appropriation since 1996 that “none of the funds made available for injury prevention and control at the CDC may be used to advocate or promote gun control.” Indeed, some observers—such as Victor Dzau, the President of the National Academy of Medicine, and Mark Rosenberg, who led the CDC’s injury prevention center at the time the Dickey Amendment was first introduced—have argued that the Dickey amendment should be retained as a guardrail for managing a federal firearms research program.¹⁵

However, given the Dickey amendment, federal agencies may be—or may continue to be—reluctant to fund any kind of research in this area without explicit appropriations from Congress, appropriations that make it clear that scientific research into the effects of gun policies are not considered to be a promotion of gun control. Without an appropriation signaling the interest of Congress in a diverse portfolio of research on gun policy, progress on reducing firearm crime and violence may well continue to move at a slow pace.

Reintroduce Firearm Ownership and Use Questions to the CDC’s Behavioral Risk Factor Surveillance System Survey

There are other steps the federal government could take that would be relatively inexpensive but that would substantially improve the gun policy research environment. For instance, research on how gun laws or gun availability affects crime and violence is hampered by having no routinely collected information on state gun ownership rates. The CDC collected this information as part of its Behavioral Risk Factor Surveillance System (BRFSS) but has not done so since 2004.¹⁶ Adding back questions on firearm access, as well as new questions on firearm use, to this survey of randomly selected adults could provide a low-cost approach to developing vastly superior data to the approximations and proxy measures that researchers must currently use to evaluate many questions.

Improve the CDC’s Firearm Injury Surveillance System

Most research on gun injuries has focused on homicides and suicides, even though most firearm injuries are not fatal. If we could examine the effects of firearm policies on both fatal and nonfatal injuries, researchers may be able to draw more-useful conclusions about the effects of gun policies. Unfortunately, the federal government does not have a comprehensive injury surveillance system that can provide data on firearm injuries in each state. The CDC’s National Electronic Injury Surveillance System currently produces only national-level estimates of firearm injuries, and recent research suggests that even these national estimates are unreliable.¹⁷ The

¹⁵ Victor J. Dzau and Mark Rosenberg, “Congress Hasn’t Banned Research on Gun Violence. It Just Won’t Fund It,” *Washington Post*, March 21, 2018.

¹⁶ Annual BRFSS questionnaires are available at CDC, “BRFSS Questionnaires, webpage, February 5, 2019, <https://www.cdc.gov/brfss/questionnaires/index.htm>.

¹⁷ See Philip J. Cook, Ariadne E. Rivera-Aguirre, Magdalena Cerdá, and Garen Wintemute, “Constant Lethality of Gunshot Injuries From Firearm Assault: United States, 2003–2012,” *American Journal of Public Health*, Vol. 107, No. 8, August 2017; and Sean Campbell, Daniel Nass, and Mai Nguyen, “The CDC Is Publishing Unreliable Data on Gun Injuries. People Are Using It Anyway,” *FiveThirtyEight*, October 4, 2018.

CDC could make an important contribution to gun policy research by improving the reliability of its firearm injury data and expanding collection to allow for state-level estimates of firearm injuries.

Permit Researchers to Access Firearm Trace Data Collected by the Bureau of Alcohol, Tobacco, Firearms and Explosives

Since the early 2000s, with the adoption of the Tiahrt Amendments to the U.S. Department of Justice appropriations, most researchers have been prohibited from accessing microdata on crime guns collected by the Bureau of Alcohol, Tobacco, Firearms and Explosives. Before this prohibition went into effect, valuable research was conducted on where and how criminals obtained their weapons, how crime weapons moved between states, the types of weapons preferred by criminals, and other topics. Since the Tiahrt Amendments, only a few researchers have been able to access such data, and that access has been only under special, often very limiting, circumstances. To foster a more robust research program on gun policy, Congress should consider whether to eliminate the restrictions it has imposed on the use of gun trace data for responsible research purposes.

Revise and Expand the National Crime Victims Survey

The Bureau of Justice Statistics (BJS) collects valuable data on crime at a national level through its National Crime Victimization Survey (NCVS). Recognizing the need for state-level victimization data, BJS has explored options for generating such estimates through the NCVS.¹⁸ BJS is conducting a pilot program that expands the survey panel, with the intention of eventually generating reliable estimates for 22 states. In addition, the bureau has published model-based state estimates for some types of crime over three-year periods from 1999 to 2013.¹⁹ The current goal of generating such estimates for 22 states may be a reasonable compromise between cost and the public's need for more-detailed information. However, the bureau should continue to expand its development of model-based victimization rates for all states and for a wider set of victimization experiences (including, for instance, crimes involving firearm use by an assailant or victim). In addition, small changes to the current NCVS could yield data on the prevalence and circumstances of defensive gun use that overcome problems with the current measurement strategy, as well as problems encountered in other surveys of this important phenomenon.

¹⁸ Bureau of Justice Statistics, "NCVS Redesign: Subnational," webpage, February 10, 2016, <https://www.bjs.gov/index.cfm?ty=tp&tid=911>.

¹⁹ Robert E. Fay and Mamadou S. Diallo, *Developmental Estimates of Subnational Crime Rates Based on the National Crime Victimization Survey*, Washington, D.C.: Westat, 2015.