

## The Cost of Firearm Violence Survivorship

 See also Spitzer et al., p. 770.

On average, around 300 people suffer firearm injuries every day in the United States.<sup>1</sup> For every three who die as a result of firearm injury, seven will survive their injuries. The article in this issue of *AJPH* by Spitzer and Weiser (p.770) places the spotlight on research regarding firearm violence survivorship. The use of nationally representative hospitalization data and the large sample size is an advantage of this study. In addition, the authors used standardized methods of estimation of costs to assess trends in initial hospitalization costs after sustaining firearm injury. The authors observed the average annual cost for treating initial firearm injury–related hospitalizations between 2006 and 2014 to be around \$0.7 billion, and \$6.6 billion for the nine-year time period. They note that their calculations may underestimate the real costs, because of the conservative inclusion–exclusion criteria used in their report. The authors also estimated that the aggregate cost of treatment during initial hospitalizations following firearm injuries mostly was covered by Medicaid (34.8%), followed by self-pay (23.6%) and private insurance (20.0%), and the rest by other methods of payment.

The report by Spitzer and Weiser focuses on the most

severe aspect of the acute phase of firearm injury and quantifies the associated enormous economic burden. The investigators identified that Medicaid-insured and the uninsured bore the largest share of the economic burden attributable to initial firearm hospitalizations, with per-incident cost greatest for those paying with Medicaid insurance, and the uninsured paying the lowest. The increased economic burden on Medicaid insurance and self-pay reported in this study has also been previously reported in other studies that assessed both firearm hospitalization and emergency department (ED) admissions.<sup>2–4</sup> Similarly, the economic burden related to firearm-related ED visits also fell largely on the Medicaid-insured and the uninsured.<sup>3,5</sup> The authors present compelling evidence of the substantial economic burden related to firearm hospitalization that reflects a combination of increasing total financial burden over time along with the costs absorbed largely by the government and the excess burden on the uninsured. As a consequence, treatment of nonfatal firearm injuries poses a dual problem—the bulk of it primarily to the health care system while simultaneously shifting part of the burden to

vulnerable individuals who will have the added medical and social costs, not to mention the possible disability related to the injury that may exist throughout their lifetime.

### TWO MISSED OPPORTUNITIES

The authors need to be commended for their thoughtful approach; however, the report reflects two missed opportunities. First, Spitzer and Weiser analyzed firearm hospitalizations between 2006 and 2014, which is a relatively short period of time. The national hospitalization data are available from 1988 onward. From 2001 to 2010, the national firearm death rates have plateaued at around 10.2 per 100 000 persons,<sup>6</sup> whereas the nonfatal firearm injury rates have increased from 21.7 to 25.5 per 100 000 during this time, indicative of a national firearm violence public health problem driven by nonfatal injuries.<sup>1</sup> With the availability of such data, this analysis presented a unique

opportunity to assess the temporal trends of the costs of initial firearm hospitalization from 2001 onward, to understand whether the increasing inflation-adjusted cost of initial hospitalization follows the pattern of increasing nonfatal firearm injuries during a longer time period.

Second, when one considers that 39% of people who survive the firearm injury are treated in the ED and released, and 57% are treated in the ED and admitted to a hospital for further treatment,<sup>1</sup> the analysis of initial firearm hospitalizations alone by Spitzer and Weiser is not complete on its own, and may not truly capture the magnitude of all the costs associated with all the firearm injury–related morbidity. In this context, it is important to note that the total cost of firearm injury–associated ED visits from 2006 to 2010 in the country was reported to be \$88.6 billion, with an estimated average annual cost of \$17.7 billion.<sup>2</sup> Therefore, the total annual costs of treating nonfatal firearm injury that includes both ED use and hospitalization during the acute phase alone is roughly \$18.4 billion, and is in fact driven by costs associated with care received in the ED.

### ABOUT THE AUTHORS

*Bindu Kalesan is with the Center for Clinical Translational Epidemiology and Comparative Effectiveness Research, Preventive Medicine and Epidemiology, Department of Medicine and Community Health Science, Boston University School of Medicine and School of Public Health, Boston, MA.*

*Correspondence should be sent to Bindu Kalesan, Assistant Professor of Medicine and Community Health Science, Boston University School of Medicine, Center for Translational Epidemiology and Comparative Effectiveness Research, 801 Massachusetts Ave #475, Boston, MA 02118 (e-mail: kalesan@bu.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.*

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## FIREARM VIOLENCE SURVIVORSHIP

The results reported by Spitzer and Weiser lead to several questions that require a focus on medical care and costs related to firearm violence survivorship. First, what are the short- and long-term health and disease consequences of firearm injury, and the costs associated with treatment of these consequences? Second, are there different profiles of firearm injury on the basis of the location (body region) of the injury sustained and its severity, and whether the cost of treatment differs on the basis of these varying clinical profiles of firearm injury? Third, are there age-, gender-, intent-, and race/ethnicity-specific differences in treatment and costs related to the acute phase (ED and hospitalization) of firearm injury? Fourth, are there

differences in survival after the acute phase of hospitalization based on the age, gender, race/ethnicity, intent, body region location, and the severity of injury? Fifth, when we consider the enormous cost of firearm violence mainly attributable to treatment of nonfatal injuries, what is the role of nonfatal firearm injuries and firearm injury survivorship in a societal context and within the framework of the public, political, and policy research and debates surrounding firearm violence in our country?

## AN IMMENSE ECONOMIC BURDEN

In conclusion, the report by Spitzer and Weiser indicates an immense economic burden related to the acute-phase

treatment of the most severe, nonfatal firearm injury, which, in the context of high and increasing rates of nonfatal firearm injuries, suggests the need for a multipronged approach for the prevention and the treatment of firearm injuries. Most importantly, adequate funding should be made available for firearm violence research, particularly in the field of firearm violence survivorship, because of the heavy economic burden posed by nonfatal firearm injury. *AJPH*

*Bindu Kalesan, PhD, MPH*

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# Public Health Communications: Lessons Learned From the Affordable Care Act

 See also Gollust et al., p. 687.

During my tenure serving under four Assistant Secretaries of Health at the US Department of Health and Human Services, one of the most important pieces of advice I received was to remember that the term “public health” was made up of two words. For public health practitioners, the “health” part is rather straightforward; remaining up to date on evidence-based and scientifically sound health practices is critical. It is the “public” part that is often more difficult for practitioners to continuously gauge and requires both astute listening skills and empathy. For without the public

being on board with specific public health practices or policies, it is quite difficult for any public health program to achieve its maximum health impact.

This task of communicating public health practices and ensuring bidirectional information flow is not new to public health practitioners. However, it can be even more challenging when one is dealing with politically charged issues such as climate change and needle exchange programs. Vaccination policy is another subject that requires health practitioners to engage segments of the population—in this case, vaccine

skeptics—in a way that presents the clear science but with empathy.

## EXPERIENCE WITH THE AFFORDABLE CARE ACT

Perhaps the most recent case study with respect to communicating a politically charged public health program involves the Affordable Care Act (ACA). Although designed with

noble intentions to improve the accessibility, affordability, and quality of health care, the law was ultimately passed in 2009 on a party-line vote with the added benefit of a budget reconciliation process. Since then, the uninsured rate has declined by 43%, from 16.0% in 2010 to 9.1% in 2015, and there is evidence of improvement with respect to both financial security and health status.<sup>1</sup>

In spite of this progress, public opinion of the ACA, according to Kaiser Family Foundation health tracking polls, was unfazed between 2010 and 2016, with roughly 40% of the public having a favorable view of the

## ABOUT THE AUTHOR

Anand K. Parekh is with the Bipartisan Policy Center, Washington, DC.

Correspondence should be sent to Anand K. Parekh, Chief Medical Advisor, Bipartisan Policy Center, 1225 Eye St, Suite 1000, Washington, DC 20201 (e-mail: [aparekh@bipartisanpolicy.org](mailto:aparekh@bipartisanpolicy.org)). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

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