

A new study reveals the economic burden of gun violence

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A study led by Christopher Marrero, MD, Associate Professor of Clinical Orthopedic Surgery at LSU Health New Orleans School of Medicine, reports that the net loss for treating acute firearm injuries at

one Level I Trauma Center was \$20.3 million over a four-year period. The results are published online in the *American Journal of Preventive Medicine*.

"Firearm injuries continue to plague the US as a serious public health problem, causing preventable death, illness, and disability," notes Dr. Marrero. "They also continue to result in a major economic burden."

The research team conducted a retrospective study of patients with acute gunshot wounds admitted to the LSU Health New Orleans Affiliate Level 1 Trauma Center, University Medical Center New Orleans, from January 2016 to December 2019. A total of 2,094 patients met the criteria of acute firearm injury and were included in the analysis. Injuries included those caused by accidents, intentional self-harm, assault, legal intervention, and undetermined causes.

The researchers tabulated the estimated costs and losses using the hospital cost-to-charge ratio. The estimated cost associated with treatment was \$37,602,667. The total payment collected by the hospital was \$17,293,655, resulting in a net loss of \$20,309,012 over the four years.

"When victims of firearm-related injuries are unable to pay their [medical expenses](#), the hospitals write off unpaid medical bills as medical losses," Dr. Marrero explains. "In this study, Medicaid dominated the payer makeup. This can also result in losses because Medicaid reimbursement does not fully cover costs. Per the American Hospital Association, Medicaid paid hospitals, on average, 90 cents for every dollar spent by hospitals caring for Medicaid patients in 2019. Because taxpayers fund Medicaid as well as Medicare, they bear the economic burden of these [firearm injuries](#)."

The authors observe that non-fatal firearm injuries are highest in the

South, and Louisiana leads the US in the non-fatal firearm injury rate.

They stress that when examining the financial impact of gun violence, it is important to also consider the costs associated with nonacute care such as follow-up visits, rehabilitation, secondary outpatient surgeries, home health, and durable [medical equipment](#), which increase the total cost exponentially. The authors also point out economic burdens to society beyond medical expenses, including criminal justice expenditures, employer and work-loss costs, as well as intangible losses, such as diminished quality of life.

"The estimated costs presented in this study show only a fraction of the economic burden associated with [gun violence](#)," Dr. Marrero concludes. "In actuality, the financial impact of firearm injuries is much greater, and further research is necessary to find solutions for this public health issue."

More information: Christopher E. Marrero et al, The Economic Impact of Acute Firearm Injuries at a Trauma Center in New Orleans, *American Journal of Preventive Medicine* (2022). [DOI: 10.1016/j.amepre.2022.09.007](#)

Provided by Louisiana State University

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