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Costs of Fatal and Nonfatal Firearm Injuries in the United States, 2019 and 2020

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Abstract

Introduction: Firearm-related injuries are among the five leading causes of death for people ages 1–44 years in the U.S. The immediate and long-term harms of firearm injuries pose an economic burden on society. Fatal and nonfatal firearm injury costs in the U.S. were estimated providing up-to-date economic burden estimates.

Methods: Counts of nonfatal firearm injuries were obtained from the 2019–2020 Healthcare Cost and Utilization Project Nationwide Emergency Department Sample. Data on nonfatal injury intent were obtained from the National Electronic Injury Surveillance System – Firearm Injury Surveillance System. Counts of deaths (firearm underlying cause) were obtained from 2019–2020 multiple cause-of-death mortality data from the National Vital Statistics System. Analyses were conducted in 2023.

Results: The total nonfatal and fatal cost of firearm-related injuries for 2020 was $493.2 billion. Nonfatal firearm injuries and costs increased by 20% from 2019 to 2020. There are significant disparities in the cost of firearm deaths in 2019–2020, with non-Hispanic Black people, males, and young and middle-aged groups being most affected.

Conclusions: The majority of nonfatal firearm injury-related costs are attributed to hospitalization. These findings highlight the racial/ethnic differences in fatal firearm injuries and the disproportionate cost burden to urban areas. Addressing this important public health problem can help ameliorate the costs to our society of rising rates of firearm injuries.

Keywords

Firearm; cost; economic burden

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Introduction

Estimates of the economic burden of firearm injuries in the U.S. provide an important source of information for decision makers in making critical resource allocation determinations.[1] Firearm-related injuries are among the five leading causes of death for people ages 1–44 years in the U.S. and account for 7.9% of premature death or years of potential life lost before the age of 65 years.[2] In the U.S. 45,222 people died from a firearm-related injury in 2020.[2] Most of these deaths were firearm suicides (54%), reflecting the high case fatality rate when firearms are used in attempts. On average, more than twice as many people suffer nonfatal firearm-related injuries than die each year and most of these injuries are from assaults (76%), followed by unintentional injuries (19%).[3] Firearm-related deaths and nonfatal injuries are not distributed equally in the population or across communities. Young age (except in the case of firearm suicide where rates are highest among adults aged 70+), being male, race/ethnicity, and structural conditions such as poverty and income inequality are among some of the factors that distinguish population groups and communities most at risk of firearm-related injuries and deaths.[2, 4–6]

Firearm injuries are associated with a range of physical and mental health consequences with impacts that can be life-long for victims and their families[7] and that can also affect mental health and feelings of safety and security in communities.[8, 9] The immediate and long-term harms of firearm injuries also pose an economic burden on society. There is a broad literature on the costs of firearm injuries and cost of crime that use a variety of methods, perspectives, and include a range of cost categories.[10–12] Prior studies over the past 25 years have examined the costs of emergency department visits, hospitalization, and/or readmission for firearm injuries,[13–19] particularly in pediatric populations.[20–30] Many studies focus on nonfatal firearm injuries and associated cost burden on hospitals, the health care system, and insurers. Few studies cover societal costs for both nonfatal and fatal firearm injuries across population groups and there is a dearth of studies in recent decades that include quality-of-life estimates.

This study estimates 2019–2020 fatal and nonfatal firearm injury costs from gunshot wounds in the U.S., using the most recent data available and an incidence-based approach. The analysis is extended to measure the value of reduced quality of life for firearm injuries from gunshot wounds. The results provide current estimates of the economic burden of fatal and nonfatal firearm injuries from gunshot wounds in the U.S. The expanded valuation methods used provide the most recent economic accounting for medical and value of life estimates to date of the impact of firearm injuries.[31–34]

Methods

Counts of nonfatal firearm injuries from gunshot wounds (henceforth, firearm injuries) were obtained from the 2019–2020 Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS) database, the most recent data available. HCUP NEDS is the largest all-payer emergency department claims-based database and provides a nationally representative sample. Firearm injuries were classified using codes from the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM)

using an established surveillance definition.[35] Only initial firearm injuries due to gunshot wounds were included. Data were stratified by disposition (treated and released or admitted), and then by sex, age, hospital region, and urbanicity. Counts for nonfatal firearm injuries by race/ethnicity are not reported as the data source for nonfatal firearm injuries lacks reliable data on race/ethnicity. Weighted counts are reported. Data on intents (self-harm, assault, and unintentional) were obtained from the National Electronic Injury Surveillance System – Firearm Injury Surveillance System (NEISS-FISS), which assigns intent based on a narrative review of the health record. To determine the percentage of firearm injuries attributable to each intent, weighted NEISS-FISS counts for each intent were aggregated over 3 years (2017–2019; 2018–2020) and divided by the total number of weighted firearm injuries. The percentage for each intent was multiplied by the overall count from NEDS for 2019–2020 and reported as the number of firearm injuries per intent.

One-year medical costs per case were obtained from Peterson et al.[33] and reported by disposition and intent. One-year quality adjusted life year (QALY) losses per case were obtained from Miller et al.[34] and reported by disposition and intent. One-year work loss estimates were obtained from Peterson et al.[32] and reported by disposition. Medical costs, QALY losses, and work loss were summed to obtain an overall 1-year cost estimate by disposition and intent. The overall cost was then multiplied by the counts. Treated and released and admitted were summed to obtain an overall nonfatal cost estimate.

The number of people who died with firearm listed as an underlying cause of death was obtained from 2019–2020 multiple cause-of-death mortality data from the restricted-use National Vital Statistics System (NVSS). Firearm-related deaths were identified through International Classification of Diseases Codes, 10th Revision (ICD-10). Classification was conducted by mechanism and intent of injury according to the external cause of injury framework.[35] Data were stratified by sex, age, region, urbanicity, and race/ethnicity.

The median estimate for the value of a statistical life (VSL) was assigned to each death according to the age of the descendent,[36, 37] this methodology has been used in previous literature to assign value to life lost.[38–40] Medical costs associated with the fatality were assigned by location of the fatality.

As a sensitivity analysis, fatal costs are reported using the high estimate and low estimate for the VSL assigned according to age.[36, 37]

All estimates are reported in 2020 dollars. Analyses were conducted in 2023. This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy.

Results

The total cost of firearm related injuries and deaths in the U.S. for 2020 was $493.2 billion.

In 2019 there were an estimated 82,498 nonfatal firearm injuries and in 2020 there were an estimated 99,801 nonfatal firearm injuries (Table 1). In both 2019 and 2020, 55% of those injuries were treated and released (Appendix Table 1). Of these 78% were assaults in

2019–2020, 17% in 2019 and 18% in 2020 were unintentional injuries, and 4% in 2019 and 3% in 2020 were self-harm. The remaining injuries were unknown and legal intervention, comprising 0.9%. In 2019–2020 most nonfatal firearm injuries occurred in males, the South, and urban areas. Those aged 25–44 years comprised the largest proportion of nonfatal firearm injuries by age group, in 2019–2020. On average, a nonfatal firearm injury that was treated and released resulted in a cost of $29,234, while a hospitalized injury was $170,030. QALY losses accounted for a mean cost of $19,220 for an individual who was treated and released and $91,337 for an individual who was hospitalized (data not shown).

In 2019, the cost of all nonfatal firearm injuries was $7.58 billion dollars, with $6.24 billion occurring among those who were hospitalized (Table 2 and Appendix Table 4). Assaults accounted for $7.23 billion, with $5.9 billion for those who were hospitalized. Self-harm accounted for approximately $0.59 billion. In 2020, the cost of all nonfatal firearm injuries was $9.3 billion dollars, with $7.7 billion occurring among those who were hospitalized (Table 2 and Appendix Table 4). Assaults accounted for $8.89 billion, with $7.29 billion for those who were hospitalized. Self-harm accounted for approximately $0.67 billion. Among nonfatal injuries QALY loss exceeded the medical cost and work loss for both treated and released and hospitalized cases (Data not shown).

In 2019, there were 39,707 fatal firearm injuries and there were 45,222 fatal firearm injuries in 2020 (Table 3). From 2019 to 2020, there was a 13.9% increase in overall fatal firearm injuries which translated to a 15.5% increase in the estimate of fatal firearm injury costs. For both years, most firearm injuries were suicides (60.3% in 2019 and 53.7% in 2020), followed by homicide (36.3% in 2019 and 42.9% in 2020), whereas a small percentage were unintentional (1.2% in 2019–2020) or undetermined (0.9% in 2019–2020). The largest increase from 2019 to 2020 occurred in homicides (34.5%), corresponding to a 35.1% increase in the estimate of homicide costs.

Significant disparities exist in firearm deaths by race/ethnicity, sex, and age in 2019–2020. For firearm homicides, the number of deaths among non-Hispanic Black people exceeds that for Hispanic and non-Hispanic White people (Table 3). For firearm suicides, the number of deaths for Non-Hispanic White people exceeds that for other race/ethnic groups. For both firearm homicide and suicide, deaths among males exceed those for females. For firearm homicide, deaths predominate among those aged 10–44 years, while for firearm suicide, numbers are greatest among those aged 25 to 65 years and older.

The cost of all fatal firearm injuries was $418.8 billion in 2019 and $483.9 billion in 2020 (Table 4). In 2019, suicide accounted for $235.3 billion ($238.7 billion in 2020), homicide accounted for $168.0 billion ($227.0 billion in 2020), unintentional firearm deaths accounted for $5.7 billion ($6.6 billion in 2020), and firearm deaths of undetermined intent accounted for $4.0 billion ($4.8 billion in 2020). The age group with the highest total costs was 25–44 years. The racial/ethnic group with the highest total costs was non-Hispanic white people ($237.6 billion in 2019 and $245.7 billion in 2020), followed by non-Hispanic Black people ($121.6 billion in 2019 and $165.8 billion in 2020). These costs varied substantially by the type of firearm fatality. For firearm homicide, the highest costs were borne by non-Hispanic

Black people in 2019–2020. While for firearm suicide, the highest costs were borne by non-Hispanic White people.

When examining the cost burden by age group, race/ethnicity, and intent, it is young non-Hispanic Black people who bear a disproportionate share of the burden of firearm homicide costs. Firearm homicides among non-Hispanic Black people ages 10–44 years account for an estimated 54.1% of the costs of all homicides and 25.4% of the costs of all firearm deaths (Appendix Table 1).

The mean VSL per fatality was $10.7 million and the mean medical cost associated with a firearm fatality was $6,409 in 2020 (data not shown). Using both the low and high estimates as alternatives to the median estimate for VSL assigned according to age, the cost of all fatal firearm injuries was between $206.26 billion and $620.87 billion in 2019 and between $240.17 and $715.51 in 2020 (Appendix Table 5 and 6).

Discussion

In 2020, the combined lifetime costs for firearm-related deaths and annual costs of nonfatal firearm injuries were $493.2 billion. Firearm injuries in males, young and middle-aged adults have higher costs. The urban areas and the Southern region of the U.S. have higher costs than rural areas and the Northeast, Midwest, and West regions. The South has the highest age adjusted rate of firearm deaths with 17.0 per 100,000 in 2020 compared to 14.8 in the Midwest, 11.7 in the West and 7.3 in the Northeast.[41] Across all demographic and geographic categories, the majority of nonfatal costs are attributed to hospitalization, while the fatal costs are largely attributable to the VSL lost. The cost of fatal firearm injuries vastly outweighs the cost of nonfatal firearm injuries.

These findings are in line with the increase in overall fatal firearm injuries that has been documented by Kegler et al., 2022.[42] That study found that in 2020 firearm homicides increased by 35% from 2019.[42] The reasons for the increases in firearm deaths in 2020 are not yet well understood. However, the overall increase in firearm deaths in 2020 occurred among the backdrop of the global Covid-19 pandemic.[42–44] The pandemic was associated with disruptions in health, social, and emergency services that may have contributed to these widening disparities in firearm-related deaths and costs. In addition, other factors such as strains in law enforcement-community relations over the use of lethal force; increases in firearm purchases; and increases in intimate partner violence have also been described as potential explanations for the increase.[45–48]

These findings concur with recent research showing that assaults comprise the bulk of the nonfatal firearm injuries and costs.[49] Most current cost studies utilize NEDS and National Inpatient Sample (NIS) to determine the economic burden, however, these data sources underestimate assaults and overestimate unintentional firearm injuries.[15, 49–51] Hospital billing using the ICD-10-CM system has tended to skew towards classifying injuries as accidents. The nonfatal intent data from NEISS-FISS have been found to provide a more accurate estimation of the distribution of nonfatal firearm injuries, with approximately 79% resulting from assault/legal intervention.[52] A previous study used NEISS-FISS to assign

intent to HCUP cases using multiple imputation, demonstrating the usefulness of the NEISS data for intent.[53] The current study looks to address this issue by using HCUP for case counts, but applying the intents based on NEISS-FISS.

Prior estimates of the cost of firearm injuries have been limited in several ways. First, previous cost estimates utilized data sources, such as the HCUP NEDS or NIS, that, as noted, use ICD-10-CM coding that provides an inaccurate distribution of nonfatal firearm injuries by intent and, therefore, complicates the interpretation of cost estimates.[15, 49, 52, 54, 55] In addition, prior studies sometimes include medical costs but fail to include any VSL lost or QALY lost. As is demonstrated in this study, the bulk of the cost associated with firearm injuries does not come from the medical costs, but rather from lost VSL and reduced quality of life. Recent estimates of the cost of firearm injuries use data from 2010–2011 to estimate medical cost, using the previous version of the CDC Web-based Injury Statistics Query and Reporting System injury cost tool.[56]

These findings not only highlight the racial/ethnic differences in firearm injuries, but they also document the disproportionate cost burden. The consistent and pervasive racial/ethnic disparities in homicide reported here and elsewhere may be the result of multiple factors.[42, 57] Historical systemic inequities in American life and structural racism have resulted in severely restricted economic, housing, and educational opportunities for disadvantaged racial/ethnic groups and are associated with unequal risk for violence.[58] Urban areas and the southern region of the U.S., have higher proportionate concentrations of racial/ethnic minorities residents and rates of firearm homicide and poverty have remained persistently high.[57] Non-Hispanic White men have consistently had the highest rates of firearm suicide in the U.S..[2] Factors associated with high firearm suicide rates in this population include living in rural areas [59] where options for mental and behavioral healthcare services are more limited and economic pressures, substance misuse, and access to firearms are highly prevalent.[60–62]

Reviews of the evidence suggest several strategies that can potentially impact firearm-related outcomes or important risk and protective factors for firearm-related injury and death. [61, 63–67] These include intervention and preventive measures such as the following:

- Strategies to reduce access to lethal means among persons at risk of harming themselves or others.[68] Research suggests that waiting periods, and policies limiting access to firearms by persons under a restraining order for intimate partner violence are associated with reductions in some types of firearm injuries.[67, 69, 70]
- There is evidence that strengthening economic supports, access to and delivery of care, and teaching coping and problem-solving skills can reduce the risk of suicide. [61, 66]
- Reviews of the evidence suggest that street outreach approaches, hospital-based programs, place-based interventions and creating green spaces can reduce the risk for firearm deaths. [64, 71–74]

- Policies that address structural conditions and inequities in risk by strengthening household financial security through tax credits, childcare subsidies, temporary assistance to families, livable wages and improving access to high-quality early childhood education have demonstrated positive effects on important risk factors for firearm homicide.[75–80]
- Other measures—including parent/family-based approaches, mentoring, after-school programs, and universal school-based programs that teach life skills to build positive and nurturing relationships, environments, and opportunities are associated with reductions in youth violence, crime, and youth suicide.[64, 66, 81]

Limitations

This study is subject to several limitations. First, the classification of fatalities by intent may be over or underestimated due to anomalies in death certificate coding.[55, 82, 83] Unintentional firearm deaths, in particular, may be misclassified and underreported as some studies have noted.[50, 55, 84] However, unintentional firearm deaths accounted for less than two percent of all firearm fatalities in 2020 and so the impact of this problem on the overall classification of firearm fatalities by intent is negligible. Second, the estimated costs for nonfatal injuries are likely underestimates as they do not include categories such as travel costs to follow-up appointments and time lost by family members who may be caregivers, items which likely burden disadvantaged racial/ethnic populations more than other populations. Additionally, these estimates do not include costs of treating disabilities due to the firearm injury, such as spinal cord injuries which may lead to paralysis, nor do they include other types of cost associated with the disabilities, such as transportation, medical equipment, specialized therapy, and caregiving. Furthermore, the nonfatal injuries have a one-year time horizon, and many firearm injuries may have medical costs and decreases in QALYs that extend beyond a year such as those that lead to permanent disabilities. Therefore, the estimates of the nonfatal firearm costs are conservative. Criminal justice costs are not included as the criminal justice costs of firearm injuries cannot be separated from the total cost of firearm-related crimes.[85] Person-level intangible costs (e.g., pain and suffering) and societal-level costs (e.g., investments in infrastructure and safety systems) attributable to firearm injuries are similarly not included. Due to these omissions, this study cannot be considered as taking a fully societal perspective. For a nuanced discussion of the overall burden of firearms and the social cost of the criminal misuse of guns, see Cook (2020).[86] This study takes a societal perspective within the categories of costs and timeframes that are included. Finally, not all individual cost estimates are specific to firearms, such as nursing care costs, which may result in an under or overestimate due to the imprecision of individual cost components.

Conclusions

The findings of this study underscore the importance of prevention to save lives and reduce the pain and suffering victims of firearm injuries and their families experience as well as the substantial value lost to society and reduced quality of life from firearm-related injuries and deaths. Addressing the public health issues of firearm-related injury and death can ameliorate the costs to our society of rising rates of firearm injuries. This includes protecting

young lives by ensuring a strong start, creating the conditions where all can thrive, and providing the skills, opportunities, and supports to live a life free from firearm injury. Doing otherwise comes at a high cost to the Nation.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1:

Estimated Counts of Nonfatal Firearm[a] Injuries by Intent, 2019 and 2020

	All[b]		Assault		Self-harm		Unintentional	
	Number		Number		Number		Number	
Demographics	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**
Total	82,498	99,801	64,266	78,044	2,970	3,293	14,437	17,565
Sex[c]								
Male	71,266	85,705	55,516	67,021	2,566	2,828	12,472	15,084
Female	11,138	14,038	8,677	10,978	--	--	1,949	2,471
Age group (years)[d]								
0–9	--	1,276	--	--	--	--	--	--
10–24	30,985	37,616	24,137	29,416	--	1,241	5,422	6,620
25–44	37,364	45,804	29,107	35,819	1,345	1,512	6,539	8,062
45–64	10,705	11,783	8,339	9,214	--	--	1,873	2,074
65+	2,821	3,313	2,198	2,591	--	--	--	--
Region								
Northeast	5,288	8,701	4,119	6,804	--	--	--	1,531
Midwest	18,659	22,317	14,535	17,452	--	--	3,265	3,928
South	46,502	48,180	36,225	37,677	1,674	1,590	8,138	8,480
West	12,049	20,603	9,386	16,112	--	--	2,109	3,626
Urbanicity[e]								
Urban	68,660	83,996	53,486	65,685	2,472	2,772	12,016	14,783
Rural	12,947	14,231	10,086	11,129	--	--	2,266	2,505

Source: Counts of nonfatal firearm injuries were obtained from the 2019 and 2020 Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS) database. Data on intents (self-harm, assault, and unintentional) were obtained from the National Electronic Injury Surveillance System – Firearm Injury Surveillance System (NEISS-FISS) 2017–2019 and 2018–2020, and the proportions were applied to the counts of nonfatal HCUP data.

Note: -- indicates suppressed value where the weighted count is <1,200

[a]ICD-10-CM codes used were: W32, W33, W34.00, W34.09, W34.10, W34.19, X72, X73, X74.8, X74.9, X93, X94, X95.8, X95.9, Y22, Y23, Y24.8, Y24.9, Y35.00-Y35.03, Y35.09, Y36.42, Y36.43, Y36.92, Y37.42, Y37.43, Y37.92, Y38.4; Seventh digit ‘A’ or missing.

[b] Includes Assault, Self-harm, Unintentional, Undetermined, and Legal Intervention

[c] 94 injuries were missing sex

[d] 4 injuries were missing age

[e] 891 injuries were missing urbanicity

Table 2:

Estimated Cost of Nonfatal Firearm[a] Injuries by Intent in Billions, 2019 and 2020

	All[b]		Assault		Self-harm		Unintentional	
	Cost ($)		Cost ($)		Cost ($)		Cost ($)	
Demographics	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**
Total	$7.58	$9.30	$7.23	$8.89	$0.59	$0.67	$1.14	$1.40
Sex								
Male	$6.58	$8.09	$6.27	$7.73	$0.52	$0.59	$0.99	$1.22
Female	$0.99	$1.20	$0.95	$1.15	--	--	$0.15	$0.18
Age group (years)								
0–9	--	$0.13	--	--	--	--	--	--
10–24	$2.76	$3.47	$2.63	$3.32	--	$0.25	$0.42	$0.52
25–44	$3.48	$4.31	$3.31	$4.12	$0.27	$0.31	$0.52	$0.65
45–64	$1.01	$1.09	$0.97	$1.05	--	--	$0.15	$0.16
65+	$0.27	$0.29	$0.26	$0.28	--	--	--	--
Region								
Northeast	$0.48	$0.86	$0.46	$0.82	--	--	--	$0.13
Midwest	$1.71	$1.94	$1.63	$1.86	--	--	$0.26	$0.29
South	$4.22	$4.49	$4.03	$4.30	$0.33	$0.33	$0.64	$0.68
West	$1.17	$2.01	$1.11	$1.92	--	--	$0.17	$0.30
Urbanicity								
Urban	$6.27	$7.79	$5.98	$7.45	$0.49	$0.56	$0.94	$1.17
Rural	$1.21	$1.33	$1.15	$1.27	--	--	$0.18	$0.20

Source: Counts of nonfatal firearm injuries were obtained from the 2019 and 2020 Healthcare Cost and Utilization Project (HCUP) Nationwide Emergency Department Sample (NEDS) database. Data on intents (self-harm, assault, and unintentional) were obtained from the National Electronic Injury Surveillance System – Firearm Injury Surveillance System (NEISS-FISS) 2017–2019 and 2018–2020, and the proportions were applied to the counts of nonfatal HCUP data.

Note: In 2020 U.S. Dollars; -- indicates suppressed value where the weighted count is <1,200

[a]ICD-10-CM codes used were: W32, W33, W34.00, W34.09, W34.10, W34.19, X72, X73, X74.8, X74.9, X93, X94, X95.8, X95.9, Y22, Y23, Y24.8, Y24.9, Y35.00-Y35.03, Y35.09, Y36.42, Y36.43, Y36.92, Y37.42, Y37.43, Y37.92, Y38.4

[b]Includes Assault, Self-harm, Unintentional, Undetermined, and Legal Intervention

Table 3:

Counts of Fatal Firearm[a] Injuries by Intent, 2019 and 2020

	All[b]		Homicide		Suicide		Unintentional		Undetermined	
Demographics	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**
Total	39,707	45,222	14,414	19,384	23,941	24,292	486	535	346	400
Sex										
Male	34,041	38,981	12,127	16,428	20,725	21,180	436	474	257	312
Female	5,666	6,241	2,287	2,956	3,216	3,112	50	61	89	88
Age group (years)[c]										
0–9	168	257	125	176	0[d]	0[d]	35	63	8[d]	18[d]
10–24	7,779	9,940	4,483	6,184	2,972	3,397	144	159	110	125
25–44	14,394	17,480	7,158	9,698	6,694	7,116	131	157	113	143
45–64	10,398	10,409	2,183	2,775	7,882	7,307	114	101	82	79
65+	6,965	7,135	464	550	6,392	6,472	62	55	32	35
Region										
Northeast	3,584	4,145	1,277	1,883	2,220	2,154	29	38	19[d]	19[d]
Midwest	8,552	10,040	3,170	4,568	5,145	5,194	92	110	69	92
South	19,043	21,552	7,579	9,772	10,797	11,064	279	298	190	196
West	8,528	9,485	2,388	3,161	5,779	5,880	86	89	68	93
Urbanicity										
Urban	32,478	37,391	12,774	17,288	18,672	18,902	329	378	275	311
Rural	7,229	7,831	1,640	2,096	5,269	5,390	157	157	71	89
Race/Ethnicity[e]										
Hispanic	4,058	5,003	2,301	2,947	1,534	1,790	60	62	46	70
American Indian or Alaska Native, non-Hispanic	640	627	228	227	381	374	9[d]	7[d]	1[d]	9[d]
Asian or Pacific Islander, non-Hispanic	385	522	172	221	183	267	7[d]	12[d]	3[d]	5[d]
Black or African American, non-Hispanic	10,395	14,119	8,499	11,922	1,588	1,852	116	134	77	100
White, non-Hispanic	24,151	24,870	3,193	4,052	20,202	19,962	294	320	218	215

Source: Counts were obtained from the multiple cause-of-death mortality data 2019 and 2020 from the restricted-use National Vital Statistics System (NVSS) of the National Center for Health Statistics (NCHS).

[a] ICD-10 codes used were: W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0, *U01.4

[b] Includes Assault, Self-harm, Unintentional, Undetermined, and Legal Intervention

[c] 3 observations with missing age in 2019 and 1 observation with missing age in 2020

[d] indicates an unstable value (<20 deaths)

[e] 78 observations in 2019 and 81 in 2020 with missing race/ethnicity

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Table 4:

Estimated Costs of Fatal Firearm[a] Injuries by Intent in Billions, 2019 and 2020

	All[b]		Homicide		Suicide		Unintentional		Undetermined	
Demographics	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**
Total	$418.88	$483.90	$167.99	$227.03	$235.27	$238.67	$5.71	$6.57	$4.02	$4.75
Sex										
Male	$356.98	$415.14	$142.05	$193.16	$201.24	$205.80	$5.10	$5.81	$2.97	$3.76
Female	$61.91	$68.76	$25.94	$33.87	$34.03	$32.87	$0.60	$0.76	$1.05	$1.00
Age group (years)[c]										
0–9	$3.03	$4.63	$2.25	$3.17	$0.00[d]	$0.00[d]	$0.63	$1.14	$0.14[d]	$0.32[d]
10–24	$99.07	$126.76	$56.52	$78.48	$38.24	$43.51	$1.99	$2.20	$1.47	$1.69
25–44	$164.19	$199.39	$81.66	$110.64	$76.34	$81.16	$1.50	$1.79	$1.29	$1.63
45–64	$118.58	$118.71	$24.90	$31.66	$89.88	$83.32	$1.30	$1.15	$0.94	$0.90
65+	$34.02	$34.41	$2.66	$3.08	$30.81	$30.69	$0.29	$0.30	$0.18	$0.21
Region										
Northeast	$37.13	$43.70	$14.80	$22.04	$21.36	$20.44	$0.30	$0.42	$0.22[d]	$0.21[d]
Midwest	$91.47	$108.59	$37.44	$53.83	$51.20	$51.43	$1.14	$1.36	$0.83	$1.12
South	$202.51	$232.72	$88.13	$114.35	$106.72	$109.81	$3.28	$3.71	$2.17	$2.36
West	$87.77	$98.89	$27.63	$36.81	$55.98	$56.99	$1.00	$1.08	$0.81	$1.07
Urbanicity										
Urban	$345.44	$403.83	$149.12	$202.94	$184.26	$186.70	$3.99	$4.73	$3.22	$3.71
Rural	$73.44	$80.06	$18.88	$24.09	$51.01	$51.97	$1.72	$1.85	$0.81	$1.05
Race/Ethnicity[e]										
Hispanic	$47.28	$58.48	$27.34	$35.18	$17.25	$20.10	$0.76	$0.81	$0.57	$0.86
American Indian or Alaska Native, non-Hispanic	$7.27	$7.08	$2.65	$2.61	$4.25	$4.16	$0.12[d]	$0.09[d]	$0.02[d]	$0.11[d]
Asian or Pacific Islander, non-Hispanic	$4.44	$6.01	$1.99	$2.59	$2.11	$3.01	$0.07[d]	$0.15[d]	$0.04[d]	$0.06[d]
Black or African American, non-Hispanic	$121.58	$165.75	$100.10	$140.48	$17.65	$20.73	$1.52	$1.78	$1.00	$1.28
White, non-Hispanic	$237.56	$245.72	$35.68	$45.80	$193.53	$190.20	$3.23	$3.74	$2.39	$2.44

Source: Counts were obtained from the multiple cause-of-death mortality data 2019 and 2020 from the restricted-use National Vital Statistics System (NVSS) of the National Center for Health Statistics (NCHS).

Note: In 2020 U.S. Dollars;

[a] ICD-10 codes used were: W32-W34, X72-X74, X93-X95, Y22-Y24, Y35.0, *U01.4

[b] Includes Assault, Self-harm, Unintentional, Undetermined, and Legal Intervention

[c] 3 deaths in 2019 and 1 death in 2020 were missing age and are not assigned costs

[d] indicates an unstable value (<20 deaths)

[e] 78 deaths in 2019 and 81 in 2020 were missing race/ethnicity and are assigned costs in the total cost category

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