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Unintentional injury deaths in children and youth, 2010–2019☆

Bethany A. West[*], **Rose A. Rudd**, **Erin K. Sauber-Schatz**, **Michael F. Ballesteros**

Division of Injury Prevention, National Center for Injury Prevention and Control, CDC, Atlanta, GA, United States

Abstract

Background: Unintentional injuries are the leading cause of death for children and youth aged 1–19 in the United States. The purpose of this report is to describe how unintentional injury death rates among children and youth aged 0–19 years have changed during 2010–2019.

***Method*:** CDC analyzed 2010–2019 data from the National Vital Statistics System (NVSS) to determine two-year average annual number and rate of unintentional injury deaths for children and youth aged 0–19 years by sex, age group, race/ethnicity, mechanism, county urbanization level, and state.

Results: From 2010–2011 to 2018–2019, unintentional injury death rates decreased 11% overall —representing over 1,100 fewer annual deaths. However, rates increased among some groups— including an increase in deaths due to suffocation among infants (20%) and increases in motor-vehicle traffic deaths among Black children (9%) and poisoning deaths among Black (37%) and Hispanic (50%) children. In 2018–2019, rates were higher for males than females (11.3 vs. 6.6 per 100,000 population), children aged < 1 and 15–19 years (31.9 and 16.8 per 100,000) than other age groups, among American Indian or Alaska Native (AIAN) and Blacks than Whites (19.4 and 12.4 vs. 9.0 per 100,000), motor-vehicle traffic (MVT) than other causes of injury (4.0 per 100,000), and rates increased as rurality increased (6.8 most urban [large central metro] vs. 17.8 most rural [non-core/non-metro] per 100,000). From 2010–2011 to 2018–2019, 49 states plus DC had stable or decreasing unintentional injury death rates; death rates increased only in California (8%)—driven by poisoning deaths.

Conclusion and Practical Application: While the overall injury death rates improved, certain subgroups and their caregivers can benefit from focused prevention strategies, including infants and Black, Hispanic, and AIAN children. Focusing effective strategies to reduce suffocation, MVT, and poisoning deaths among those at disproportionate risk could further reduce unintentional injury deaths among children and youth in the next decade.

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[*]Corresponding author.: bwest2@cdc.gov (B.A. West).

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Keywords

Child injury; Health equity; Rural/urban; Race/ethnicity

1. Introduction

Unintentional injuries are the leading cause of death for children and youth aged 1–19 years and the third leading cause of death for infants aged < 1 year (CDC, 2021). In 2019, 7,444 children and youth aged 0–19 years died from unintentional injuries. This equates to an average of 20 preventable deaths each day. In addition to the immeasurable burden on the victims' families and friends, these deaths resulted in more than $14 billion in medical and work loss costs (CDC, 2021).

Gilchrist, Ballesteros, and Parker (2012) previously reported on injury deaths among persons aged 0–19 from 2000 to 2009. During 2000–2009, there was a 29% decline in the unintentional injury death rate among children and youth aged 0–19 years. Despite this decline, the burden of unintentional injury deaths remained high among children and youth with more than 9,100 unintentional injury deaths occurring in 2009.

This report describes change in two-year average annual number and rate of unintentional injury deaths among children and youth aged 0–19 years from 2010–2019 in the United States, by sex, age group, race/ethnicity, mechanism, county urbanization level, and state.

2. Methods

Data on unintentional injury deaths among children and youth aged 0–19 years for the years 2010–2019 were obtained using Centers for Disease Control (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER). CDC WONDER provides a comprehensive collection of public-use data, including mortality data for U.S. residents obtained from the National Vital Statistics System. Mortality data are based on information from all death certificates filed in the 50 states and the District of Columbia and are provided to CDC's National Center for Health Statistics through the Vital Statistics Cooperative Program. Mortality data are coded according to the *International Classification of Diseases, Tenth Revision* (ICD-10). Unintentional injury deaths were defined as those with an underlying cause of death classified by ICD-10 external cause of injury codes as V01–X59 or Y85–Y86. Deaths were categorized by mechanism (cause) as drowning, fall, fire/burn, motor vehicle traffic-related, other transportation-related, poisoning, suffocation, and all other, using the external cause-of-injury mortality matrix (see https://www.cdc.gov/nchs/data/ice/icd10_transcode.pdf). Motor-vehicle traffic-related (MVT) deaths were divided further into categories of person-type: occupant (includes unspecified), pedestrian, pedal cyclist, and all other MVT deaths. Recent research provided evidence that unspecified person-type MVT crash deaths on death certificates are MVT occupants; therefore, these categories were combined for this analysis (Mack et al., 2019).

Overall unintentional injury deaths were analyzed by sex, age group (<1, 1–4, 5–9, 10–14, 15–19 years), race/ethnicity, county of residence urbanization level using the National

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Center for Health Statistics (NCHS) 2013 urban–rural classification scheme for counties (see https://www.cdc.gov/nchs/data_access/urban_rural.htm), and by state of residence and U.S. Department of Health and Human Services Region (see https://www.hhs.gov/about/agencies/iea/regional-offices/index.html). Specific mechanisms of injury death were examined within age groups, and by race/ethnicity and county urbanization level. Race/ethnicity was coded into five mutually exclusive categories: Hispanic (of any race), and four non-Hispanic racial groups (White, Black, American Indian or Alaska Native, and Asian or Pacific Islander). County urbanization was categorized into six levels: (1) large central metro: part of a metropolitan statistical area with ≥1 million population and covers a principal city; (2) large fringe metro: part of a metropolitan statistical area with ≥1 million population but does not cover a principal city; (3) medium metro: part of a metropolitan statistical area with ≥250,000 but <1 million population; (4) small metro: part of a metropolitan statistical area with <250,000 population; (5) micropolitan (non-metro): part of a micropolitan statistical area (has an urban cluster of ≥10,000 but <50,000 population); and (6) non-core (non-metro): not part of a metropolitan or micropolitan statistical area. Age-adjusted death rates per 100,000 population were calculated for all categories except for the age group-specific rates, for which crude rates were calculated. Average annual number and rate of unintentional injury deaths for children and youth aged 0–19 years were calculated for two years of data combined (2010–2011, 2012–2013, 2014–2015, 2016–2017, 2018–2019) to produce more stable estimates and rounded to one place after the decimal. Only the endpoint rates (i.e., 2010–2011, 2018–2019) were calculated for the injury mechanism deaths within age groups and by race/ethnicity and urbanicity level. To analyze change in rates over time, absolute and percent change from 2010–2011 to 2018–2019 were calculated using rates rounded to three places after the decimals. To determine statistical significance, a z-test was calculated for rates based on ≥100 total number of deaths during the two-year period. A p-value of <0.05 indicated statistical significance. For rates based on <100 deaths, significance at ≤0.05 level was determined from examination of overlapping 95% confidence intervals from a gamma distribution. Comparisons using words such as higher and lower imply a statistically significant result, with the exception of state and regional rate comparisons, which were made based on rank order.

3. Results

Overall unintentional injury rates among children and youth aged 0–19 years decreased 11% from 2010–2011 to 2018–2019, from 10.1 to 9.0 per 100,000 population (Table 1). An average of 7,406 children and youth died each year during 2018–2019, while 8,579 died on average each year during 2010–2011. However, during this time, death rates increased among children aged < 1 year (11%) and Black children (9%), and by mechanism of injury, deaths by suffocation increased (12%). In 2018–2019, death rates were higher for males than females (11.3 vs. 6.6 per 100,000 population), for children aged < 1 year (31.9 per 100,000) and 15–19 years (16.8 per 100,000) than other age groups, and for American Indian or Alaska Natives (AIAN) and Blacks than Whites (19.4 and 12.4 vs. 9.0 per 100,000, respectively). Rates of death from motor-vehicle traffic injuries were higher than all other causes of unintentional injury death (4.0 per 100,000), with the highest MVT subcategory rates in occupants (3.3 per 100,000). As county rurality level increased, rates

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increased (6.8 most urban [large central metro] vs. 17.8 most rural [non-core/non-metro] per 100,000).

The leading causes and rates of unintentional injury deaths varied significantly by age group (Table 2). In 2010–2019 among children aged < 1 year, suffocation was the leading cause of unintentional injury death (LCUID) (27.2 per 100,00 population), while drowning was the LCUID for children aged 1–4 years (2.6 per 100,000) and motor-vehicle traffic was the LCUID for children aged 5–9 (1.7 per 100,000), 10–14 (1.9 per 100,000), and 15–19 years (10.7 per 100,000). The rate of suffocation deaths among children aged < 1 year increased 20% from 2010–2011 to 2018–2019. Motor-vehicle death rates decreased by 13% in children aged 1–4 and 10–14 years, and by 18% in youth aged 15–19 years, while rates of death from fires and burns in children ages 1–4 years decreased by 28% and drowning death rates decreased by 21% in youth ages 15–19 years.

When examining causes of unintentional injury deaths by race/ethnicity, in 2018–2019, rates were highest among AIAN children, followed by Black children (8.7 and 4.9 per 100,000, respectively; Table 3). For suffocation deaths and drowning deaths, rates were highest and similar for AIAN and Black children. AIAN children had the highest rate of poisoning deaths, while API children had the lowest rates (1.8 and 0.3 per 100,000). Rates of fire/burn deaths were highest in Black children (0.6 per 100,000). For White children, death rates decreased from 2010–2011 to 2018–2019 for drowning (15%), fire/burn (19%), motor-vehicle traffic (24%), other transport (26%), and poisoning (24%). In contrast, death rates for Black children increased from 2010–2011 to 2018–2019 for motor-vehicle traffic (9%), poisoning (37%), and suffocation (21%). In White children aged 5–19 years, MVT death rates decreased by more than 20%, while rates in Black children aged 5–9 years increased by 35% (data not shown). For Hispanic children, poisoning death rates increased 50% from 2010–2011 to 2018–2019. While poisoning death rates in Whites aged 15–19 decreased (20%), rates increased among Hispanics aged 15–19 (53%) and Blacks aged 15–19 (60%), with the increases driven by drug poisoning deaths, which accounted for over 90% of the poisoning deaths in 2018–2019 (data not shown).

In 2018–2019, death rates in the most rural counties (non-core/non-metro) were higher than the most urban counties (large central metro) for all mechanisms examined except falls and poisonings (Table 4). From 2010–2011 to 2018–2019, drowning death rates had the greatest decreases in the most rural counties (non-core/non-metro) (24%). Motor-vehicle traffic death rates decreased in all classifications of urban and rural counties, with largest absolute rate decreases in rural counties (decreases of 1.4 and 1.9 per 100,000 in micropolitan [non-metro] and non-core [non-metro], respectively, compared to 0.3 per 100,000 in the most urban [large central metro]). Poisoning death rates decreased in many of the rural categories of counties. However, suffocation death rates increased as rurality increased (38% increase in the most rural [non-core/non-metro] vs. no change in rates in the most urban [large central metro]).

By geographic region, in 2018–2019 unintentional injury death rates in children and youth ranged from a high of 12.2 per 100,000 in the southern mid-west states (HHS Region 7: Iowa, Kansas, Missouri, and Nebraska) to a low of 4.5 per 100,000 in the mid-Atlantic states

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of New York and New Jersey (HHS Region 2) (Table 5). South Dakota had the highest unintentional injury death rate (18.3 per 100,000), followed by Louisiana (17.2 per 100,000). Massachusetts had the lowest death rate (3.4 per 100,000). The largest decreases in injury death rates were seen in HHS Region 3 (26%) (Delaware, DC, Maryland, Pennsylvania, Virginia, and West Virginia) and in the individual states of North Dakota (51%), followed by Utah (44%). Of 44 states with stable rates for one or more unintentional injury mechanisms, MVT deaths were the leading cause of unintentional injury death (LCUID) in 38 states, and in 5 states, MVT and suffocation were the LCUID (i.e., non-significant rate differences between the two mechanisms; data not shown, see https://wonder.cdc.gov/controller/saved/D76/D150F606). In Maine, the LCUID was suffocation. From 2010–2011 to 2018–2019, 49 states plus D.C. had stable or decreasing unintentional injury death rates; death rates increased only in California (8%) —driven mainly by poisoning deaths (data not shown).

4. Discussion

Overall unintentional injury death rates among children and youth aged 0–19 years decreased 11% from 2010–2019. Decreases were observed for the majority of mechanisms of unintentional injury examined, representing over 1,100 fewer annual deaths in children and youth from 2010–2011 to 2018–2019. Notable decreases were observed among youth aged 15–19 years and in rural counties, mainly attributed to a reduction in MVT deaths among White children. However, injury death rates increased among some groups—including suffocation among infants, MVT deaths among Black children, and poisoning deaths among Black and Hispanic children.

Suffocation death rates increased among infants by 20% and among Black children by 21% from 2010–2019. Moreover, the increasing rate of suffocation death rates in rural areas is a concerning finding. Previous research has identified several strategies effective at reducing suffocation deaths among infants. Safe sleep strategies effective at reducing unintentional suffocation among infants include placing infants to sleep on their backs, using a firm, flat surface with no soft or loose bedding, and sleeping in separate crib/bassinet within the same room as the parent(s)/caregiver(s) (AAP, 2016; Erck Lambert et al., 2019; Parks et al., 2021). The increase in suffocation death rates might represent a shift in reporting away from sudden infant death syndrome (SIDS) to suffocation (Erck Lambert, Parks, & Shapiro-Mendoza, 2018). Future research should seek to better understand how the shift in reporting impacts suffocation and SIDS death rates.

Overall, in 2018–2019 MVT was the LCUID among age groups of 5–9, 10–14, and 15–19 years and in most states (38 of 44 states with stable rates for one or more unintentional injury mechanisms, and tied with suffocation in an additional 5 states). Additionally, MVT death rates increased 35% from 2010–2011 to 2018–2019 among Blacks aged 5–9 years. Proper restraint use is critical to prevent injuries and deaths among children and youth in motor vehicle crashes. Booster seat use reduces the risk for serious injury by 45% for children aged 4–8, when compared with seat belt use alone (Arbogast et al., 2009). For older children and adults, seat belt use reduces the risk for death and serious injury by approximately half (NHTSA, 2020). Based on this evidence, *CDC recommends* that after

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children outgrow their forward-facing car seat, they should be buckled in a booster seat until seat belts fit properly without the use of a booster (i.e., when the lap belt lies across the upper thighs, not the stomach; and the shoulder belt lies across the center of the shoulder and chest, not on the neck/-face or off the shoulder). Strategies effective at increasing child restraint use and decreasing motor vehicle injuries and deaths among children include child passenger restraint laws, child safety seat distribution plus education programs, and community-wide information plus enhanced enforcement campaigns (Zaza et al., 2001; Ehiri et al., 2006; Richard et al., 2018). A study of states that expanded their booster seat laws to cover children through age 7 or 8 years found that the rate of child safety seat/booster seat use increased nearly three-fold, while the rate of fatal and incapacitating injuries decreased 17% (Eichelberger et al., 2012). However, only four states currently require children to use booster seats until at least age 9 (Louisiana, Tennessee, Washington, and Wyoming) (IIHS, 2021).

In addition to proper restraint use, comprehensive graduated drivers licensing (GDL) systems are effective at preventing injuries, deaths, and also crashes among older youth (Masten et al., 2015). GDL systems help new drivers gain experience under low-risk conditions by granting driving privileges in stages. There are five main components of comprehensive GDL systems including: (1) a minimum age of 16 years for learner's permits, (2) a mandatory holding period of at least 12 months for learner's permits, (3) nighttime driving restrictions between 10:00 pm and 5:00 am (or longer) for intermediate or provisional license holders, (4) a limit of zero or one young passenger who can ride with intermediate or provisional license holders without adult supervision, and (5) a minimum age of 18 years for unrestricted licensure. CDC has developed state cost fact sheets aimed at highlighting the cost of MVT deaths and which proven strategies can be considered to save lives and money in each state. https://www.cdc.gov/transportationsafety/statecosts/index.html

Overall poisoning deaths among Black and Hispanic children increased. Moreover, poisoning death rates, driven by drug overdose deaths, increased among Hispanics aged 15–19 (53%) and Blacks aged 15–19 (60%), while rates in Whites aged 15–19 decreased (20%). Previous reports have highlighted the increase in drug overdose deaths among adolescents aged 15–19 years (Curtin, Tejada-Vera, & Warner, 2017). However, poisoning deaths are preventable. Previous research has found that several factors can help protect youth from substance use including family engagement and support, parental disapproval of substance use, parental monitoring, and school connectedness (Murray & Farrington, 2010; Stone et al., 2012). Several programs have also been successful at decreasing substance misuse. For example, universal preventive interventions delivered through Promoting School-community-university Partnerships to Enhanced Resilience (PROSPER) programs and Communities that Care (CTC) systems have significantly decreased rates of adolescent and young adult substance misuse (Spoth et al., 2013; Spoth et al., 2017; Oesterle et al., 2018). As another example, Teens Linked to Care (TLC) is a promising pilot strategy for substance use prevention among adolescents TLC was a pilot program conducted from 2016–2018 by CDC in collaboration with the CDC Foundation and Conrad N. Hilton Foundation. TLC targeted school-based substance use prevention to rural communities in Austin, Indiana; Campbell County, Kentucky; and Portsmouth, Ohio. A quarter of students

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screened during TLC were referred to substance use treatment and more than a quarter received brief intervention from a healthcare provider. Finally, Pediatricians can implement the American Academy of Pediatrics (AAP) *Substance Use Screening and Intervention Implementation Guide: No Amount of Substance Use Is Safe for Adolescents*.

Despite the overall 11% decline in injury death rates among children and youth over the past decade, rates among some populations remained high. In 2018–2019, rates remained higher for males than females (11.3 vs. 6.6 per 100,000 population), children aged <1 and 15–19 years (31.9 and 16.8 per 100,000) than other age groups, AIAN and Blacks than Whites (19.4 and 12.4 vs. 9.0 per 100,000), MVT than other causes of injury (4.0 per 100,000), and rates increased as rurality increased (6.8 least rural vs. 17.8 most rural per 100,000). These findings are similar to previous research which has documented higher rates of injury death among males, AIAN children, Black children, and by MVT (Gilchrist, Ballesteros, & Parker, 2012). Of particular concern is that the disparity in injury death rates between Black and White children has increased. The disparity in injury death rates between Black and White children grew from 11% in 2009 (Gilchrist, Ballesteros, & Parker, 2012) to 37% in 2019. Implementing effective prevention strategies could help to address this disparity.

Findings are subject to at least three limitations. First, death data come from death certificates and misclassification errors can occur if mechanisms of death are not correctly specified. Second, death certificate data are subject to racial/ethnic misclassification bias, as race and ethnicity are usually determined by the medical examiner or coroner and not self-reported. Racial misclassification may underrepresent AIAN by up to 40% (CDC, 2016). Additionally, in 2018–2019, race/ethnicity was not reported for 25 decedents aged 0–19. This may have underestimated death rates for some race/ethnicity categories or mechanism and race/ethnicity categories where number of deaths were few in number. Third, factors other than those examined (e.g., the economy, safer cars, safer child safety/booster seats) might have contributed to the decrease in child injury death rates. This study was not able to account for changes in these factors.

Over the past decade, unintentional injury death rates among children and youth aged 0–19 years declined 11% – representing over 1,100 fewer deaths. While improvements were seen, certain subgroups and their caregivers could benefit from focused intervention, including infants and Black, Hispanic, and AIAN children. Focusing effective strategies to reduce suffocation, MVT, and poisoning deaths among those at disproportionate risk could further reduce unintentional injury deaths among children and youth in the next decade.

5. Disclaimer

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the CDC.

Biographies

Bethany West, MPH, has served as an epidemiologist on the Transportation Safety Team in the Injury Center since 2008. She works to prevent motor vehicle-related injuries and deaths among vulnerable populations including children, older adults, and minorities.

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Rose Rudd, MSPH, has served as a health scientist on the Transportation Safety Team in the Injury Center. Her work focus includes data linkage and preventing motor vehicle-related injuries and deaths.

Erin Sauber-Schatz, PhD, MPH, serves as the team lead of the Transportation Safety Team in the Division of Injury Prevention at CDC's Injury Center. As a team lead, she is responsible for overseeing CDC's transportation safety research and activities. The team's focus areas include impaired driving, data linkage, seat belt use, child passenger safety, and older adult mobility.

Dr. Michael F. Ballesteros, is the Deputy Associate Director for Science of the Division of Injury Prevention; National Center for Injury Prevention and Control, CDC. His research interests include injury surveillance systems, unintentional injuries, and global health. Dr. Ballesteros received a PhD in Epidemiology and is a graduate of CDC's Epidemic Intelligence Service (EIS) program.

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Table 1

Average annual number of unintentional injury deaths and death rates* among children and youth aged ≤ 19 years, by sex, age group, race/ethnicity, mechanism and county urbanization level — National Vital Statistics System, United States, 2010–2019.

	Average annual number of deaths		Death rate					Rate change from 2010–2011 to 2018–2019†		
Characteristic or injury mechanism	**2010–2011**	**2018–2019**	**2010–2011**	**2012–2013**	**2014–2015**	**2016–2017**	**2018–2019**	**Absolute change**	**Relative change (%)**	***p* value§**
United States overall	8,579	7,406	10.1	9.4	9.3	9.8	9.0	−1.1	−11	<0.001
Sex										
Male	5,662	4,749	13.0	12.0	12.1	12.5	11.3	−1.7	−13	<0.001
Female	2,917	2,658	7.1	6.7	6.5	7.1	6.6	−0.5	−7	<0.001
Age group										
<1 yr	1,137	1,217	28.6	29.5	30.9	32.1	31.9	3.3	11	<0.001
1–4 yrs	1,386	1,188	8.5	8.3	7.7	7.9	7.5	−1.1	−12	<0.001
5–9 yrs	760	724	3.7	3.6	3.6	3.7	3.6	−0.1	−4	0.267
10–14 yrs	880	735	4.3	3.8	3.7	4.1	3.5	−0.7	−17	<0.001
15–19 yrs	4,418	3,543	20.2	18.0	18.1	19.2	16.8	−3.4	−17	<0.001
Race/ethnicity¶										
American Indian/Alaska Native, non-Hispanic	198	158	22.5	20.6	19.0	20.5	19.4	−3.0	−13	0.054
Black, non-Hispanic	1,488	1,548	11.4	11.6	12.3	13.5	12.4	1.0	9	0.001
White, non-Hispanic	5,280	3,968	11.1	10.0	9.7	10.2	9.0	−2.1	−19	<0.001
Hispanic	1,424	1,523	7.4	7.2	7.3	7.7	7.5	0.1	1	0.661
Asian/Pacific Islander, non-Hispanic	166	198	3.9	4.1	3.9	4.0	4.1	0.2	6	0.457
Mechanism**										
Motor vehicle traffic††	4,065	3,348	4.7	4.4	4.3	4.6	4.0	−0.7	−15	<0.001
Occupant	3,284	2,692	3.8	3.5	3.5	3.6	3.3	−0.6	−15	<0.001
Pedestrian	532	447	0.6	0.6	0.6	0.7	0.5	−0.1	−15	<0.001
Pedal cyclist	89	69	0.1	0.1	0.1	0.1	0.1	−0.03	−25	0.019
Other	160	141	0.2	0.2	0.2	0.2	0.2	0.0	0	1.00
Suffocation	1,173	1,268	1.4	1.5	1.5	1.6	1.6	0.2	12	<0.001

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Characteristic or injury mechanism	Average annual number of deaths		Death rate					Rate change from 2010–2011 to 2018–2019†		
	2010–2011	2018–2019	2010–2011	2012–2013	2014–2015	2016–2017	2018–2019	Absolute change	Relative change (%)	*p* value§
Drowning	999	879	1.1	1.1	1.0	1.1	1.1	−0.1	−6	0.044
Poisoning	838	736	1.0	0.8	0.8	1.0	0.9	−0.1	−8	0.025
Other transportation	465	359	0.5	0.5	0.5	0.5	0.4	−0.1	−13	0.004
Fire/Burn	345	275	0.4	0.4	0.3	0.4	0.3	−0.1	−24	<0.001
Fall	133	98	0.1	0.2	0.1	0.1	0.1	−0.03	−25	0.005
All other	563	445	0.7	0.6	0.6	0.6	0.6	−0.1	−17	<0.001
County urbanization level§§										
Large central metro	1,851	1,717	7.2	6.9	7.0	7.4	6.8	−0.4	−5	0.03
Large fringe metro	1,703	1,483	8.2	7.4	7.3	8.1	7.2	−1.0	−13	<0.001
Medium metro	1,900	1,666	10.5	9.7	9.6	10.4	9.5	−1.0	−10	<0.001
Small metro	976	839	12.4	11.7	11.5	11.7	11.1	−1.3	−11	<0.001
Micropolitan (non-metro)	1,128	905	15.3	14.4	13.9	14.6	13.2	−2.1	−14	<0.001
Non-core (non-metro)	1,023	797	20.8	19.4	19.7	19.1	17.8	−3.0	−14	<0.001

Abbreviation: ns = not significant based on method of non-overlapping confidence intervals.

*Rates are age-adjusted using the 2000 U.S. non-standard population, except for the age-specific crude rates. All rates are per 100,000 population and are rounded to one decimal place.

†Absolute and relative change were calculated based on rates rounded to 3 places after the decimal and therefore might not match table calculations because of rounding.

§P value from z-test if rate based on ≥100 total number of deaths during the two-year period. For rates based on <100 deaths, significance at ≤0.05 level determined from examination of overlapping 95% confidence intervals from a gamma distribution.

¶Data for Hispanic origin should be interpreted with caution; studies comparing Hispanic origin on death certificates and on census surveys have shown inconsistent reporting on Hispanic ethnicity. Potential race misclassification might lead to underestimates for certain categories, primarily American Indian/Alaska Native non-Hispanic and Asian/Pacific Islander non-Hispanic decedents. https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf.

**Underlying cause of death mechanism classified by the International Classification of Diseases, 10th Revision (ICD-10) external cause of injury codes. Motor vehicle traffic: Occupant ([V30–V79](0.4–0.9), [V83–V86](0.0–0.3)), Unspecified , (V87(0.0–0.8), V89.2), Pedestrian ([V02–V04](0.1,0.9), V09.2), Other (including motorcyclist) ([V20–V28] (0.3–0.9), V29(0.4–0.9), V80(0.3–0.5), V81.1, V82.1), and Pedal cyclist ([V12–V14](0.3–0.9), V19(0.4–0.6)). Suffocation (W75–W84); Drowning (W65–W74); Poisoning (X40–X49); Other transportation (V01, [V02–V04](0.0), V05, V06, V09(0.0–0.1,0.3,0.9), V10–V11, [V12–V14](0.0–0.2), V15–V18, V19(0.0–0.3,0.8,0.9), [V20–V28](0.0–0.2), [V29–V79](0.0–0.3), V80(0.0–0.2,0.6–0.9), [V81–V82](0.0,0.2–0.9), [V83–V86](0.4–0.9), V87.9, V88(0.0–0.9), V89(0.0,0.1,0.3,0.9), V90–V99)); Fire/Burn (X00–X19); Fall (W00–W19). All other (mechanisms aggregated in table): cut or pierced (W25–W29, W45, W46), unintentional firearm (W32–W34), machinery (W24, W30–W31), natural and environmental (W42–W43, W53–W64, W92–W99, X20–X39, X51–X57), overexertion (X50), struck by or against (W20–W22, W50–W52), other specified (W23, W35–W41, W44, W49, W85–W91, Y85, X58,Y86), and unspecified (X59).

††Categorized by injured person. MVT occupant includes unspecified person-type.

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§§The six classification levels for counties were: 1) large central metro: part of a metropolitan statistical area with ≥1 million population and covers a principal city; 2) large fringe metro: part of a metropolitan statistical area with ≥1 million population but does not cover a principal city; 3) medium metro: part of a metropolitan statistical area with ≥250,000 but <1 million population; 4) small metro: part of a metropolitan statistical area with <250,000 population; 5) micropolitan (non-metro): part of a micropolitan statistical area (has an urban cluster of ≥10,000 but <50,000 population); and 6) non-core (non-metro): not part of a metropolitan or micropolitan statistical area.

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Table 2

Average annual number of unintentional injury deaths and death rates[*] among children and youth aged ≤19 years, by age group and mechanism — National Vital Statistics System, United States, 2010–2011 and 2018–2019.

	Average annual number of deaths			Death rate[†]		Rate change from 2010–2011 to 2018–2019[§]		
Age group and mechanism	**2010–2011**	**2018–2019**	**2018–2019 (%)**	**2010–2011**	**2018–2019**	**Absolute change**	**Relative change (%)**	**p value[¶]**
Total 0–19 years[**]	**8,579**	**7,406**		**10.1**	**9.0**	**−1.1**	**−11**	**<0.001**
<1 yr								
Total	1137	1,217		28.6	31.9	3.3	11	<0.001
Suffocation	901	1036	85.1	22.7	27.2	4.5	20	<0.001
Motor vehicle traffic	85	75	6.2	2.1	2.0	−0.2	−8	0.442
Drowning	46	37	3.0	1.1	1.0	−0.2	−16	ns
Fire/Burn	23	13	1.1	0.6	0.3	−0.2	−41	ns
Poisoning	11	11	0.9	0.3	0.3	0.02	9	ns
Fall	11	6	0.5	0.3	–	–	–	–
Other transportation	4	4	0.3	–	–	–	–	–
All other	58	37	3.0	1.5	1.0	−0.5	−34	<0.05
1–4 yrs								
Total	1,386	1,188		8.5	7.5	−1.1	−12	<0.001
Drowning	437	411	34.6	2.7	2.6	−0.1	−4	0.386
Motor vehicle traffic	337	287	24.2	2.1	1.8	−0.3	−13	0.013
Suffocation	139	126	10.6	0.9	0.8	−0.1	−8	0.348
Fire/Burn	141	100	8.4	0.9	0.6	−0.2	−28	<0.001
Other transportation	119	93	7.8	0.7	0.6	−0.2	−21	0.019
Poisoning	34	25	2.1	0.2	0.2	−0.1	−27	ns
Fall	24	20	1.7	0.1	0.1	−0.03	−17	ns
All other	156	129	10.9	1.0	0.8	−0.1	−15	0.048
5–9 yrs								
Total	760	724		3.7	3.6	−0.1	−4	0.267
Motor vehicle traffic	352	341	47.1	1.7	1.7	−0.04	−3	0.632
Drowning	131	132	18.2	0.6	0.7	0.01	1	0.902
Fire/Burn	85	85	11.7	0.4	0.4	0.003	1	0.947

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Age group and mechanism	Average annual number of deaths			Death rate[†]		Rate change from 2010–2011 to 2018–2019[§]		
	2010–2011	2018–2019	2018–2019 (%)	2010–2011	2018–2019	Absolute change	Relative change (%)	p value[¶]
Other transportation	67	54	7.5	0.3	0.3	−0.1	−18	0.116
Suffocation	33	32	4.4	0.2	0.2	−0.004	−3	ns
Fall	10	14	1.9	0.05	0.1	0.02	37	ns
Poisoning	15	13	1.8	0.1	0.1	−0.01	−13	ns
All other	68	56	7.7	0.3	0.3	−0.1	−18	0.13
10–14 yrs								
Total	880	735		4.3	3.5	−0.7	−17	<0.001
Motor vehicle traffic	445	390	53.1	2.1	1.9	−0.3	−13	0.005
Drowning	112	93	12.7	0.5	0.4	−0.1	−18	0.052
Other transportation	91	75	10.2	0.4	0.4	−0.1	−18	0.08
Fire/Burn	44	46	6.3	0.2	0.2	0.01	4	ns
Suffocation	46	36	4.9	0.2	0.2	−0.1	−23	ns
Poisoning	38	22	3.0	0.2	0.1	−0.1	−41	<0.05
Fall	18	9	1.2	0.1	–	–	–	–
All other	88	65	8.8	0.4	0.3	−0.1	−27	0.007
15–19 yrs								
Total	4,418	3,543		20.2	16.8	−3.4	−17	<0.001
Motor vehicle traffic	2,847	2,257	63.7	13.0	10.7	−2.3	−18	<0.001
Poisoning	742	666	18.8	3.4	3.2	−0.2	−7	0.055
Drowning	273	207	5.8	1.2	1.0	−0.3	−21	<0.001
Other transportation	185	134	3.8	0.8	0.6	−0.2	−25	<0.001
Fall	70	51	1.4	0.3	0.2	−0.1	−25	0.027
Suffocation	55	39	1.1	0.3	0.2	−0.1	−27	ns
Fire/Burn	53	32	0.9	0.2	0.1	−0.1	−38	<0.05
All other	194	159	4.5	0.9	0.8	−0.1	−15	0.029

Abbreviation: ns = not significant based on method of non-overlapping confidence intervals.

[*] Rates are crude rates per 100,000 population and are rounded to one decimal place. Overall rate is age-adjusted using the 2000 U.S. non-standard population.

[†] Death rates based on fewer than 20 deaths during the two-year period are suppressed due to unreliability.

[**] Average annual number of deaths by mechanism might not sum to age group totals due to rounding.

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[§] Absolute and relative change were calculated based on rates rounded to 3 decimal places and therefore might not match table calculations because of rounding.

[¶] P value from z-test if rate based on ≥100 total number of deaths during the two-year period. For rates based on <100 deaths, significance at ≤0.05 level determined from examination of overlapping 95% confidence intervals from a gamma distribution.

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Table 3

Average annual number of unintentional injury deaths and death rates* among children and youth aged ≤ 19 years, by mechanism of injury and race/ethnicityy† — National Vital Statistics System, United States, 2010–2011 and 2018–2019.

	Average annual number of deaths			Death rate§		Rate change from 2010–2011 to 2018–2019¶		
Mechanism of injury and race/ethnicity	**2010–2011**	**2018–2019**	**2018–2019 (%)**	**2010–2011**	**2018–2019**	**Absolute change**	**Relative change (%)**	***p* value****
Motor vehicle traffic	4,065	3,348		4.7	4.0	−0.7	−15	<0.001
American Indian/Alaska Native	97	71	2.1	10.9	8.7	−2.2	−20	0.042
Black	596	617	18.4	4.5	4.9	0.4	9	0.033
White	2,554	1,792	53.5	5.3	4.0	−1.3	−24	<0.001
Hispanic	736	785	23.4	3.9	3.9	−0.1	−2	0.658
Asian/Pacific Islander	73	82	2.4	1.7	1.7	−0.1	−3	0.789
Suffocation	1,173	1,268		1.4	1.6	0.2	12	<0.001
American Indian/Alaska Native	26	30	2.4	2.9	3.6	0.7	25	ns
Black	342	398	31.4	2.7	3.2	0.5	21	<0.001
White	610	625	49.3	1.4	1.4	0.1	6	0.124
Hispanic	165	178	14.0	0.8	0.9	0.1	8	0.33
Asian/Pacific Islander	25	34	2.7	0.5	0.7	0.2	32	ns
Drowning	999	879		1.2	1.1	−0.1	−6	0.044
Black	232	219	24.9	1.8	1.8	−0.02	−1	0.893
American Indian/Alaska Native	15	14	1.6	1.7	1.7	0.04	2	ns
White	529	428	48.7	1.2	1.0	−0.2	−15	<0.001
Hispanic	192	177	20.1	1.0	0.9	−0.1	−12	0.080
Asian/Pacific Islander	30	39	4.4	0.7	0.8	0.1	14	ns
Poisoning	838	736		1.0	0.9	−0.1	−8	0.025
American Indian/Alaska Native	23	15	2.0	2.5	1.8	−0.8	−30	ns
White	639	464	63.0	1.3	1.0	−0.3	−24	<0.001
Hispanic	104	167	22.7	0.6	0.8	0.3	50	<0.001
Black	60	75	10.2	0.4	0.6	0.2	37	0.011
Asian/Pacific Islander	11	15	2.0	0.2	0.3	0.1	24	ns
Other transportation	465	359		0.5	0.4	−0.1	−13	0.004
American Indian/Alaska Native	17	12	3.3	1.9	1.5	−0.4	−22	ns

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Mechanism of injury and race/ethnicity	Average annual number of deaths			Death rate[§]		Rate change from 2010–2011 to 2018–2019[¶]		
	2010–2011	2018–2019	2018–2019 (%)	2010–2011	2018–2019	Absolute change	Relative change (%)	*p* value[**]
White	326	224	62.4	0.7	0.5	−0.2	−26	<0.001
Black	36	45	12.5	0.3	0.4	0.1	43	ns
Hispanic	80	68	18.9	0.4	0.3	−0.1	−20	0.067
Asian/Pacific Islander	7	9	2.5	–	–	–	–	–
Fire/burn	345	275		0.4	0.3	−0.1	−24	<0.001
Black	98	77	28.0	0.8	0.6	−0.1	−17	0.076
White	194	145	52.7	0.4	0.3	−0.1	−19	0.008
Hispanic	43	46	16.7	0.2	0.2	−0.003	−1	ns
American Indian/Alaska Native	7	5	1.8	–	–	–	–	–
Asian/Pacific Islander	4	3	1.1	–	–	–	–	–
Fall	133	98		0.1	0.1	−0.03	−25	0.005
White	83	58	59.2	0.2	0.2	−0.03	−14	0.223
Black	19	14	14.3	0.1	0.1	−0.02	−13	ns
Hispanic	22	20	20.4	0.1	0.1	−0.04	−36	ns
American Indian/Alaska Native	3	3	3.1	–	–	–	–	–
Asian/Pacific Islander	6	3	3.1	–	–	–	–	–
All other mechanisms	563	445		0.7	0.6	−0.1	−17	<0.001
American Indian/Alaska Native	14	10	2.2	1.5	1.2	−0.3	−21	ns
Black	107	104	23.4	0.8	0.9	0.03	3	0.733
White	347	233	52.4	0.7	0.5	−0.2	−29	<0.001
Hispanic	84	82	18.4	0.4	0.4	−0.1	−12	0.242
Asian/Pacific Islander	13	15	3.4	0.3	0.3	0.01	3	ns

Abbreviation: ns = not significant based on method of non-overlapping confidence intervals.

[*] Rates are age-adjusted using the 2000 U.S. non-standard population. All rates are per 100,000 population and rounded to one decimal place.

[†] Hispanics, who might be of any race, were not included in any of the racial categories. Data for Hispanic origin should be interpreted with caution; studies comparing Hispanic origin on death certificates and on census surveys have shown inconsistent reporting on Hispanic ethnicity. Potential race misclassification might lead to underestimates for certain categories, primarily American Indian/Alaska Native non-Hispanic and Asian/Pacific Islander non-Hispanic decedents. https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf.

[**] *P* value from z-test if rate based on ≥100 total number of deaths during the two-year period. For rates based on <100 deaths, significance at ≤0.05 level determined from examination of overlapping 95% confidence intervals from a gamma distribution.

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[§]Death rates based on fewer than 20 deaths during the two-year period are suppressed due to unreliability.

[¶]Absolute and relative change were calculated based on rates rounded to 3 places after the decimal and therefore might not match table calculations because of rounding.

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Table 4

Average annual number of unintentional injury deaths and death rates* among children and youth aged ≤19 years, by mechanism of injury and urbanicity level of county of residence — National Vital Statistics System, United States, 2010–2011 and 2018–2019.

Mechanism of injury and urbanicity level of county of residence¶	Average annual number of deaths			Death rate†		Rate change from 2010–2011 to 2018–2019§		
	2010–2011	2018–2019	2018–2019 (%)	2010–2011	2018–2019	Absolute change	Relative change (%)	*p* value**
Motor vehicle traffic	4,065	3,348		4.7	4.0	−0.7	−15	<0.001
Large central metro	779	689	20.6	3.1	2.8	−0.3	−9	0.009
Large fringe metro	794	675	20.2	3.8	3.2	−0.6	−15	<0.001
Medium metro	890	729	21.8	4.9	4.1	−0.8	−16	<0.001
Small metro	471	394	11.8	5.9	5.1	−0.8	−13	0.004
Micropolitan (non-metro)	581	447	13.4	7.8	6.4	−1.4	−18	<0.001
Non-core (non-metro)	552	415	12.4	11.1	9.2	−1.9	−17	<0.001
Suffocation	1,173	1,268		1.4	1.6	0.2	12	<0.001
Large central metro	313	311	24.5	1.2	1.2	−0.01	−1	0.892
Large fringe metro	231	235	18.5	1.2	1.2	0.1	5	0.437
Medium metro	269	305	24.1	1.5	1.8	0.2	15	0.020
Small metro	136	158	12.5	1.8	2.2	0.4	21	0.021
Micropolitan (non-metro)	135	147	11.6	1.9	2.3	0.4	18	0.046
Non-core (non-metro)	90	112	8.8	1.9	2.6	0.7	38	0.001
Drowning	999	879		1.2	1.1	−0.1	−6	0.044
Large central metro	242	228	25.9	0.9	0.9	−0.01	−1	0.907
Large fringe metro	195	184	20.9	0.9	0.9	−0.02	−3	0.718
Medium metro	229	202	23.0	1.3	1.2	−0.1	−8	0.213
Small metro	114	101	11.5	1.5	1.4	−0.2	−10	0.258
Micropolitan (non-metro)	121	96	10.9	1.7	1.4	−0.3	−16	0.062
Non-core (non-metro)	98	69	7.8	2.0	1.5	−0.5	−24	0.014
Poisoning	838	736		1.0	0.9	−0.1	−8	0.025
Large central metro	227	242	32.9	0.9	1.0	0.1	12	0.082
Large fringe metro	203	181	24.6	1.0	0.9	−0.1	−10	0.129
Medium metro	196	167	22.7	1.1	0.9	−0.2	−16	0.019

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Mechanism of injury and urbanicity level of county of residence[¶]	Average annual number of deaths			Death rate[†]		Rate change from 2010–2011 to 2018–2019[§]		
	2010–2011	2018–2019	2018–2019 (%)	2010–2011	2018–2019	Absolute change	Relative change (%)	*p* value[**]
Small metro	82	60	8.2	1.0	0.8	−0.2	−22	0.039
Micropolitan (non-metro)	80	50	6.8	1.0	0.7	−0.3	−32	<0.05
Non-core (non-metro)	52	38	5.2	1.0	0.8	−0.2	−18	ns
Other transportation	465	359		0.5	0.4	−0.1	−13	0.004
Large central metro	73	64	17.8	0.3	0.2	−0.03	−12	0.275
Large fringe metro	98	70	19.5	0.5	0.3	−0.1	−29	0.002
Medium metro	103	83	23.1	0.6	0.5	−0.1	−17	0.081
Small metro	53	42	11.7	0.7	0.5	−0.1	−22	ns
Micropolitan (non-metro)	63	57	15.9	0.8	0.8	−0.03	−3	0.789
Non-core (non-metro)	76	44	12.3	1.6	1.0	−0.6	−38	<0.05
Fire/burn	345	275		0.4	0.3	−0.1	−24	<0.001
Large central metro	74	56	20.4	0.3	0.2	−0.1	−23	0.038
Large fringe metro	61	40	14.5	0.3	0.2	−0.1	−37	<0.05
Medium metro	70	63	22.9	0.4	0.4	−0.02	−5	0.668
Small metro	39	27	9.8	0.5	0.4	−0.1	−28	ns
Micropolitan (non-metro)	62	43	15.6	0.9	0.6	−0.2	−25	ns
Non-core (non-metro)	41	48	17.5	0.8	1.1	0.2	26	ns
Fall	133	98		0.1	0.1	−0.03	−25	0.005
Large central metro	40	31	31.6	0.2	0.1	−0.1	−29	ns
Large fringe metro	26	19	19.4	0.1	0.1	−0.04	−34	ns
Medium metro	28	22	22.4	0.2	0.1	−0.1	−30	ns
Small metro	13	9	9.2	0.2	–	–	–	–
Micropolitan (non-metro)	13	10	10.2	0.2	0.2	−0.01	−8	ns
Non-core (non-metro)	14	8	8.2	0.3	–	–	–	–
All other mechanisms	563	445		0.7	0.6	−0.1	−17	<0.001
Large central metro	104	97	21.8	0.4	0.4	−0.01	−3	0.770
Large fringe metro	97	80	18.0	0.5	0.4	−0.1	−19	0.054
Medium metro	117	97	21.8	0.6	0.5	−0.1	−16	0.075
Small metro	69	50	11.2	0.9	0.6	−0.2	−28	0.014

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Mechanism of injury and urbanicity level of county of residence[¶]	Average annual number of deaths			Death rate[†]		Rate change from 2010–2011 to 2018–2019[§]		
	2010–2011	2018–2019	2018–2019 (%)	2010–2011	2018–2019	Absolute change	Relative change (%)	*p* value[**]
Micropolitan (non-metro)	75	57	12.8	1.0	0.8	−0.2	−18	0.118
Non-core (non-metro)	102	65	14.6	2.1	1.5	−0.6	−30	0.001

Abbreviation: ns = not significant based on method of non-overlapping confidence intervals.

[*] Rates are age-adjusted using the 2000 U.S. non-standard population. All rates are per 100,000 population and are rounded to one decimal place.

[†] Death rates based on fewer than 20 deaths during the two-year period are suppressed due to unreliability.

[**] P value from z-test if rate based on ≥100 total number of deaths during the two-year period. For rates based on <100 deaths, significance at ≤0.05 level determined from examination of overlapping 95% confidence intervals from a gamma distribution.

[§] Absolute and relative change were calculated based on rates rounded to 3 places after the decimal and therefore might not match table calculations because of rounding.

[¶] The six classification levels for counties were: 1) large central metro: part of a metropolitan statistical area with ≥1 million population and covers a principal city; 2) large fringe metro: part of a metropolitan statistical area with ≥1 million population but does not cover a principal city; 3) medium metro: part of a metropolitan statistical area with ≥250,000 but <1 million population; 4) small metro: part of a metropolitan statistical area with <250,000 population; 5) micropolitan (non-metro): part of a micropolitan statistical area (has an urban cluster of ≥10,000 but <50,000 population); and 6) non-core (non-metro): not part of a metropolitan or micropolitan statistical area.

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Table 5

Average annual number of unintentional injury deaths and death rates[*] among children and youth aged ≤19 years, by region[†] and state — National Vital Statistics System, United States, 2010–2019.

Region and state	Average annual number of deaths		Death rate[§]					Rate change from 2010–2011 to 2018–2019[¶]		
	2010–2011	2018–2019	2010–2011	2012–2013	2014–2015	2016–2017	2018–2019	Absolute change	Relative change (%)	*p* value[**]
United States overall ages 0–19 years	8,579	7,406	10.1	9.4	9.3	9.8	9.0	−1.1	−11	<0.001
HHS Region										
Region 1	**207**	**172**	**5.5**	**5.4**	**4.7**	**5.8**	**4.9**	−0.6	−11	0.128
Connecticut	51	43	5.4	5.8	4.9	5.0	4.8	−0.6	−11	ns
Maine	35	30	10.7	9.0	8.4	11.8	10.6	−0.1	−1	ns
Massachusetts	68	58	3.9	3.7	3.7	4.9	3.4	−0.5	−12	0.332
New Hampshire	19	20	5.6	6.2	5.0	5.5	6.4	0.9	15	ns
Rhode Island	14	10	5.1	6.3	5.5	5.6	4.0	−1.0	−21	ns
Vermont	21	13	13.1	11.4	-	8.6	8.5	−4.7	−36	ns
Region 2	**411**	**311**	**5.6**	**5.7**	**4.9**	**5.4**	**4.5**	−1.0	−19	<0.001
New Jersey	120	96	5.2	5.1	4.9	5.5	4.4	−0.8	−16	0.069
New York	291	215	5.7	5.9	5.0	5.4	4.7	−1.1	−19	<0.001
Region 3	**727**	**511**	**9.3**	**8.3**	**7.9**	**8.2**	**6.8**	−2.5	−26	<0.001
Delaware	22	22	9.0	6.8	8.1	6.6	9.2	0.2	2	ns
District of Columbia	7	15	–	–	–	–	8.3	–	–	–
Maryland	109	81	7.0	6.5	5.5	6.5	5.4	−1.7	−24	0.008
Pennsylvania	351	207	10.6	9.5	8.3	8.9	6.8	−3.8	−36	<0.001
Virginia	179	141	8.4	7.3	8.3	7.5	6.6	−1.8	−21	0.003
West Virginia	61	48	13.3	12.8	12.7	14.0	11.5	−1.8	−13	ns
Region 4	**2209**	**1898**	**13.6**	**12.1**	**12.5**	**13.0**	**11.6**	−1.9	−14	<0.001
Alabama	238	190	18.3	16.2	14.4	15.6	15.4	−3.0	−16	0.011
Florida	564	521	12.2	11.1	11.6	12.7	11.0	−1.2	−10	0.013
Georgia	333	264	11.9	9.8	11.2	11.7	9.4	−2.5	−21	<0.001
Kentucky	178	137	15.3	13.4	13.5	14.2	12.0	−3.3	−21	0.003
Mississippi	167	133	19.4	19.0	22.2	16.6	16.7	−2.7	−14	0.069

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Region and state	Average annual number of deaths		Death rate[§]					Rate change from 2010–2011 to 2018–2019[¶]		
	2010–2011	2018–2019	2010–2011	2012–2013	2014–2015	2016–2017	2018–2019	Absolute change	Relative change (%)	*p* value[**]
North Carolina	304	259	11.7	10.8	10.1	10.7	9.8	−1.9	−16	0.003
South Carolina	188	178	14.9	12.8	15.2	15.0	14.2	−0.7	−5	0.502
Tennessee	238	219	14.0	12.7	11.7	13.7	13.0	−1.1	−8	0.237
Region 5	**1438**	**1226**	**10.2**	**9.6**	**9.3**	**10.0**	**9.3**	−0.9	−9	<0.001
Illinois	306	226	8.7	8.3	7.7	8.5	7.1	−1.6	−18	0.001
Indiana	226	207	12.3	12.0	12.5	12.5	11.7	−0.7	−5	0.420
Michigan	305	245	11.4	11.2	11.3	10.7	10.1	−1.3	−12	0.043
Minnesota	131	108	9.0	7.7	6.9	6.9	7.5	−1.5	−17	0.041
Ohio	320	323	10.4	9.6	9.1	11.1	11.1	0.7	7	0.236
Wisconsin	151	118	9.8	8.6	8.1	10.0	8.2	−1.6	−17	0.036
Region 6	**1420**	**1278**	**12.4**	**11.8**	**11.8**	**11.8**	**10.8**	−1.6	−13	<0.001
Arkansas	122	105	15.3	16.4	14.1	15.9	13.4	−1.9	−13	0.153
Louisiana	204	210	15.9	16.3	18.1	19.2	17.2	1.4	9	0.241
New Mexico	84	66	14.2	12.2	12.9	13.8	12.3	−2.0	−14	0.197
Oklahoma	173	152	16.4	15.0	14.6	14.3	14.3	−2.1	−13	0.083
Texas	837	747	10.9	10.1	10.1	9.8	9.1	−1.8	−16	<0.001
Region 7	**533**	**450**	**14.0**	**11.7**	**11.9**	**13.0**	**12.2**	−1.8	−13	0.002
Iowa	99	77	11.8	8.2	10.0	11.2	9.3	−2.5	−21	0.026
Kansas	115	89	14.0	11.8	10.6	11.7	11.3	−2.7	−19	0.030
Missouri	269	227	16.5	13.9	14.7	15.9	14.8	−1.7	−11	0.079
Nebraska	51	57	9.8	11.2	8.5	9.3	10.7	0.9	10	0.504
Region 8	**371**	**313**	**11.8**	**10.7**	**10.6**	**11.1**	**9.5**	−2.2	−19	<0.001
Colorado	125	136	9.1	10.0	8.3	10.3	9.6	0.5	5	0.556
Montana	55	37	21.5	15.4	18.1	13.0	14.5	−7.0	−32	ns
North Dakota	26	14	14.0	13.7	12.8	12.0	6.8	−7.2	−51	<0.05
South Dakota	37	44	15.9	16.5	16.7	23.3	18.3	2.4	15	ns
Utah	102	61	10.6	7.4	9.0	8.2	5.9	−4.7	−44	<0.001
Wyoming	28	22	18.0	17.6	16.3	13.9	15.1	−2.9	−16	ns
Region 9	**939**	**945**	**6.9**	**7.0**	**7.2**	**7.3**	**7.3**	0.4	6	0.073
Arizona	207	221	11.2	11.4	9.6	11.2	11.8	0.6	5	0.452

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Region and state	Average annual number of deaths		Death rate[§]					Rate change from 2010–2011 to 2018–2019[¶]		
	2010–2011	2018–2019	2010–2011	2012–2013	2014–2015	2016–2017	2018–2019	Absolute change	Relative change (%)	*p* value[**]
California	625	631	5.8	5.9	6.4	6.4	6.3	0.5	8	0.046
Hawaii	31	19	8.9	6.9	7.6	7.1	5.7	−3.3	−37	ns
Nevada	76	75	10.3	10.9	12.1	8.7	10.0	−0.4	−4	0.755
Region 10	**327**	**304**	**9.4**	**8.9**	**8.8**	**9.5**	**8.7**	−0.7	−7	0.184
Alaska	37	28	17.7	13.8	12.0	18.4	14.3	−3.5	−19	ns
Idaho	61	55	12.9	11.9	12.6	13.6	11.2	−1.8	−14	0.268
Oregon	90	83	9.1	8.2	8.3	10.1	8.5	−0.5	−6	0.572
Washington	139	139	7.8	7.8	7.7	7.1	7.6	−0.2	−2	0.798

Abbreviation: ns = not significant based on method of non-overlapping confidence intervals.

[*] Rates are age-adjusted using the 2000 U.S. non-standard population. All rates are per 100,000 population and are rounded to one decimal place.

[†] U.S. Department of Health and Human Services (HHS) Regions. The HHS Office of Intergovernmental and External Affairs hosts 10 regional offices that directly serve state and local organizations.

[**] P value from z-test if rate based on ≥100 total number of deaths during the two-year period. For rates based on <100 deaths, significance at ≤0.05 level determined from examination of overlapping 95% confidence intervals from a gamma distribution. https://www.hhs.gov/about/agencies/iea/regional-offices/index.html

[§] Death rates based on fewer than 20 deaths during the two-year period are suppressed due to unreliability.

[¶] Absolute and relative change were calculated based on rates rounded to 3 places after the decimal and therefore might not match table calculations because of rounding.