



Leading Mechanisms of Unintentional Injury Death Among Youth Ages 10–19 Years: United States, 2024

Anne M. Zehner, M.P.H., and Matthew F. Garnett, M.P.H.

Key findings

Data from the National Vital Statistics System

- The unintentional injury death rate among youth ages 10–19 years in 2024 was 11.6 deaths per 100,000 population.
- The motor vehicle traffic death rate for youth ages 15–19 years (12.0) was 6 times the rate for youth ages 10–14 (2.0).
- The unintentional injury death rate among male youth (16.3) was higher than among female youth (6.7), with similar differences observed in motor vehicle traffic, poisoning, and drowning death rates.
- American Indian and Alaska Native non-Hispanic youth had the highest rates of unintentional injury, motor vehicle traffic, and poisoning death compared with other race and Hispanic-origin groups.
- Death rates among youth were highest in the South for all unintentional injuries (13.8), motor vehicle traffic (8.5), and poisoning (2.6).

Introduction

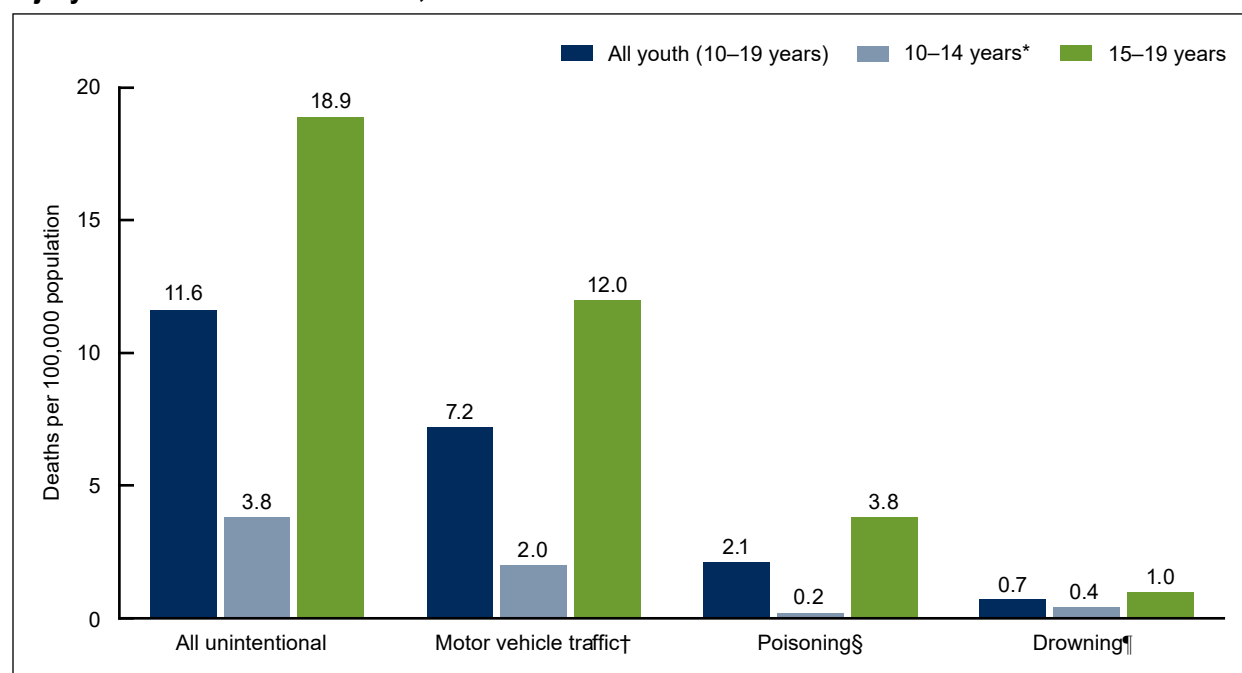
Unintentional injuries are the leading cause of death for youth ages 10–19 years in the United States (1,2). Unintentional injury death rates decline after infancy, remain low in early childhood, and rise as children enter adolescence and young adulthood (1), reflecting shifts in injury risk occurring with increased independent activity among youth, such as socializing with peers, working, and driving (3,4). This report examines unintentional injury death rates for youth ages 10–19 years in 2024, including the three leading unintentional mechanisms (causes), and describes differences in rates by age group, sex, race and Hispanic origin, and census region.



Age group

- The unintentional injury death rate among youth ages 10–19 in 2024 was 11.6 deaths per 100,000 population. The rate was lower for ages 10–14 (3.8) compared with 15–19 (18.9) (Figure 1, Table 1).
- The motor vehicle traffic death rate for ages 15–19 (12.0) was 6 times the rate for 10–14 (2.0).
- The poisoning death rate for ages 15–19 was 3.8 compared with a rate of 0.2 for 10–14. The drowning death rate for ages 15–19 was 1.0 compared with a rate of 0.4 for 10–14.
- Motor vehicle traffic death rates were higher than other mechanisms for both age groups. However, among ages 10–14, the drowning rate was higher than the poisoning rate, while among 15–19 the poisoning rate was higher than the drowning rate.

Figure 1. Unintentional injury death rate among youth ages 10–19 years, by age group and leading injury mechanism: United States, 2024



* Significantly lower than ages 15–19 years ($p < 0.05$).

† Significantly higher than poisoning and drowning ($p < 0.05$).

§ Significantly higher than drowning for 10–19 and 15–19 years ($p < 0.05$).

¶ Significantly higher than poisoning for 10–14 years ($p < 0.05$).

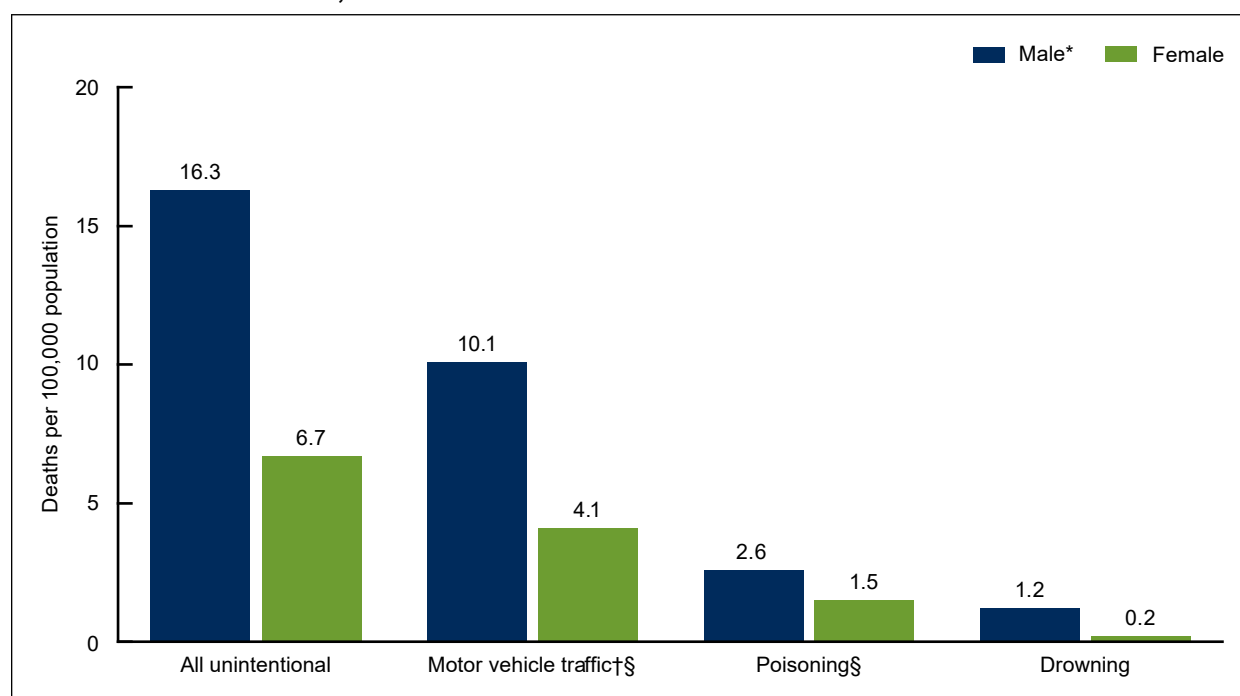
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Sex

- The rate of unintentional injury death in 2024 was higher for male (16.3 per 100,000 population) than female youth (6.7) (Figure 2, Table 2).

- The motor vehicle traffic death rate was more than twice as high for male (10.1) compared with female youth (4.1).
- The poisoning death rate was higher for male (2.6) than for female youth (1.5).
- The rate of drowning death for male youth (1.2) was higher than the rate for female youth (0.2).
- For both male and female youth, the leading mechanism of unintentional injury death was motor vehicle traffic, followed by poisoning, and then drowning.

Figure 2. Unintentional injury death rate among youth ages 10–19 years, by sex and leading injury mechanism: United States, 2024



* Significantly higher than females ($p < 0.05$).

† Significantly higher than poisoning ($p < 0.05$).

§ Significantly higher than drowning ($p < 0.05$).

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

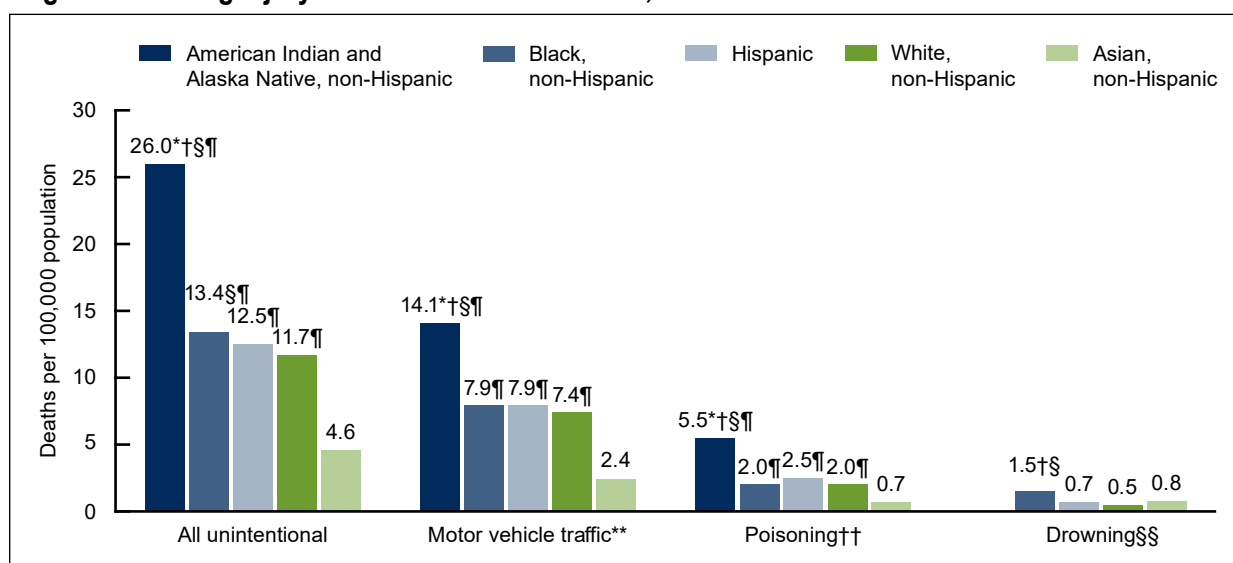
Race and Hispanic origin

- The unintentional injury death rate in 2024 was highest for American Indian and Alaska Native non-Hispanic (subsequently, American Indian and Alaska Native) youth (26.0 deaths per 100,000 population) and lowest for Asian non-Hispanic (subsequently, Asian) youth (4.6) (Figure 3, Table 3).
- The motor vehicle traffic death rate was highest for American Indian and Alaska Native youth (14.1) and lowest for Asian youth (2.4). Black non-Hispanic (subsequently, Black)

(7.9), Hispanic (7.9), and White non-Hispanic (subsequently, White) (7.4) youth had similar motor vehicle traffic death rates.

- The poisoning death rate was highest for American Indian and Alaska Native youth (5.5) and lowest for Asian youth (0.7), while Hispanic (2.5), Black (2.0), and White (2.0) youth had similar death rates.
- The drowning death rate for Black youth (1.5) was higher than the rate for Hispanic (0.7) and White (0.5) youth. The difference compared with Asian youth (0.8) was not significant.

Figure 3. Unintentional injury death rate among youth ages 10–19 years, by race and Hispanic origin and leading injury mechanism: United States, 2024



* Significantly higher than Black non-Hispanic youth ($p < 0.05$).

† Significantly higher than Hispanic youth ($p < 0.05$).

§ Significantly higher than White non-Hispanic youth ($p < 0.05$).

¶ Significantly higher than Asian non-Hispanic youth ($p < 0.05$).

** Significantly higher than poisoning and drowning ($p < 0.05$).

†† Significantly higher than drowning for Hispanic youth and White non-Hispanic youth; significantly lower than drowning for Asian non-Hispanic youth ($p < 0.05$).

§§ Estimate for American Indian and Alaska Native non-Hispanic youth does not meet National Center for Health Statistics standards of reliability and is not shown.

NOTE: Youth of Hispanic origin may be of any race.

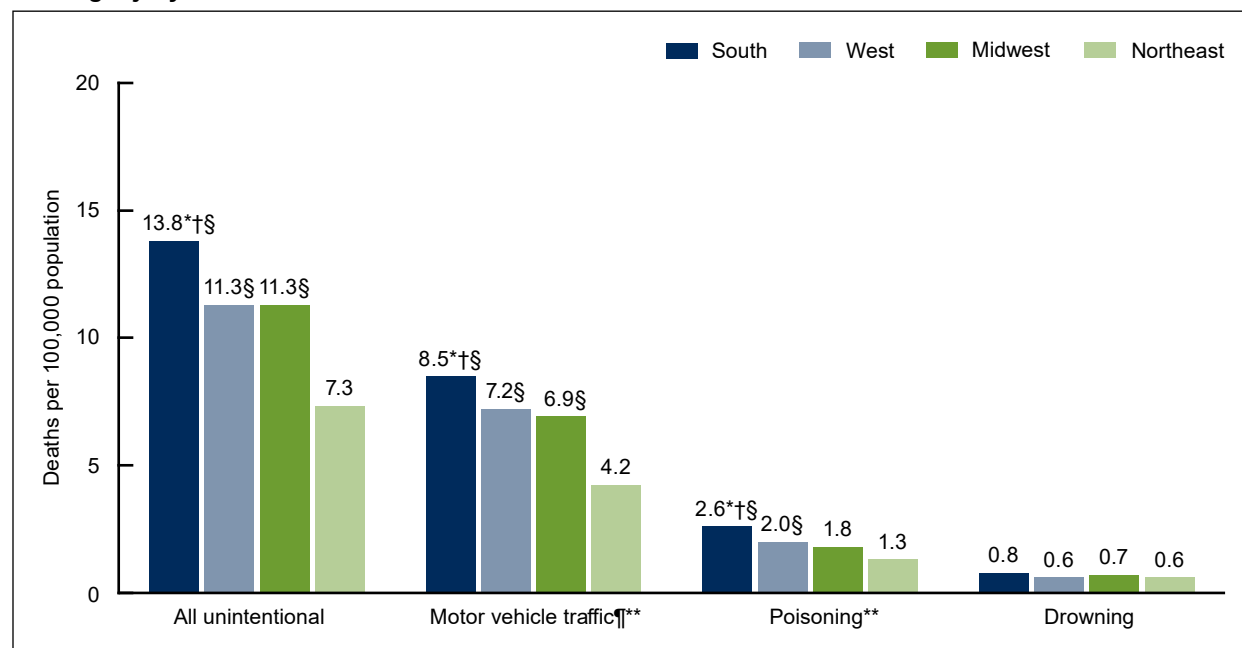
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Census region

- In 2024, the unintentional injury death rate for youth was highest in the South (13.8 deaths per 100,000 population), followed by the West and Midwest (11.3 in both), and lowest in the Northeast (7.3) (Figure 4, Table 4).
- Motor vehicle traffic was the leading mechanism of unintentional injury death in all regions, with the highest rate in the South (8.5) and the lowest in the Northeast (4.2).
- The poisoning death rate was highest in the South (2.6), and higher in the West (2.0) compared with the Northeast (1.3).

- The drowning death rate was similar in the South (0.8), West (0.6), Midwest (0.7), and Northeast (0.6).

Figure 4. Unintentional injury death rate among youth ages 10–19 years, by census region and leading injury mechanism: United States, 2024



* Significantly higher than West ($p < 0.05$).

† Significantly higher than Midwest ($p < 0.05$).

§ Significantly higher than Northeast ($p < 0.05$).

†† Significantly higher than poisoning ($p < 0.05$).

** Significantly higher than drowning ($p < 0.05$).

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Summary

Among youth ages 10–19 years, the unintentional injury death rate was 11.6 deaths per 100,000 population in 2024. Youth ages 10–14 had lower death rates than ages 15–19 for all unintentional injuries and across the three leading mechanisms. While the drowning death rate was higher than the poisoning death rate for ages 10–14, the poisoning death rate was higher than the drowning death rate for ages 15–19.

The rate of unintentional injury death was also higher for male compared with female youth for all unintentional injuries and for the three leading mechanisms. American Indian and Alaska Native youth had the highest rates of unintentional injury, motor vehicle traffic, and poisoning death.

The youth unintentional injury death rate was highest in the South, followed by the West and Midwest (whose rates were similar), and lowest in the Northeast. Rates were higher in the South than in all other regions for motor vehicle traffic and poisoning death, while the drowning death rate was similar in all four census regions.

Data source and methods

National Vital Statistics System mortality data from CDC WONDER (1) were used to describe unintentional injury deaths among youth ages 10–19 years by age group, sex, race and Hispanic origin, and census region of residence at death. Unintentional injury deaths were identified using *International Statistical Classification of Diseases, 10th Revision* (ICD–10) underlying cause-of-death codes V01–X59 and Y85–Y86 (5). Unintentional injury deaths were further classified by leading mechanism of injury using the following underlying cause-of-death codes: motor vehicle traffic, [V02–V04](.1,.9), V09.2, [V12–V14](.3–.9), V19(.4–.6), [V20–V28](.3–.9), [V29–V79](.4–.9), V80(.3–.5), V81.1, V82.1, [V83–V86](.0–.3), V87(.0–.8), and V89.2; poisoning, X40–X49; and drowning, W65–W74. Unintentional poisoning includes both drug poisoning (drug overdose) and nondrug poisoning, which is caused by toxic substances that are not drugs, such as solvents or carbon monoxide.

Crude death rates (deaths per 100,000 population) were calculated. Pairwise comparisons of rates (such as rates for males compared with those for females) were conducted using a two-sided z test with an alpha level of 0.05 (6). Statistically significant differences between rates based on fewer than 100 deaths were determined by comparing 95% confidence intervals of the rates calculated with the gamma method (6).

Race and Hispanic origin were categorized based on the Office of Management and Budget's 1997 standards for federal statistical and administrative reporting (7). All race categories shown are single race, meaning that only one race was reported on the death certificate. Data shown for Hispanic people include people of any race. Misclassification of race and Hispanic origin on death certificates results in the underestimation of death rates by as much as 3% for the Hispanic and Asian populations and by 34% for the American Indian and Alaska Native population (8,9). Rates for Native Hawaiian and Other Pacific Islander youth and youth of more than one race, as well as the drowning rate for American Indian and Alaska Native youth, are not shown due to small numbers.

About the authors

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Figure tables

Data table for Figure 1. Unintentional injury death rate among youth ages 10–19 years, by age group and leading injury mechanism: United States, 2024

Age group (years)	All unintentional		Motor vehicle traffic†		Poisoning§		Drowning¶	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
All youth (10–19)	5,030	11.6	3,107	7.2	901	2.1	311	0.7
10–14*	795	3.8	420	2.0	47	0.2	90	0.4
15–19	4,235	18.9	2,687	12.0	854	3.8	221	1.0

* Significantly lower than ages 15–19 years ($p < 0.05$).
 † Significantly higher than poisoning and drowning ($p < 0.05$).
 § Significantly higher than drowning for 10–19 and 15–19 years ($p < 0.05$).
 ¶ Significantly higher than poisoning for 10–14 years ($p < 0.05$).
 SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 2. Unintentional injury death rate among youth ages 10–19 years, by sex and leading injury mechanism: United States, 2024

Sex	All unintentional		Motor vehicle traffic†§		Poisoning§		Drowning	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
Male*	3,614	16.3	2,235	10.1	582	2.6	261	1.2
Female	1,416	6.7	872	4.1	319	1.5	50	0.2

* Significantly higher than females ($p < 0.05$).
 † Significantly higher than poisoning ($p < 0.05$).
 § Significantly higher than drowning ($p < 0.05$).
 SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 3. Unintentional injury death rate among youth ages 10–19 years, by race and Hispanic origin and leading injury mechanism: United States, 2024

Race and Hispanic origin	All unintentional		Motor vehicle traffic**		Poisoning††		Drowning	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
American Indian and Alaska Native, non-Hispanic	90	26.0*†§¶	49	14.1*†§¶	19	5.5*†§¶	§§	§§
Black, non-Hispanic	792	13.4§¶	469	7.9¶	121	2.0¶	88	1.5†§
Hispanic	1,424	12.5¶	902	7.9¶	282	2.5¶	83	0.7
White, non-Hispanic	2,478	11.7¶	1,556	7.4¶	427	2.0¶	111	0.5
Asian, non-Hispanic	114	4.6	59	2.4	16	0.7	19	0.8

* Significantly higher than Black non-Hispanic youth ($p < 0.05$).
 † Significantly higher than Hispanic youth ($p < 0.05$).
 § Significantly higher than White non-Hispanic youth ($p < 0.05$).
 ¶ Significantly higher than Asian non-Hispanic youth ($p < 0.05$).
 ** Significantly higher than poisoning and drowning ($p < 0.05$).
 †† Significantly higher than drowning for Hispanic youth and White non-Hispanic youth; significantly lower than drowning for Asian non-Hispanic youth ($p < 0.05$).
 §§ Estimate for American Indian and Alaska Native non-Hispanic youth does not meet National Center for Health Statistics standards of reliability and is not shown.
 NOTE: Youth of Hispanic origin may be of any race.
 SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 4. Unintentional injury death rate among youth ages 10–19 years, by census region and leading injury mechanism: United States, 2024

Census region	All unintentional		Motor vehicle traffic¶**		Poisoning**		Drowning	
	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000	Number	Deaths per 100,000
South	2,362	13.8*†§	1,455	8.5*†§	441	2.6*†§	145	0.8
West	1,152	11.3§	737	7.2§	209	2.0§	63	0.6
Midwest	1,011	11.3§	624	6.9§	162	1.8	59	0.7
Northeast	505	7.3	291	4.2	89	1.3	44	0.6

* Significantly higher than West ($p < 0.05$).

† Significantly higher than Midwest ($p < 0.05$).

§ Significantly higher than Northeast ($p < 0.05$).

¶ Significantly higher than poisoning ($p < 0.05$).

** Significantly higher than drowning ($p < 0.05$).

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

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