

Vital Signs: Unintentional Injury Deaths Among Persons Aged 0–19 Years — United States, 2000–2009

Abstract

Background: Unintentional injuries are the leading cause of death in the United States for persons aged 1–19 years and the fifth leading cause of death for newborns and infants aged <1 year. This report describes 10-year trends in unintentional injury deaths among persons aged 0–19 years.

Methods: CDC analyzed 2000–2009 mortality data from the National Vital Statistics System by age group, sex, race/ethnicity, injury mechanism, and state.

Results: From 2000 to 2009, the overall annual unintentional injury death rate decreased 29%, from 15.5 to 11.0 per 100,000 population, accounting for 9,143 deaths in 2009. The rate decreased among all age groups except newborns and infants aged <1 year; in this age group, rates increased from 23.1 to 27.7 per 100,000 primarily as a result of an increase in reported suffocations. The poisoning death rate among teens aged 15–19 years nearly doubled, from 1.7 to 3.3 per 100,000, in part because of an increase in prescription drug overdoses (e.g., opioid pain relievers). Childhood motor vehicle traffic-related death rates declined 41%; however, these deaths remain the leading cause of unintentional injury death. Among states, unintentional injury death rates varied widely, from 4.0 to 25.1 per 100,000 in 2009.

Conclusions and Implications for Public Health Practice: Although the annual rate is declining, unintentional injury remains the leading cause of death among children and adolescents in the United States, led by motor vehicle traffic-related deaths. Death rates from infant suffocation and teen poisoning are increasing. The 2012 National Action Plan for Child Injury Prevention provides actions in surveillance, research, communication, education, health care, and public policy to guide efforts in saving lives by reducing injuries.

Introduction

Unintentional injuries are the leading cause of death in the United States among persons aged 1–19 years, accounting for 37% of all deaths in this age group in 2009, and the fifth leading cause of death among newborns and infants aged <1 year (1). Unintentional injury deaths are responsible for more years of potential life lost before age 65 years than cancer, heart disease, or any other cause of death, in part because children and adolescents die from unintentional injuries much more commonly than other causes (1). For every childhood injury death, more than 1,000 are treated or receive medical consultation for a nonfatal injury (2). In 2009, child and adolescent unintentional

injuries resulted in approximately 9,000 deaths, 225,000 hospitalizations, and 8.4 million patients treated and released from emergency departments (1). Unintentional injuries occurring in 2005 that resulted in death, hospitalization, or an emergency department visit cost nearly \$11.5 billion in medical expenses (1). These injuries are preventable (3,4), and effective interventions for reducing childhood injuries are less costly than the medical expenses and productivity losses associated with those injuries (5).

The high incidence and preventability of child and adolescent unintentional injuries highlight the need for public health action. Although unintentional injury death rates have



decreased in recent decades (6), rates remain high in some population subgroups and states (7). This report summarizes trends in unintentional injury deaths among persons aged 0–19 years, from 2000 to 2009, by age group, sex, race/ethnicity, injury mechanism, and state, using data from the National Vital Statistics System.

Methods

CDC's National Vital Statistics System collects death certificate data from 50 states and the District of Columbia.* Annual mortality files were analyzed for deaths among persons aged 0–19 years. Unintentional injury deaths were defined as those with an underlying cause of death classified by *International Classification of Diseases, 10th Revision* (ICD-10) external cause of injury codes as V01–X59 or Y85–Y86. Deaths were categorized by mechanism 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.† Motor vehicle traffic-related deaths were divided further into occupant, pedestrian, pedal cyclist, unspecified, and all other motor vehicle traffic–related deaths. Race/ethnicity was coded into five mutually exclusive categories: Hispanic (of any race), and four non-Hispanic racial groups (white, black, American Indian/Alaska Native, and Asian/Pacific Islander). Annual death rates were calculated using population totals from the U.S. Census.§ Weighted least squares regression was used to test for linear trends in death rates over time, using all years of data. A p value of <0.05 indicated statistical significance.

Results

From 2000 to 2009, the overall annual unintentional injury death rate declined 29% among persons aged 0–19 years, from 15.5 to 11.0 per 100,000 (Table 1). The rate for males was higher than that for females in each age group. Among both males and females, the death rate declined 29%: from 19.9 to 14.1 per 100,000 for males and from 10.8 to 7.7 per 100,000 for females. A significant linear decline across all racial/ethnic groups was observed, with declines ranging from 21% among blacks to 38% among Asian/Pacific Islanders (Table 1). American Indian/Alaska Natives had the highest death rate throughout the study period, at 30.4 per 100,000 in 2000 and 23.8 in 2009, nearly double that of blacks (16.2 and 12.8), the population with the next highest rates in 2009.

By injury mechanism, motor vehicle traffic–related death rates decreased 41%, from 9.3 to 5.5 per 100,000, yet that category recorded the most deaths in 2000 (7,497) and 2009 (4,564) to remain the leading cause of unintentional injury death among persons aged 0–19 years. Drowning, other transportation, fire/burn, fall, and all other unintentional injuries also showed significant linear declines, whereas both suffocation and poisoning showed significant linear increases (30% and 80%, respectively) (Table 1).

Death rates varied substantially by age group and mechanism, with the highest rates in the youngest (aged <1 year) and oldest (15–19 years) age groups (Figure). The overall rate decreased among all age groups except children aged <1 year, whose death rate increased from 23.1 to 27.7 per 100,000, surpassing rates among persons aged 15–19 years (Table 2). This increase can be attributed largely to a rise in suffocation death rates,¶ which increased from 13.8 to 21.3 per 100,000, claiming the lives of 907 newborns and infants in 2009. The death rate for those aged 15–19 years declined 33%, from 33.4 to 22.3 per 100,000, most notably as a result of a 41% decline in motor vehicle traffic–related death rates from 25.3 to 15.1 per 100,000. However, poisoning death rates in the 15–19 year age group increased by 91%, from 1.7 to 3.3 per 100,000 over the same period (Table 2).

Wide variations in death rates were found among states, with 2009 rates ranging from 4.0 per 100,000 in Massachusetts and 4.5 in New Jersey to 23.6 per 100,000 in South Dakota and 25.1 in Mississippi (Table 3). In 11 states, death rates were significantly lower than the overall national rate of 11.0 per 100,000, and 21 states had rates that were significantly higher than 11.0. No states had significant linear increases in child and adolescent unintentional injury death rates; however, 31 states showed significant linear decreases. The largest decreases occurred in Delaware, Oregon, Iowa, and Virginia, where rates declined by at least 45%.

Conclusions and Comments

This report is the first from CDC to describe trends over time in child and adolescent unintentional injury deaths by mechanism and state. Population subgroup results generally are consistent with previous research. For example, males had higher death rates than females in each age group, racial/ethnic differences were observed with the highest rates among American Indians/Alaska Natives, and motor vehicle traffic–related injuries were the leading cause of unintentional injury death among the three oldest age groups (7,8). The wide variations in death rates among states suggest that environment,

¶ "Suffocation" refers to ICD-10 codes W75–W84. In 2009 73% of infant and newborn suffocation deaths were coded W75: accidental suffocation or strangulation in bed.

* Additional information available at <http://www.cdc.gov/nchs/nvss.htm>.

† Additional information available at http://www.cdc.gov/nchs/injury/injury_tools.htm.

§ Additional information available at http://www.cdc.gov/nchs/nvss/bridged_race.htm.

TABLE 1. Number of unintentional injury deaths and annual death rates* among persons aged ≤19 years, by sex, race/ethnicity, and mechanism — National Vital Statistics System, United States, 2000–2009

Sex, Race/Ethnicity, and Mechanism	No. of deaths		Death rate										% change from 2000 to 2009 [†]		p value [§]
	2000	2009	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009			
United States overall	12,441	9,143	15.5	15.0	15.3	14.8	14.9	14.4	14.2	14.0	12.2	11.0	-29	<0.001	
Sex															
Male	8,217	6,016	19.9	19.5	19.9	19.1	19.0	18.4	18.2	17.9	15.9	14.1	-29	<0.001	
Female	4,224	3,127	10.8	10.3	10.5	10.3	10.6	10.1	9.9	9.8	8.4	7.7	-29	0.002	
Race/Ethnicity															
American Indian/Alaska Native	265	200	30.4	30.5	28.6	30.1	26.4	28.1	28.4	27.3	24.2	23.8	-22	<0.001	
Black	2,004	1,615	16.2	16.0	16.2	14.3	15.0	15.0	15.2	15.2	13.4	12.8	-21	0.003	
White	8,183	5,467	16.3	15.8	16.1	15.7	16.2	15.2	14.8	15.1	13.4	11.5	-29	0.002	
Hispanic [¶]	1,691	1,625	12.4	12.1	12.5	12.5	11.6	12.2	12.1	10.6	9.1	8.8	-28	0.002	
Asian/Pacific Islander	252	194	7.8	8.0	8.6	8.0	7.4	6.8	7.1	6.9	5.3	4.8	-38	<0.001	
Missing data	46	42	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mechanism**															
Motor vehicle traffic ^{††}	7,497	4,564	9.3	9.1	9.4	9.0	8.9	8.3	8.1	7.6	6.1	5.5	-41	<0.001	
Occupant	3,571	1,953	4.4	4.5	5.1	4.7	4.6	4.2	3.9	3.5	2.5	2.3	-47	<0.001	
Unspecified	2,794	1,866	3.5	3.2	3.0	2.9	3.0	2.8	2.9	2.9	2.5	2.2	-36	<0.001	
Pedestrian	767	504	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.6	-37	<0.001	
Other	185	152	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	-21	0.999	
Pedal cyclist	180	89	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-52	<0.001	
Suffocation	864	1,160	1.1	1.1	1.2	1.1	1.3	1.3	1.4	1.5	1.6	1.4	30	<0.001	
Drowning	1,314	983	1.6	1.5	1.4	1.3	1.3	1.4	1.3	1.3	1.2	1.2	-28	<0.001	
Poisoning	442	824	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.2	1.1	1.0	80	<0.001	
Other transportation	743	541	0.9	0.8	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.6	-30	0.010	
Fire/Burn	682	391	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.5	0.5	-45	<0.001	
Fall	180	151	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-19	0.018	
All other	719	529	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.7	0.6	-29	0.001	

Abbreviation: NA = not applicable.

* Per 100,000 population.

[†] Percentage change might not match calculations because of rounding.

[§] P value from weighted least squares regression to assess linear trend significance during 2000–2009.

[¶] Hispanics, who might be of any race, were not included in any of the racial categories.

** 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](4–9), [V83–V86](0–3)), Unspecified, ([V87](0–8), [V89.2]), Pedestrian ([V02–V04](1,9), [V09.2]), Other (including motorcyclist) ([V20–V28](3–9), [V29](4–9), [V80](3–5), [V81.1], [V82.1]), and Pedal cyclist ([V12–V14](3–9), [V19](4–6)). Suffocation (W75–W84); Drowning (W65–W74); Poisoning (X40–X49); Other transportation (V01, [V02–V04](0), V05, V06, V09(0–1,3,9), V10–V11, [V12–V14](0–2), V15–V18, V19(0–3,8,9), [V20–V28](0–2), [V29–V79](0–3), [V80](0–2,6–9), [V81–V82](0,2–9), [V83–V86](4–9), [V87.9], [V88](0–9), [V89](0,1,3,9), [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.

exposure to hazards (e.g., vehicle miles traveled, exposure to water settings, urban or rural environment), and differences in public policy might play a role. In 2009, if the overall national rate had been equal to the lowest state unintentional injury death rate, 5,785 lives would have been saved.

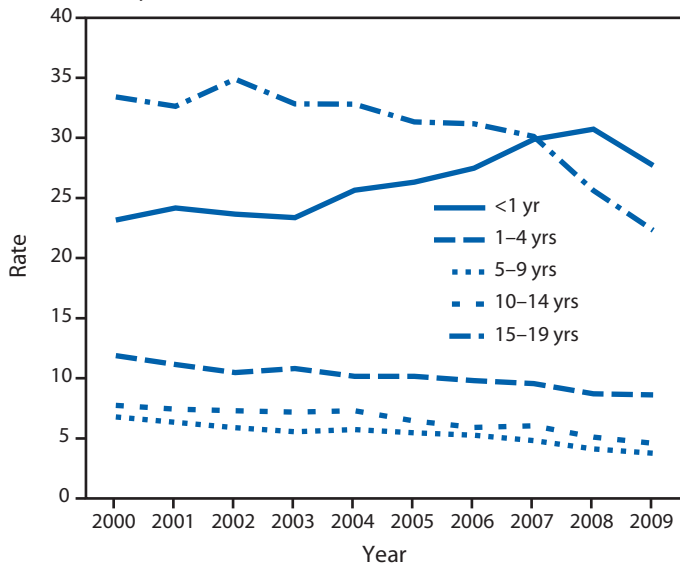
The high incidence of infant suffocation underscores the importance of a safe sleeping environment as recommended by the American Academy of Pediatrics, which includes supine positioning, a firm sleep surface, room-sharing without bed-sharing, and avoiding loose bedding (9). CDC has developed the Sudden Unexpected Infant Death (SUID) Case Registry, aimed at better understanding and ultimately preventing SUID deaths, which include suffocation in bed.**

** Additional information available at <http://www.cdc.gov/sids/suidabout.htm>.

The increasing trend in poisoning deaths among those aged 15–19 years is consistent with the reported increases in drug poisoning deaths seen in the U.S. population overall during this period (10). Poisoning deaths from prescription drug misuse is a growing concern (11); during 2002–2004 an estimated 13.5% of those aged 12–17 years reported ever having misused prescription drugs (12). The percentage of poisoning deaths among those aged 15–19 years with prescription drugs as a contributing cause increased from 30% in 2000 to 57% in 2009 (13). Strategies to reduce the misuse of prescription drugs include appropriate prescribing, proper storage and disposal, discouraging medication sharing, and state-based prescription drug monitoring programs (11).

Improvements in seat belt use, child safety seat and booster seat use, licensing requirements, vehicle design, the road

FIGURE. Annual unintentional injury death rates* among persons aged ≤19 years, by age group — National Vital Statistics System, United States, 2000–2009



* Per 100,000 population.

environment, and reductions in alcohol-impaired driving likely contributed to the decline in motor vehicle traffic-related deaths (4,14). Despite this success, traffic crashes remain the leading cause of death for persons in age groups 5–19 years, accounting for 67% of unintentional injury deaths and 28% of deaths from all causes among those aged 15–19 years in 2009 (1). Increasing seat belt use and implementing components of graduated driver licensing practices, such as limiting nighttime driving and limiting teen passengers, likely can lead to further declines. Parents can learn how to reduce their teens' risks of motor vehicle-related injury through the CDC's teen driving initiative, Parents are the Key (<http://www.cdc.gov/parentsarethekey/index.html>). For communities, the Guide to Community Preventive Services provides evidenced-based strategies to reduce motor vehicle traffic-related injuries (e.g., laws mandating child safety seat use and primary enforcement of seat belt use, and multiple measures to reduce alcohol-impaired driving) (<http://www.thecommunityguide.org/mvoi/index.html>).

Even with the reported declines, the U.S. unintentional injury death rate among persons aged 0–19 years does not compare favorably with other developed countries. Among the 34 Organization for Economic Cooperation and Development countries, the U.S. unintentional injury death rate for persons aged 0–14 years ranked 30th in 2008, with a rate four times higher than the top performing nations (15). Among persons aged 0–19 years, unintentional injury death rates in 2004 in the United States were almost twice the combined rates of

Key Points

- Unintentional injuries are the leading cause of death among persons aged 1–19 years and the fifth leading cause of death for newborns and infants aged <1 year. Nearly two in five deaths among persons aged 1–19 years are caused by unintentional injuries.
- From 2000 to 2009, the overall unintentional injury death rate among persons aged 0–19 years decreased 29%, from 15.5 to 11.0 per 100,000. Motor vehicle traffic-related deaths declined, but remain the leading cause of injury deaths.
- Wide variations in death rates were found among states with the rate for Mississippi more than six times the rate for Massachusetts.
- Unintentional infant suffocation death rates increased 54% during 2000–2009, driving the overall increase in newborn and infant unintentional injury death rates.
- Poisoning death rates increased 91% among persons aged 15–19 years.
- Unintentional injury deaths are preventable, and efforts to increase child and adolescent safety through evidence-based prevention initiatives can reduce death rates even further.
- The National Action Plan for Child Injury Prevention provides a framework to address child unintentional injury prevention with specific actions in surveillance, research, communication, education, health care, and public policy (<http://www.cdc.gov/safecchild/nap>). Taking steps to implement the National Action Plan could result in substantial reductions in needless deaths, injuries, and costs associated with injuries among children and adolescents in the United States.

high-income countries in the World Health Organization's European and Western Pacific Regions (4).

The findings in this report are subject to at least two limitations. First, fatalities are based on death certificate data and are subject to misclassification errors if a mechanism is not specified correctly on the death certificate or if classification standards have changed over time. For example, challenges in distinguishing between sudden infant death syndrome and suffocation combined with reporting differences among those completing death certificates might be contributing factors in the increase in reported suffocation deaths among newborns and infants (9). Second, this report is limited to unintentional injury deaths; excluding nonfatal injuries substantially

TABLE 2. Number of unintentional injury deaths and annual death rates* among persons aged ≤19 years, by age group and mechanism — National Vital Statistics System, United States, 2000–2009

Age group/Mechanism	No. of deaths			Death rate										% change from 2000 to 2009 [†]	p value [§]
	2000	2009	2009 (%)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
Total 0–19 yrs	12,441	9,143	(100.0)	15.5	15.0	15.3	14.8	14.9	14.4	14.2	14.0	12.2	11.0	-29	<0.001
<1 yr															
Total	881	1,181	(100.0)	23.1	24.2	23.7	23.4	25.6	26.3	27.5	29.9	30.7	27.7	20	<0.001
Suffocation	526	907	(76.8)	13.8	15.2	15.9	15.3	17.7	18.2	20.2	22.3	24.7	21.3	54	<0.001
Motor vehicle traffic	162	91	(7.7)	4.3	3.4	3.0	3.6	3.4	3.4	3.3	2.8	2.3	2.1	-50	0.002
Drowning	75	45	(3.8)	2.0	1.7	1.6	1.4	1.5	1.6	1.2	1.3	1.0	1.1	-46	<0.001
Fire/Burn	39	25	(2.1)	1.0	1.2	1.0	0.8	0.7	0.9	0.7	0.9	0.5	0.6	-43	0.006
Poisoning	14	22	(1.9)	— [¶]	—	0.7	0.5	—	0.5	—	—	—	0.5	NA	NA
Fall	8	19	(1.6)	—	0.6	—	—	0.6	—	0.6	0.6	—	—	NA	NA
Other transportation	12	6	(0.5)	—	—	—	—	—	—	—	—	—	—	NA	NA
All other	45	66	(5.6)	1.2	1.4	1.0	1.3	1.4	1.3	1.1	1.4	1.5	1.5	31	0.120
1–4 yrs															
Total	1,826	1,466	(100.0)	11.9	11.1	10.5	10.8	10.2	10.2	9.8	9.6	8.7	8.6	-28	<0.001
Drowning	493	450	(30.7)	3.2	3.0	2.9	2.9	2.7	3.0	2.8	2.8	2.6	2.6	-18	0.006
Motor vehicle traffic	563	362	(24.7)	3.7	3.6	3.4	3.2	3.2	3.0	2.9	2.6	2.1	2.1	-42	<0.001
Fire/Burn	297	169	(11.5)	1.9	1.5	1.4	1.4	1.4	1.3	1.2	1.2	1.0	1.0	-49	<0.001
Other transportation	127	147	(10.0)	0.8	0.7	0.6	0.9	0.8	1.0	0.8	0.9	0.8	0.9	4	0.161
Suffocation	151	125	(8.5)	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.9	0.7	-25	0.061
Fall	36	46	(3.1)	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	15	0.995
Poisoning	32	37	(2.5)	0.2	0.2	0.2	0.3	—	0.1	0.2	0.2	0.2	0.2	4	0.937
All other	127	130	(8.9)	0.8	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	-8	0.512
5–9 yrs															
Total	1,391	773	(100.0)	6.8	6.3	5.9	5.5	5.7	5.5	5.3	4.8	4.1	3.8	-45	<0.001
Motor vehicle traffic	731	378	(48.9)	3.6	3.3	3.1	3.0	3.0	2.9	2.6	2.3	1.9	1.8	-48	<0.001
Drowning	201	119	(15.4)	1.0	0.8	0.8	0.6	0.7	0.6	0.7	0.6	0.7	0.6	-41	0.008
Fire/Burn	183	88	(11.4)	0.9	0.8	0.8	0.7	0.9	0.7	0.6	0.7	0.5	0.4	-52	<0.001
Other transportation	106	68	(8.8)	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.3	-36	0.023
Suffocation	45	26	(3.4)	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	-42	0.124
Poisoning	17	13	(1.7)	—	—	—	—	—	—	—	—	—	—	NA	NA
Fall	16	12	(1.6)	—	0.2	—	—	—	—	—	—	0.1	—	NA	NA
All other	92	69	(8.9)	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.5	0.3	0.3	-25	0.070
10–14 yrs															
Total	1,588	916	(100.0)	7.7	7.4	7.3	7.2	7.3	6.4	5.9	6.0	5.1	4.6	-41	<0.001
Motor vehicle traffic	916	491	(53.6)	4.5	4.2	4.1	4.3	4.4	3.7	3.4	3.4	2.6	2.5	-45	<0.001
Other transportation	161	117	(12.8)	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.6	-25	<0.001
Drowning	174	90	(9.8)	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.6	0.5	-47	<0.001
Fire/Burn	84	53	(5.8)	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.3	-35	0.006
Suffocation	72	41	(4.5)	0.4	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	-41	0.062
Poisoning	28	37	(4.0)	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	36	0.116
Fall	21	16	(1.7)	0.1	0.2	0.1	0.1	0.1	—	0.1	0.1	—	—	NA	NA
All other	132	71	(7.8)	0.6	0.6	0.6	0.6	0.5	0.6	0.4	0.4	0.5	0.4	-45	0.002
15–19 yrs															
Total	6,755	4,807	(100.0)	33.4	32.6	34.9	32.8	32.8	31.3	31.2	30.1	25.6	22.3	-33	0.001
Motor vehicle traffic	5,125	3,242	(67.4)	25.3	25.1	27.0	25.1	24.6	22.9	22.5	21.3	17.2	15.1	-41	<0.001
Poisoning	351	715	(14.9)	1.7	2.0	2.4	2.5	3.1	3.0	3.5	3.9	3.9	3.3	91	<0.001
Drowning	371	279	(5.8)	1.8	1.6	1.6	1.4	1.5	1.5	1.5	1.5	1.3	1.3	-29	0.006
Other transportation	337	203	(4.2)	1.7	1.3	1.2	1.4	1.3	1.3	1.2	1.2	1.3	0.9	-43	0.019
Suffocation	70	61	(1.3)	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.2	0.3	0.3	-18	0.160
Fall	99	58	(1.2)	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	-45	0.001
Fire/Burn	79	56	(1.2)	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3	-33	0.040
All other	323	193	(4.0)	1.6	1.6	1.6	1.4	1.4	1.6	1.4	1.2	1.0	0.9	-44	0.001

Abbreviation: NA = not applicable.

* Per 100,000 population.

† Percentage change might not match calculations because of rounding.

§ P value from weighted least squares regression to assess linear trend significance 2000–2009.

¶ Death rates based on fewer than 20 deaths suppressed for unreliability.

TABLE 3. Number of unintentional injury deaths and annual death rates* among persons aged ≤19 years, by state — National Vital Statistics System, United States, 2000–2009

State	No. of deaths		Death rate									% change from 2000 to 2009 [†]	p value [§]	
	2000	2009	2000	2001	2002	2003	2004	2005	2006	2007	2008			2009
United States overall[¶]	12,441	9,143	15.5	15.0	15.3	14.8	14.9	14.4	14.2	14.0	12.2	11.0	-29	<0.001
States with death rates significantly higher than overall U.S. rate of 11.0 in 2009**														
Mississippi	268	216	30.7	28.9	29.8	25.9	27.4	29.7	26.8	30.7	22.2	25.1	-18	0.061
South Dakota	68	53	29.9	24.3	26.8	25.6	28.8	28.4	22.6	17.0	18.4	23.6	-21	0.030
Montana	81	51	31.5	17.2	25.3	26.3	27.6	17.7	24.6	19.7	20.9	20.5	-35	0.346
Wyoming	38	30	26.1	21.8	28.3	26.5	21.6	23.2	28.0	21.8	24.2	20.2	-23	0.236
Louisiana	304	253	22.2	24.1	25.6	21.5	25.9	24.0	21.1	21.0	23.4	20.1	-9	0.184
Oklahoma	229	200	22.8	23.3	18.5	19.0	24.2	22.4	23.1	22.1	20.0	19.5	-15	0.582
Alaska	69	39	33.2	28.4	19.7	25.9	25.0	25.7	24.3	24.1	23.3	19.0	-43	0.072
South Carolina	252	219	22.2	24.2	23.9	18.4	21.3	21.8	21.2	22.7	19.1	18.0	-19	0.071
New Mexico	118	100	20.9	18.1	21.1	22.5	20.3	20.8	18.6	18.7	14.7	17.6	-16	0.048
Arkansas	201	139	26.4	28.4	24.9	23.8	27.4	26.6	24.1	23.4	22.0	17.6	-34	0.006
Alabama	301	220	24.0	25.3	25.4	21.9	23.9	23.1	24.8	22.0	19.0	17.4	-27	0.006
North Dakota	24	29	13.1	15.5	17.0	21.3	17.4	18.8	21.4	16.7	13.2	17.3	32	0.635
Kentucky	267	190	24.0	22.2	21.9	21.4	25.5	23.0	20.1	18.3	16.3	16.8	-30	0.004
Missouri	372	266	23.3	19.3	21.8	20.9	21.1	19.6	20.1	21.1	19.6	16.6	-29	0.031
Kansas	168	119	21.0	22.5	19.9	19.7	16.3	17.0	16.0	16.1	14.0	15.1	-28	<0.001
Nevada	96	104	17.1	13.7	16.5	18.2	16.6	14.2	16.8	15.2	15.3	14.0	-18	0.317
Florida	744	621	18.4	17.6	17.4	19.1	18.9	20.3	18.5	18.6	15.2	13.7	-25	0.086
Tennessee	362	227	23.2	20.9	22.8	19.9	22.4	19.4	21.7	21.4	16.7	13.7	-41	0.009
North Carolina	376	328	17.1	17.9	18.1	18.5	19.9	17.2	16.4	16.6	15.4	12.8	-25	0.014
Indiana	324	228	18.4	16.9	16.5	15.6	18.0	16.5	17.1	16.7	16.6	12.8	-30	0.059
Texas	1,198	945	18.3	17.3	17.2	16.5	15.5	14.7	15.4	13.9	12.9	12.4	-32	<0.001
States with death rates not significantly different from overall U.S. rate of 11.0 in 2009														
Idaho	78	65	18.8	23.6	19.3	17.7	18.2	17.2	20.2	18.9	15.3	13.9	-26	0.021
West Virginia	98	54	21.6	19.3	23.5	22.7	23.5	17.8	20.9	20.2	20.8	12.4	-43	0.055
Michigan	465	319	16.1	14.3	15.7	14.8	14.2	13.3	11.8	13.6	11.0	12.0	-25	<0.001
Delaware	53	28	24.3	15.5	14.5	12.1	17.4	11.5	14.4	10.8	10.3	12.0	-51	0.027
Nebraska	83	60	16.5	14.9	19.3	17.1	16.5	15.6	18.4	16.4	14.5	11.8	-28	0.104
Wisconsin	245	175	16.0	13.0	15.1	15.9	13.5	15.5	13.9	15.7	13.2	11.8	-26	0.160
Maine	50	36	14.9	16.1	15.0	12.7	15.2	15.7	15.6	12.9	12.5	11.7	-22	0.042
Arizona	279	213	18.4	20.6	17.3	17.8	18.3	17.0	17.9	16.4	12.2	11.2	-39	0.002
Utah	113	106	13.9	13.9	15.6	13.6	11.6	13.2	12.3	14.0	10.8	11.0	-21	0.022
Hawaii	33	35	10.1	10.2	14.3	13.9	9.8	8.7	11.5	10.3	8.4	10.8	8	0.390
Georgia	446	297	18.5	19.3	17.6	17.7	16.5	16.5	15.1	15.2	13.6	10.3	-44	<0.001
Iowa	155	82	18.7	13.8	14.1	16.3	13.5	14.2	11.3	15.2	12.8	10.2	-46	0.019
Pennsylvania	435	319	13.3	13.6	13.8	14.3	13.3	13.0	12.1	13.8	11.8	10.1	-24	0.015
Washington	249	174	14.8	13.6	13.8	12.0	11.9	11.2	13.3	10.5	9.7	10.0	-33	<0.001
Colorado	167	136	13.6	15.6	15.6	15.5	15.0	11.7	12.1	10.9	11.4	10.0	-27	0.002
New Hampshire	39	29	11.3	13.8	6.3	9.2	13.0	11.0	9.1	9.2	9.9	8.8	-22	0.663
Rhode Island	27	20	9.6	8.5	8.5	11.3	9.9	7.6	8.1	8.5	— ^{§§}	7.6	-21	0.079
Vermont ^{††}	28	17	16.8	—	13.4	12.3	—	22.9	—	—	16.7	—	NA	NA
States with death rates significantly lower than overall U.S. rate of 11.0 in 2009														
Ohio	450	278	14.0	13.3	13.9	13.1	15.1	13.9	12.9	12.5	12.3	9.1	-35	0.018
Minnesota	205	122	14.3	13.2	15.7	14.1	12.9	10.7	11.9	10.5	9.5	8.6	-40	<0.001
Oregon	154	84	16.3	14.3	14.6	17.0	16.7	13.1	13.7	11.6	14.2	8.6	-47	0.010
Virginia	280	164	14.5	12.0	13.7	12.9	13.3	12.6	12.6	12.3	11.7	7.9	-45	0.013
Illinois	476	280	13.2	12.6	13.2	11.6	10.6	11.1	11.7	12.3	9.5	7.9	-40	0.004
Maryland	147	117	9.8	12.2	10.8	11.5	11.2	9.2	10.1	10.4	8.7	7.7	-22	0.020
California	1,038	785	10.1	9.7	10.9	10.9	10.3	11.0	10.6	9.7	7.6	7.5	-26	0.026
New York	399	334	7.7	9.0	9.0	7.6	7.8	7.3	7.5	7.7	6.6	6.7	-13	0.011
Connecticut	77	59	8.3	9.3	9.5	7.9	9.8	8.3	8.4	9.2	7.6	6.4	-22	0.076
New Jersey	180	102	7.9	9.2	9.1	7.4	8.1	7.5	7.7	7.9	7.2	4.5	-43	0.013
Massachusetts	120	66	7.2	7.8	6.6	7.4	7.0	6.9	6.7	7.6	5.6	4.0	-44	0.017

Abbreviation: NA = not applicable.

* Per 100,000 population.

[†] Percentage change might not match calculations because of rounding.[§] P value from weighted least squares regression to assess linear trend significance during 2000–2009.[¶] The District of Columbia was excluded because of low death counts in all years; however District of Columbia deaths are included in the overall U.S. death rate.^{**} Significance determined using Z-test for states with ≥100 deaths and 95% confidence intervals from a gamma distribution for states with <100 deaths in 2009.^{††} With 17 deaths, rate for Vermont in 2009 was unstable and thus cannot be statistically compared with the overall U.S. death rate.^{§§} Death rates based on fewer than 20 deaths have been suppressed for unreliability.

underreports the total burden from injury on society and the medical care system (1).

The frequency and cost of child and adolescent unintentional injury deaths, along with the effectiveness of existing public health interventions, make injury prevention a priority for improving the health of children and adolescents. Efforts to prevent these deaths likely will result in fewer nonfatal injuries as well. Although unintentional injury death rates are declining, findings reported here demonstrate the need to take further action. CDC has developed the Protect the Ones You Love Initiative to help parents reduce unintentional injuries from burns, drowning, falls, poisonings, motor vehicle crashes, suffocation, and sports (<http://www.cdc.gov/safecchild>). Health-care providers, educators, community members and others also can take steps to reduce child injury. CDC and its partners have released the National Action Plan for Child Injury Prevention, providing actions in surveillance, research, communication, education, health care, and public policy (<http://www.cdc.gov/safecchild/nap>). Implementing the National Action Plan could result in significant reductions in needless deaths, injuries, and costs associated with injuries among children and adolescents in the United States.

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