

2010-2011 Maine Injury Data Book

Maine CDC Injury Prevention Program

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Acknowledgment

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Introduction

Injuries are an important, and preventable, public health problem. Reducing the burden of injury and violence in Maine is one of the aims of Healthy Maine 2020.¹ Effective injury prevention and control efforts range from preventing the injury from happening in the first place, to early diagnosis and management, to improving the final outcome by preventing further complications such as more severe injury, disability or death.² The 2010-2011 Maine Injury Data Book uses surveillance data to describe the burden of injury in the state.

An injury can be described by its nature (e.g., fracture, concussion) and its cause. The cause of an injury is classified in terms of both intent and mechanism. Intent refers to whether the injury is deliberately inflicted and is categorized as unintentional, intentional self-injury/suicide, assault/homicide, legal intervention, operations of war, other (adverse effects) or undetermined. Mechanism refers to the external cause of the injury, such as a fall, firearm, motor vehicle traffic incident or poisoning.

Unintentional injuries were the leading cause of death among 1-44 year old Maine residents in 2006-2010 and the fifth leading cause of death among all ages combined. Suicide was the second leading cause of death among 15-34 year old Mainers and the tenth leading cause among all ages combined. Homicides were less common, but were still one of the 10 leading causes of death among certain age groups.³

This report provides 2010-2011 Maine resident data on more than 20 injury indicators defined by the federal Centers for Disease Control and Prevention. Most of the indicators describe deaths, hospital discharges or emergency department (ED) visits due to a particular intent and/or mechanism. Data are presented for the following indicators:

- All injury deaths, hospital discharges and ED visits
- Injury deaths, hospital discharges and ED visits by intent
 - Unintentional
 - Suicide and suicide attempt / self-inflicted
 - Homicide and assault
- Injury deaths, hospital discharges and ED visits by mechanism
 - Unintentional drowning and nonfatal near-drowning
 - Unintentional fall
 - Unintentional fire
 - Unintentional motor vehicle traffic
 - Firearm (all intents)
 - Poisoning (all intents)
- Injury deaths, hospital discharges and/or ED visits by type of injury
 - Traumatic brain injury
 - Hip fracture, among individuals aged 65 years and older

Data presented for each indicator include counts (overall and by age and sex), as well as crude, age-adjusted, age-specific and sex-specific rates. It is important to note that crude rates and age-adjusted rates serve different purposes. Crude rates (or the actual number of events) are used to measure or compare the absolute magnitude of injury indicators. Age-adjusted rates are used only for comparison purposes to control for age composition differences (e.g., to compare Maine with another state that has a much younger population or to look at Maine data for different years and control for the aging of the population over time). The calculated numeric value of an age-adjusted rate depends on the standard population used and therefore has no intrinsic meaning.⁴ The age-adjusted rates presented in this report can only be compared with other age-adjusted rates that are adjusted to the same 2000 U.S. standard population. For the purpose of this report, where the focus is on the absolute burden of injury, comparisons between males and females or between various age groups are based on 95 percent confidence intervals placed around the crude rates.

All data presented in this report are from 2010-2011, unless otherwise noted. The data primarily come from three surveillance data sources: (1) the 2010-2011 Maine death certificate statistical datasets, maintained by the Data, Research and Vital Statistics Program at the Maine Center for Disease Control and Prevention, (2) the 2010-2011 inpatient (hospital discharge) datasets, maintained by the Maine Health Data Organization, and (3) the 2010-2011 hospital outpatient datasets, also maintained by the Maine Health Data Organization. In keeping with the indicator definitions provided by the federal Centers for Disease Control and Prevention, the hospital discharge analysis was limited to discharges from general hospitals that had an injury (including poisoning) principal diagnosis. The ED visit analysis was limited to ED visits at general hospitals that had an injury (including poisoning) principal diagnosis or an external cause of injury code and that did not end with the patient being admitted as an inpatient to that hospital. Supplemental data for select indicators were obtained from the 2011 Maine Integrated Youth Health Survey and the 2010 and 2011 Behavioral Risk Factor Surveillance System surveys.

The report concludes with technical notes and appendices describing data sources, case definitions for each injury indicator, methods used to calculate rates and report limitations.

All injury, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	782	58.9	53.8	7,745	583.3	512.6	173,604	13,073.8	13,747.0
Sex									
Male	524	80.5	78.0	3,497	538.0	520.1	91,161	14,026.4	14,830.4
Female	258	38.0	31.5	4,249	626.7	489.7	82,439	12,160.0	12,624.3
Age (years)									
Under 1	4	*	---	39	299.3	---	1,052	8,070.8	---
1-4	3	*	---	96	172.2	---	8,655	15,605.8	---
5-14	9	*	---	157	103.2	---	20,376	13,395.9	---
15-24	84	50.3	---	596	357.2	---	32,536	19,498.6	---
25-34	80	54.5	---	562	385.2	---	26,447	18,126.8	---
35-44	101	60.1	---	657	391.1	---	22,111	13,160.9	---
45-54	135	62.4	---	900	416.0	---	21,739	10,052.7	---
55-64	99	50.1	---	968	492.6	---	15,794	8,037.9	---
65-74	64	55.3	---	903	786.1	---	10,219	8,896.5	---
75-84	83	119.6	---	1,405	2,025.1	---	8,772	12,642.7	---
85 and older	122	413.1	---	1,463	4,954.1	---	5,905	19,994.2	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

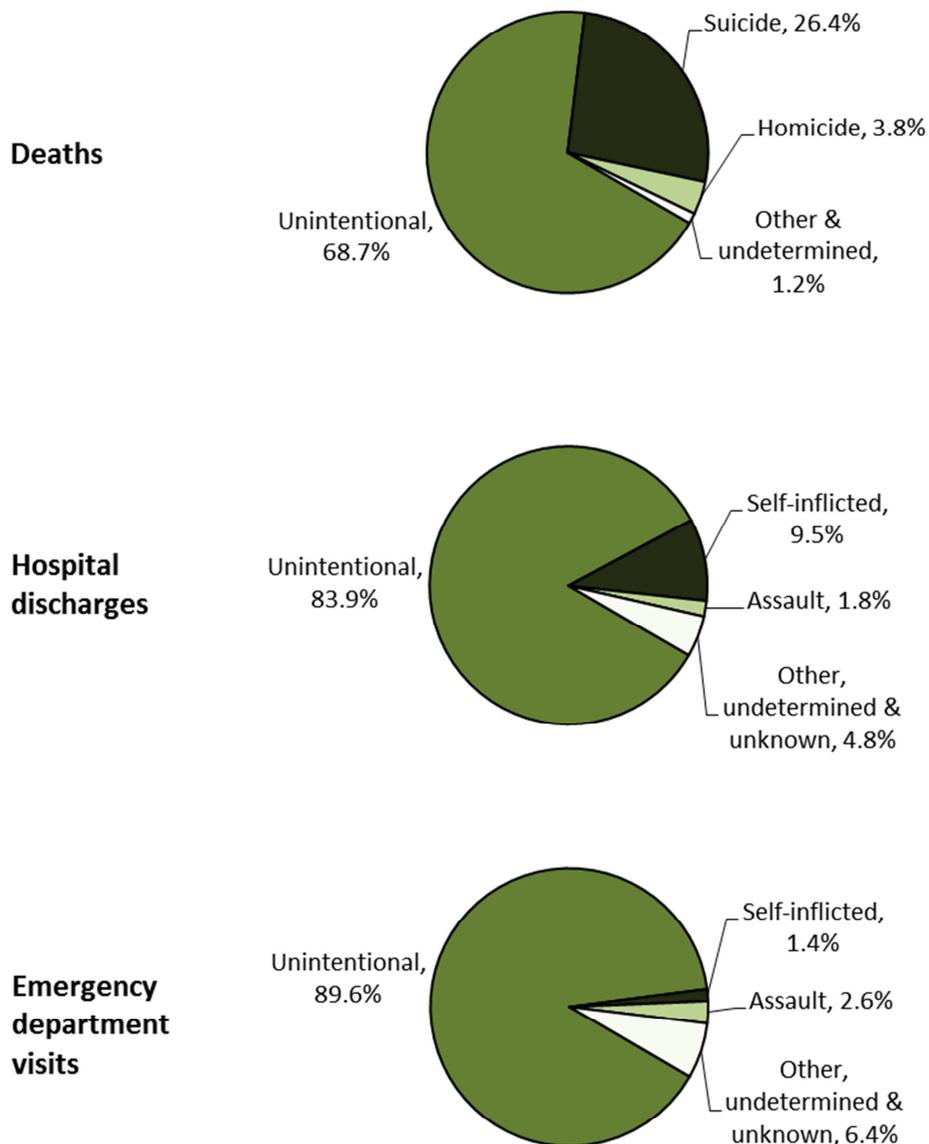
Data highlights: 2010-2011

- There were 1,563 injury deaths, 15,490 injury hospital discharges and 347,207 injury ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every day, on average, there were two deaths, 21 hospital discharges and 476 ED visits that were injury related.
- Overall, 6.2 percent of deaths, 5.3 percent of hospital discharges and 28.0 percent of ED visits of Maine residents were injury related. These percentages varied by sex and age; the greatest overall impact was seen in 15-24 year old males, among whom eight of every 10 deaths (83.5 percent), two of every 10 hospital discharges (19.3 percent) and four of every 10 ED visits (41.7 percent) were injury related. (See Appendix A for complete sex- and age-specific percentages.)
- The leading causes of injury deaths were suicide (26.4 percent), unintentional motor vehicle traffic incidents (17.7 percent) and unintentional poisoning (16.5 percent). The most common causes of injury hospital discharges were unintentional falls (53.7 percent), unintentional motor vehicle traffic incidents (9.7 percent) and suicide attempt/intentional self-injury (9.5 percent). The leading causes of injury ED visits were unintentional falls (27.4 percent), unintentional struck by/against (12.2 percent) and unintentional overexertion (11.0 percent).
- Among women aged 65 and older, three of every 10 injury deaths (32.4 percent), eight of every 10 injury hospital discharges (83.2 percent) and nearly six of every 10 injury ED visits (57.7 percent) were due to unintentional falls.
- Males were at significantly higher risk than females of injury death and injury ED visits, while females were at significantly higher risk than males of injury hospital discharges.
- Mainers aged 85 and older were at significantly higher risk than other age groups of injury deaths and hospital discharges. Mainers 85 and older and 15-24 years of age were at significantly higher risk than other age groups of injury ED visits.
- Mainers aged 65 and older represented only 16.1 percent of the Maine population in 2010-2011, but they accounted for a third (34.4 percent) of injury deaths and half (48.7 percent) of injury hospital discharges.

Injury intent

Most injury deaths, hospital discharges and ED visits among Maine residents in 2010-2011 were due to unintentional causes. Nearly seven of every 10 injury deaths (68.7 percent), eight out of every 10 injury hospital discharges (83.9 percent) and nine of every 10 injury ED visits that did not end in hospitalization (89.6 percent) were known to be unintentional. Suicide or self-inflicted injury accounted for 26.4 percent of injury deaths, 9.5 percent of injury hospital discharges and 1.4 percent of injury ED visits. Homicide and assault injuries represented 3.8 percent of injury deaths, 1.8 percent of injury hospital discharges and 2.6 percent of injury ED visits.

Intent in injury deaths, hospital discharges and ED visits, 2010-2011



The following sections present information for these intent-specific indicators:

- Unintentional
- Suicide and suicide attempt
- Homicide and assault

Unintentional injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	537	40.4	36.2	6,497	489.3	417.3	155,583	11,716.6	12,270.4
Sex									
Male	332	51.1	49.7	2,913	448.2	428.2	81,530	12,544.5	13,238.9
Female	204	30.1	23.7	3,584	528.7	391.0	74,049	10,922.4	11,262.6
Age (years)									
Under 1	4	*	---	22	168.9	---	978	7,502.8	---
1-4	2	*	---	90	161.4	---	8,163	14,717.8	---
5-14	6	*	---	138	90.7	---	18,633	12,250.0	---
15-24	55	33.0	---	393	235.5	---	27,493	16,476.1	---
25-34	50	34.3	---	353	241.6	---	22,915	15,706.2	---
35-44	58	34.2	---	416	247.3	---	19,631	11,685.0	---
45-54	73	33.5	---	669	309.4	---	19,642	9,082.7	---
55-64	62	31.6	---	841	428.0	---	14,690	7,476.1	---
65-74	48	41.8	---	834	726.1	---	9,568	8,329.7	---
75-84	69	98.7	---	1,333	1,921.3	---	8,264	11,910.5	---
85 and older	112	377.6	---	1,410	4,773.0	---	5,608	18,990.2	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Unintentional injuries data highlights: 2010-2011

- Unintentional injury refers to an incident where there was no intent to injure or harm oneself or another person.
- There were 1,073 unintentional injury deaths, 12,994 unintentional injury hospital discharges and 311,165 unintentional injury ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every week, on average, there were 10 deaths, 125 hospital discharges and 2,992 ED visits due to unintentional injury.
- Males were at significantly higher risk than females for unintentional injury deaths and ED visits. Females were at significantly higher risk than males for unintentional injury hospital discharges.
- Mainers aged 85 and older were at significantly higher risk than other age groups for unintentional injury deaths, hospital discharges and ED visits.
- Mainers aged 65 and older represented only 16.1 percent of the Maine population in 2010-2011, but they accounted for 42.5 percent of unintentional injury deaths and 55.0 percent of unintentional injury hospital discharges.
- There were both commonalities and differences among the known leading mechanisms for unintentional injury deaths, hospital discharges and ED visits. Falls were one of the three leading mechanisms of all three types of events. Motor vehicle traffic incidents and poisoning were among the three leading mechanisms involved in unintentional injury deaths and hospital discharges. Struck by or against and overexertion only appeared as leading mechanisms for unintentional injury ED visits. Specifically, the three leading mechanisms involved in unintentional injury deaths were motor vehicle traffic incidents (25.8 percent), poisoning (24.0 percent) and falls (17.0 percent). The three leading mechanisms involved in unintentional injury hospital discharges were falls (64.0 percent), motor vehicle traffic incidents (11.6 percent) and poisoning (7.1 percent). The three leading mechanisms in unintentional injury ED visits were falls (30.6 percent), struck by or against (13.6 percent) and overexertion (12.3 percent). Mechanism was not specified for 13.9 percent of unintentional injury deaths, 2.0 percent of unintentional injury hospital discharges and 7.1 percent of unintentional injury ED visits, so it is likely that the true percentages of unintentional injury events due to the leading mechanisms are higher than what is shown here.
- Maine met the Healthy Maine 2010 target to reduce the rate of nonfatal unintentional injuries (as measured by nonfatal hospital discharges) to no more than 615.0 per 100,000 (age-adjusted), but did not meet the target of reducing deaths caused by unintentional injury to no more than 27.0 per 100,000 (age-adjusted).⁵

Suicide and self-inflicted injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	207	15.6	14.6	740	55.7	58.6	2,487	187.3	209.6
Sex									
Male	166	25.5	24.3	288	44.2	45.2	1,095	168.4	183.4
Female	41	6.0	5.8	452	66.7	71.9	1,392	205.3	236.2
Age (years)									
Under 1	0	*	---	0	*	---	1	*	---
1-4	0	*	---	0	*	---	1	*	---
5-14	1	*	---	12	7.9	---	143	94.0	---
15-24	25	14.7	---	141	84.5	---	979	586.4	---
25-34	23	15.8	---	145	99.0	---	561	384.5	---
35-44	36	21.1	---	180	106.8	---	407	242.3	---
45-54	52	24.0	---	151	69.8	---	273	126.0	---
55-64	34	17.0	---	75	38.2	---	87	44.0	---
65-74	15	13.1	---	25	21.3	---	25	21.3	---
75-84	13	18.7	---	9	*	---	10	*	---
85 and older	9	*	---	3	*	---	3	*	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Suicide data highlights: 2010-2011

- Suicide refers to completed suicides; self-inflicted injury hospital discharges and ED visits include completed suicides in which the person lived long enough to be seen in the hospital, suicide attempts and other intentional self-injurious behavior like cutting or burning oneself.
- Suicide and self-inflicted injury case definitions can vary across reports; definitions should be reviewed before comparing information from different sources. For example, it is important to note that the data presented here are from acute care (general) hospitals and do not include encounters at psychiatric or rehabilitation hospitals. Also, hospital discharges were only counted if the principal diagnosis was an injury. Please see the Technical Notes and Appendices for further details.
- There were 413 suicide deaths, 1,479 self-inflicted injury hospital discharges and 4,973 self-inflicted injury ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every week, on average, there were four suicide deaths, 14 self-inflicted injury hospital discharges and 48 self-inflicted injury ED visits.
- Males were at significantly higher risk than females for suicide deaths. The death rate for males was four times higher than that for females. Conversely, females were at significantly higher risk than males for self-inflicted injury hospital discharges and ED visits.
- No one age group was at significantly higher risk of suicide death than all other age groups. Mainers aged 35-44 years had a significantly higher risk of self-inflicted injury hospital discharges than all other age groups except 25-34 year olds. Mainers aged 15-24 years were at significantly higher risk of self-inflicted injury ED visits than all other age groups.
- The most common known mechanisms used in suicide deaths were firearms (49.9 percent), hanging, strangulation and suffocation (24.2 percent) and poisoning (17.7 percent). In contrast, nine out of every 10 self-inflicted injury hospital discharges (92.2 percent) were due to poisoning. The most common mechanisms among self-inflicted injury ED visits were poisoning (43.3 percent) and cutting and piercing instruments (33.4 percent).
- The 2011 Maine Integrated Youth Health Survey found that, *during the past 12 months*, 12.7 percent of Maine high school students had seriously considered attempting suicide and 17.8 percent had done something to purposely hurt themselves without wanting to die (e.g., cutting or burning themselves on purpose).⁶
- Results from the 2011 Maine Integrated Youth Health Survey also showed that 14.5 percent of Maine middle school (7th and 8th grade) students had *ever* seriously thought about killing themselves and 12.3 percent had *ever* done something to purposely hurt themselves without wanting to die (e.g., cutting or burning themselves on purpose).⁷
- Maine met the Healthy Maine 2010 target of reducing suicide attempts (as measured by self-inflicted injury hospital discharges) to no more than 62.3 per 100,000 (age-adjusted), but did not meet the target of reducing suicide deaths to no more than 12.7 per 100,000 (age-adjusted).⁵ Healthy Maine 2020 includes a goal to reduce the suicide rate to no more than 12.6 per 100,000 (age-adjusted).¹

Homicide and assault related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	30	2.2	2.3	137	10.3	11.4	4,466	336.3	377.3
Sex									
Male	20	3.0	3.0	111	17.1	18.5	2,646	407.0	445.6
Female	10	1.5	1.6	26	3.8	4.4	1,821	268.5	308.6
Age (years)									
Under 1	0	*	---	14	103.6	---	3	*	---
1-4	1	*	---	5	*	---	19	34.3	---
5-14	2	*	---	2	*	---	189	123.9	---
15-24	5	*	---	33	19.5	---	1,589	952.0	---
25-34	6	*	---	30	20.2	---	1,235	846.1	---
35-44	5	*	---	20	11.6	---	697	414.9	---
45-54	9	*	---	21	9.7	---	527	243.7	---
55-64	2	*	---	8	*	---	152	77.4	---
65-74	1	*	---	2	*	---	36	31.3	---
75-84	1	*	---	3	*	---	15	20.9	---
85 and older	1	*	---	1	*	---	6	*	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Homicide and assault data highlights: 2010-2011

- Homicide and assault injury refer to an injury purposefully inflicted by a person against another person, excluding those that are the result of legal intervention or war.
- There were 59 homicide deaths, 273 assault related hospital discharges and 8,932 assault related ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every month, on average, there were two homicide deaths, 11 assault related hospital discharges and 372 assault related ED visits that did not result in hospitalization.
- A report by the Maine Domestic Abuse Homicide Review Panel on 48 homicides that occurred in Maine in 2010-2011 found 43.8 percent were domestic violence related.⁸
- Males were at significantly higher risk than females of having an assault related hospital discharge or ED visit; 81.3 percent of assault related hospital discharges, 59.2 percent of assault related ED visits and 66.1 percent of homicides occurred among males.
- Infants under 1 year of age were at significantly higher risk of assault related hospital discharges than any other age group; however, three-fourths (75.1 percent) of assault related discharges occurred among 15-54 year olds. Mainers 15-24 years of age were at significantly higher risk of assault related ED visits than all other age groups; 90.6 percent of assault related ED visits were among 15-54 year olds. Similarly, 79.7 percent of homicide deaths were among 15-54 year olds.
- The two most common known mechanisms used in homicides were firearms (54.2 percent) and cutting or piercing instruments (16.9 percent); mechanism was not reported for 20.3 percent of homicides. The two most common known mechanisms associated with assault related hospital discharges were “struck by or against” (39.2 percent; includes unarmed fight/brawl or being struck by a blunt or thrown object) and cutting or piercing instruments (18.7 percent); mechanism was not reported for 17.6 percent of assault related hospital discharges. The most common known mechanism for assault related ED visits was struck by or against (52.9 percent); mechanism was not reported for 15.2 percent of assault related ED visits.
- The 2011 Maine Integrated Youth Health Survey found that, *during the past 12 months*, 19.5 percent of Maine high school students had been in a physical fight, 3.1 percent had been in a physical fight in which they were injured and had to be treated by a doctor or nurse and 11.3 percent reported that their boyfriend or girlfriend had hit, slapped or physically hurt them on purpose. One out of four high school students (24.4 percent) reported that violence in their home or the threat of violence had *ever* made them want to leave their home, even just for a short while.⁶
- 2011 Maine Integrated Youth Health Survey results also showed that 7.9 percent of Maine middle school (7th and 8th grade) students had *ever* been in a physical fight in which they were injured and had to be treated by a doctor or nurse. One out of five middle school students (20.8 percent) reported that violence in their home or the threat of violence had *ever* made them want to leave their home, even just for a short while.⁷

- Maine did not meet the Healthy Maine 2010 target of reducing physical assaults (as measured by nonfatal assault related hospital discharges) to no more than 9.9 per 100,000 population (age-adjusted).⁵

Injury mechanism

The following sections present information for these indicators:

- Unintentional drowning and near drowning
- Unintentional fall
- Unintentional fire
- Firearm (all intents)
- Unintentional motor vehicle traffic
- Poisoning (all intents)

Unintentional drowning and near drowning related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	25	1.9	1.8	11	0.8	0.9	66	4.9	5.5
Sex									
Male	20	3.1	3.0	8	*	*	43	6.6	7.4
Female	5	*	*	4	*	*	23	3.3	3.7
Age (years)									
Under 1	1	*	---	1	*	---	2	*	---
1-4	0	*	---	2	*	---	5	*	---
5-14	1	*	---	2	*	---	7	*	---
15-24	5	*	---	1	*	---	14	8.1	---
25-34	2	*	---	1	*	---	11	7.2	---
35-44	5	*	---	1	*	---	13	7.7	---
45-54	4	*	---	2	*	---	7	*	---
55-64	5	*	---	2	*	---	4	*	---
65-74	3	*	---	1	*	---	3	*	---
75-84	1	*	---	1	*	---	1	*	---
85 and older	1	*	---	1	*	---	1	*	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Drowning and near drowning data highlights: 2010-2011

- There were 50 deaths, 22 hospital discharges and 131 ED visits that did not end in hospitalization due to unintentional drowning or near drowning among Maine residents in 2010-2011. Every month, on average, there were two unintentional drowning deaths one unintentional drowning or near-drowning hospital discharge and five ED visits.
- Males were at significantly higher risk than females of unintentional drowning deaths and unintentional drowning or near drowning related ED visits. Four out of every five unintentional drowning deaths (80.0 percent) and two-thirds of unintentional drowning or near drowning hospital discharges (68.2 percent) and ED visits (65.6 percent) were among males.

Unintentional fall related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	91	6.9	5.2	4,156	313.0	248.6	47,596	3,584.4	3,569.2
Sex									
Male	51	7.8	7.1	1,513	232.8	215.5	21,223	3,265.5	3,394.4
Female	41	6.0	3.6	2,643	389.9	265.4	26,373	3,890.0	3,696.6
Age (years)									
Under 1	0	*	---	11	80.6	---	455	3,488.5	---
1-4	0	*	---	25	44.2	---	3,110	5,607.6	---
5-14	0	*	---	47	30.6	---	5,668	3,726.0	---
15-24	0	*	---	74	44.3	---	5,456	3,269.4	---
25-34	1	*	---	86	58.9	---	4,781	3,277.0	---
35-44	1	*	---	125	74.1	---	4,598	2,736.9	---
45-54	4	*	---	292	135.0	---	5,535	2,559.5	---
55-64	8	*	---	500	254.5	---	5,150	2,620.7	---
65-74	13	10.9	---	594	516.7	---	4,061	3,535.4	---
75-84	26	37.5	---	1,125	1,621.5	---	4,727	6,812.5	---
85 and older	39	132.1	---	1,280	4,332.7	---	4,058	13,739.8	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Unintentional fall data highlights: 2010-2011

- There were 182 deaths due to unintentional falls, 8,312 unintentional fall related hospital discharges and 95,192 unintentional fall related ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every week, on average, there were two deaths, 80 hospital discharges and 915 ED visits that were due to unintentional falls.
- Females were at significantly higher risk than males of unintentional fall related hospital discharges and ED visits; there were no statistically significant differences by sex for deaths.
- Mainers aged 85 and older were at significantly higher risk than other age groups for unintentional fall related deaths, hospital discharges and ED visits.
- Mainers 65 years and older represented only 16.1 percent of the Maine population in 2010-2011, but they accounted for 85.2 percent of unintentional fall related deaths, 72.1 percent of unintentional fall related hospital discharges and 27.0 percent of unintentional fall related ED visits.
- Among women aged 65 and older, three of every 10 injury deaths (32.4 percent), eight of every 10 injury hospital discharges (83.2 percent) and almost six of every 10 injury ED visits (57.7 percent) were due to unintentional falls.
- Seven of every 10 deaths due to unintentional falls (72.0 percent) and one of every 10 unintentional fall related hospital discharges (12.7 percent) and ED visits (10.3 percent) involved a traumatic brain injury.
- One of every three unintentional fall related hospital discharges (33.7 percent) involved a hip fracture; this percentage increased to 42.2 percent among Mainers aged 65 and older.
- The 2010 Behavioral Risk Factor Surveillance System survey found that almost one in five Maine adults aged 45 and older (18.8 percent) had fallen at least once in the past 3 months. Nearly a third (31.6 percent) of those who fell said at least one fall had caused an injury that caused them to limit their regular activities for at least 1 day or to go see a doctor.⁹
- Maine met the Healthy Maine 2010 target of no more than 366 nonfatal unintentional fall related hospital discharges per 100,000 (age-adjusted), but did not meet the target of no more than 4.0 deaths due to falls per 100,000 residents (age-adjusted).⁵ Healthy Maine 2020 includes a goal to reduce the unintentional fall-related ED visit rate among adults age 65 and older to no more than 6,718.3 per 100,000.¹

Unintentional fire related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	13	0.9	0.8	42	3.1	3.0	537	40.4	43.0
Sex									
Male	7	*	*	30	4.5	4.4	388	59.7	62.4
Female	6	*	*	12	1.8	1.6	149	21.9	23.9
Age (years)									
Under 1	0	*	---	0	*	---	3	*	---
1-4	0	*	---	2	*	---	25	45.1	---
5-14	1	*	---	4	*	---	29	18.7	---
15-24	0	*	---	5	*	---	110	65.6	---
25-34	0	*	---	5	*	---	103	70.3	---
35-44	1	*	---	4	*	---	88	52.1	---
45-54	2	*	---	8	*	---	97	44.6	---
55-64	3	*	---	9	*	---	43	21.9	---
65-74	2	*	---	3	*	---	27	23.1	---
75-84	2	*	---	3	*	---	14	19.5	---
85 and older	3	*	---	1	*	---	2	*	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Unintentional fire data highlights: 2010-2011

- Unintentional fire related (exposure to fire, smoke and flames) injuries accounted for 25 deaths, 83 hospital discharges and 1,073 ED visits that did not end in hospitalization among Maine residents in 2010-2011. On average, there was one unintentional fire related death, three unintentional fire related hospital discharges and 45 unintentional fire related ED visits every month.
- Males were at significantly higher risk of unintentional fire related hospital discharges and ED visits than females. Almost six of every 10 unintentional fire related deaths (56.0 percent) and seven of every 10 hospital discharges (71.1 percent) and ED visits (72.3 percent) occurred among males.
- Mainers aged 25-34 years were at significantly higher risk of unintentional fire related ED visits than all other age groups except 15-24 year olds.
- Mainers aged 65 and older represented only 16.1 percent of the Maine population in 2010-2011, but they accounted for over half of the unintentional fire related deaths (56.0 percent).

Firearm related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	121	9.1	8.4	31	2.3	2.4	61	4.6	4.6
Sex									
Male	105	16.1	15.2	26	4.0	4.1	54	8.2	8.1
Female	17	2.4	2.4	5	*	*	7	*	*
Age (years)									
Under 1	0	*	---	0	*	---	0	*	---
1-4	0	*	---	0	*	---	0	*	---
5-14	1	*	---	1	*	---	3	*	---
15-24	15	9.0	---	4	*	---	13	7.8	---
25-34	11	7.5	---	9	*	---	15	9.9	---
35-44	19	11.0	---	5	*	---	7	*	---
45-54	30	13.6	---	9	*	---	10	4.6	---
55-64	18	8.9	---	2	*	---	10	5.1	---
65-74	11	9.6	---	2	*	---	3	*	---
75-84	11	15.1	---	0	*	---	0	*	---
85 and older	7	*	---	0	*	---	1	*	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Firearm data highlights: 2010-2011

- There were 242 firearm related deaths, 61 firearm related hospital discharges and 121 firearm related ED visits that did not result in hospitalization among Maine residents in 2010-2011. Every month, on average, there were 10 firearm related deaths, three firearm related hospital discharges and five firearm related ED visits.
- Males were at significantly higher risk than females of firearm related deaths, hospital discharges and ED visits. Nearly nine out of every 10 firearm related deaths (86.4 percent), hospital discharges (85.2 percent) and ED visits (88.4 percent) occurred among males.
- There were no firearm related deaths, hospital discharges or ED visits among children under 5 years of age. Two firearm related deaths, one hospital discharge and five ED visits occurred among 5-14 year olds in 2010-2011.
- Most (85.1 percent) of the firearm related deaths were suicides; 13.2 percent were homicides, 0.8 percent were unintentional and 0.8 percent were the result of legal intervention. A different intent pattern was seen among firearm related hospital discharges, where almost half (45.9 percent) were unintentional, a third (32.8 percent) were self-inflicted, 9.8 percent were the result of legal intervention, 8.2 percent were assaults and 3.3 percent were of undetermined intent. Similarly, among ED visits, 62.8 percent were unintentional, 22.3 percent were self-inflicted, 8.3 percent were assaults, 3.3 percent were the result of legal intervention and 3.3 percent were of undetermined intent.

Unintentional motor vehicle traffic related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	139	10.4	10.0	753	56.7	55.4	10,431	785.5	828.7
Sex									
Male	94	14.4	14.0	465	71.5	71.0	4,767	733.4	764.1
Female	45	6.6	6.2	289	42.6	40.3	5,664	835.4	894.9
Age (years)									
Under 1	0	*	---	0	*	---	46	353.1	---
1-4	1	*	---	4	*	---	143	257.8	---
5-14	4	*	---	17	10.8	---	449	295.2	---
15-24	35	21.0	---	150	89.9	---	2,925	1,752.6	---
25-34	19	12.7	---	106	72.7	---	2,057	1,409.9	---
35-44	12	6.8	---	109	64.9	---	1,520	904.8	---
45-54	18	8.1	---	114	52.5	---	1,464	677.0	---
55-64	21	10.4	---	108	55.0	---	965	490.9	---
65-74	13	11.3	---	64	55.7	---	469	408.3	---
75-84	12	16.6	---	58	83.6	---	294	423.0	---
85 and older	7	*	---	25	83.0	---	100	338.6	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Motor vehicle traffic incident data highlights: 2010-2011

- “Motor vehicle traffic” refers to incidents that take place on a public highway or street and includes drivers and passengers, as well as pedestrians, pedal cyclists and animal riders injured in these incidents.¹⁰
- In 2010-2011, 277 deaths, 1,506 hospital discharges and 20,861 ED visits that did not end in hospitalization among Maine residents were related to unintentional motor vehicle traffic incidents. Every week, on average, there were three deaths, 14 hospital discharges and 201 ED visits that were due to unintentional motor vehicle traffic incidents.
- Males were at significantly higher risk than females of both unintentional motor vehicle traffic deaths and hospital discharges, but females were at significantly higher risk of unintentional motor vehicle traffic ED visits. Males accounted for 67.5 percent of unintentional motor vehicle traffic deaths and 61.7 percent of unintentional motor vehicle traffic hospital discharges, but only 45.7 percent of unintentional motor vehicle traffic ED visits.
- Mainers 15-24 years of age made up 12.6 percent of the population, but accounted for 25.3 percent of the unintentional motor vehicle traffic deaths, 19.9 percent of the hospital discharges and 28.0 percent of the ED visits. They were at significantly higher risk of unintentional motor vehicle traffic related ED visits than any other age group.
- Almost half (46.9 percent) of unintentional motor vehicle traffic deaths, 31.5 percent of unintentional motor vehicle traffic hospital discharges and 10.4 percent of unintentional motor vehicle traffic ED visits involved a traumatic brain injury.
- On the 2011 Maine Integrated Youth Health Survey, 12.0 percent of Maine high school students reported they never or rarely wore a seat belt when driving a car or other vehicle and 8.5 percent said they never or rarely wore a seat belt when riding in a car driven by someone else. Five percent (5.0 percent) of high school students said they had driven a car or other vehicle *during the past 30 days* when they had been drinking alcohol; 15.8 percent had ridden in a car or other vehicle driven by someone who had been drinking alcohol and 21.8 percent had ridden in a car driven by someone who had been taking illegal drugs such as marijuana during this same time period. Four of every 10 Maine high school students (41.4 percent) reported they had done other activities (such as eating, talking on a cell phone, combing their hair, etc.) while driving *during the past 30 days*.⁶
- The 2011 Maine Integrated Youth Health Survey also found that 5.1 percent of Maine middle school (7th and 8th grade) students never or rarely wore a seat belt when riding in a car. Three of every 10 middle school students (28.4 percent) reported they had *ever* ridden in a car or other vehicle driven by someone who had been drinking alcohol and 10.2 percent had *ever* ridden in a car or other vehicle driven by someone who had been taking illegal drugs such as marijuana.⁷
- On the 2011 Behavioral Risk Factor Surveillance System survey, 3.9 percent of Maine adults aged 18 and older reported they never or seldom used a seat belt when driving or riding in a car.¹¹ On the 2010 Behavioral Risk Factor Surveillance System survey, 1.2

percent of Mainers aged 18 years and older reported they had driven at least once after having too much to drink *during the past month*.¹²

- Maine met the Healthy Maine 2010 target of reducing nonfatal injuries caused by motor vehicle crashes (as measured by hospital discharges) to no more than 82 per 100,000 (age-adjusted) and also met the target of reducing deaths caused by motor vehicle crashes to no more than 10.6 per 100,000 (age-adjusted).⁵ Healthy Maine 2020 includes a goal to reduce motor vehicle crash related deaths to no more than 10.0 per 100,000 (age-adjusted).¹

Poisoning related injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	169	12.7	12.8	1,246	93.8	94.8	3,813	287.1	314.9
Sex									
Male	105	16.2	16.4	528	81.2	82.0	1,859	286.0	310.0
Female	64	9.4	9.4	719	106.0	107.9	1,954	288.2	319.5
Age (years)									
Under 1	0	*	---	2	*	---	77	591.0	---
1-4	0	*	---	36	64.0	---	353	635.6	---
5-14	0	*	---	17	10.8	---	313	205.8	---
15-24	13	7.5	---	182	108.8	---	879	526.8	---
25-34	29	19.9	---	204	139.5	---	627	429.4	---
35-44	45	26.5	---	244	145.2	---	534	317.9	---
45-54	50	22.9	---	264	122.1	---	481	222.4	---
55-64	21	10.4	---	150	76.1	---	264	134.4	---
65-74	8	*	---	79	68.8	---	145	126.2	---
75-84	3	*	---	47	67.0	---	100	143.4	---
85 and older	3	*	---	24	81.3	---	41	138.8	---

Subgroup numbers might not sum to overall number due to missing data or rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Poisoning data highlights: 2010-2011

- There were 338 poisoning deaths, 2,492 poisoning hospital discharges and 7,625 poisoning ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every week, on average, there were three deaths, 24 hospital discharges and 73 ED visits due to poisoning.
- Males were at significantly higher risk than females for poisoning deaths. Conversely, females were at significantly higher risk than males for poisoning hospital discharges.
- Poisoning deaths and hospital discharges were less common at the younger and older ends of the age spectrum. Mainers 35-44 years of age were at significantly higher risk of these events than all other age groups except 25-34 and 45-54 year olds. Conversely, children under 5 years of age were at significantly higher risk of poisoning ED visits than all other age groups.
- Nearly eight of every 10 poisoning deaths (76.3 percent) were unintentional; another 21.6 percent were suicides. Among poisoning hospital discharges, 54.7 percent were self-inflicted and 37.1 percent were unintentional. Among poisoning ED visits, 59.1 percent were unintentional and 28.2 percent were self-inflicted.
- Most (86.4 percent) of the poisoning deaths in 2011 were acute drug overdoses.
- Healthy Maine 2020 includes a goal to maintain the baseline rate of all poisoning deaths (14.9 per 100,000, age-adjusted) and unintentional/undetermined intent poisoning deaths (11.8 per 100,000, age-adjusted) through 2020.¹

Injury type

The following sections present information for these indicators:

- Hip fracture, in residents aged 65 years and older
- Traumatic brain injury

Hip fractures among persons aged 65 and older, 2010-2011

	HOSPITAL DISCHARGES		EMERGENCY DEPT VISITS	
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE
Overall	1,358	635.2	219	102.4
Sex				
Male	370	393.1	69	73.3
Female	988	825.7	150	125.4
Age (years)				
65-74	187	162.4	40	34.4
75-84	512	738.0	90	129.7
85 and older	660	2,233.2	90	303.1

Subgroup numbers might not sum to overall number due to missing data or rounding.
Rates are events (hospital discharges or emergency department visits) per 100,000 population.

Hip fracture data highlights: 2010-2011

- Hip fractures can cause serious health problems and can result in premature death or reduced quality of life.¹³
- There were 2,716 hip fracture hospital discharges and 438 hip fracture ED visits that did not end in hospitalization among Maine residents aged 65 and older in 2010-2011. Every week, on average, there were 26 hip fracture hospital discharges and four hip fracture ED visits in this age group.
- Females were at significantly higher risk than males of having a hip fracture hospital discharge or ED visit. The hospital discharge rate for females was twice that of males. Seven of every 10 hip fracture discharges (72.8 percent) and ED visits (68.5 percent) among Mainers aged 65 and older were for women.
- The risk of hip fracture hospital discharge increased significantly with increasing age among older Mainers. The risk among people aged 85 and older was almost 14 times greater than the risk among 65-74 year olds. A similar pattern was seen for hip fracture ED visits, where the risk among Mainers aged 85 and older was almost nine times greater than among 65-74 year olds.
- Nine of every 10 hip fracture hospital discharges (93.2 percent) and ED visits (88.1 percent) among Mainers aged 65 and older were known to be due to unintentional falls. (The cause of another 2.7 percent of hip fracture hospital discharges and 8.0 percent of hip fracture ED visits was not reported, so it is likely that the true percentage that were due to unintentional falls was more than what is noted here.)

Traumatic brain injuries, 2010-2011

	DEATHS			HOSPITAL DISCHARGES			EMERGENCY DEPT VISITS		
	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE	AVERAGE ANNUAL NUMBER	CRUDE RATE	AGE-ADJUSTED RATE
Overall	249	18.7	16.8	974	73.4	66.4	9,962	750.2	790.7
Sex									
Male	186	28.6	27.2	589	90.5	89.0	5,173	795.9	855.9
Female	62	9.1	7.4	386	56.9	44.6	4,789	706.3	717.2
Age (years)									
Under 1	0	*	---	15	115.1	---	244	1,872.8	---
1-4	1	*	---	16	27.9	---	866	1,560.6	---
5-14	4	*	---	32	20.7	---	1,345	883.9	---
15-24	32	19.2	---	113	67.7	---	2,085	1,249.2	---
25-34	22	15.1	---	69	47.0	---	1,045	715.9	---
35-44	23	13.7	---	72	42.6	---	800	475.9	---
45-54	37	17.1	---	95	43.9	---	903	417.3	---
55-64	32	16.3	---	99	50.1	---	743	378.1	---
65-74	26	22.2	---	121	105.3	---	594	516.7	---
75-84	36	51.9	---	185	266.6	---	692	996.7	---
85 and older	37	123.6	---	160	540.1	---	649	2,196.0	---

Subgroup numbers might not sum to overall number due to rounding.

Rates are events (deaths, hospital discharges or emergency department visits) per 100,000 population.

Age-adjusted rates are adjusted to the 2000 U.S. standard population.

*Rates are not calculated when the number of events in 2010-2011 combined is less than 20.

Traumatic brain injury data highlights: 2010-2011

- Traumatic brain injury (TBI) occurs when sudden trauma results in injury to the brain. TBIs can result “when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.”¹⁴
- There were 497 TBI related deaths, 1,948 TBI related hospital discharges and 19,923 TBI related ED visits that did not end in hospitalization among Maine residents in 2010-2011. Every week, on average, there were five deaths, 19 hospital discharges and 192 ED visits that were TBI related.
- Males were at significantly higher risk than females for TBI related deaths, hospital discharges and ED visits.
- Mainers aged 85 and older were at significantly higher risk than all other age groups for TBI related deaths, hospital discharges and ED visits.
- Persons 65 years and older represented only 16.1 percent of the Maine population in 2010-2011, but accounted for more than a third of TBI related deaths (39.4 percent), almost half of TBI related hospital discharges (47.8 percent) and one of every five TBI related ED visits (19.4 percent).
- Almost two-thirds of the TBI related deaths (61.0 percent) were unintentional, 35.0 percent were suicide and 3.8 percent were homicide. The remaining 0.2 percent were legal intervention. A different pattern was seen among TBI related hospital discharges, nearly all of which (91.2 percent) were unintentional; 4.9 percent were assault and 1.4 percent were self-inflicted. The remaining 2.5 percent were of undetermined, other or unknown intent. Among TBI related ED visits, 87.3 percent were unintentional, 7.4 percent were assault, 0.2 percent were self-inflicted and 0.1 percent were due to legal intervention. The remaining 4.9 percent were of undetermined, other or unknown intent.
- The three leading causes of TBI related deaths were suicide (35.0 percent), unintentional falls (26.4 percent) and unintentional motor vehicle traffic incidents (26.2 percent). The three leading causes of TBI related hospital discharges were unintentional falls (54.4 percent), unintentional motor vehicle traffic incidents (24.4 percent) and assault (4.9 percent). Among TBI related ED visits, the most common known causes were unintentional falls (49.1 percent), struck by or against (19.9 percent; defined as unintentionally striking against or being struck by an object or person) and unintentional motor vehicle traffic incidents (10.9 percent).

Technical notes

1. Data sources

Deaths. The 2010 and 2011 death certificate statistical datasets were used to describe injury deaths. We obtained the 2010 file in March 2013 and the 2011 file in May 2013. The datasets include deaths of all Maine residents, regardless of where the death occurred. They are multiple cause of death files that include not only the underlying cause of death, but also any contributing causes. All injury fatality indicators in this report, except traumatic brain injury, were calculated by searching the underlying cause of death field. The traumatic brain injury fatality indicator was calculated by searching both underlying and contributing cause fields. We used the federal Centers for Disease Control and Prevention's (CDC) guidelines and definitions of injury indicators^{15, 16} whenever possible. Where CDC definitions were not available (i.e., unintentional injury fatalities), we followed the *External Cause of Injury Mortality Matrix for ICD-10*.¹⁷ Appendix B lists the specific ICD-10 codes used in defining the injury fatality indicators.

Hospital Discharges. The 2010 and 2011 inpatient (hospital discharge) datasets from the Maine Health Data Organization were used to describe injury hospital discharges. We obtained both files in June 2013. The datasets include discharges from all nonfederal hospitals in Maine. Following CDC guidelines, we limited our analysis to hospital discharges on which the principal diagnosis was an injury (i.e., ICD-9-CM code 800-909.2, 909.4, 909.9, 910-994.9, 995.5-995.59 or 995.80-995.85) and excluded discharges from psychiatric and rehabilitation hospitals. (Discharges from psychiatric and rehabilitation units in general hospitals are included in the analysis.) All injury hospital discharge indicators in this report, except traumatic brain injury and near-drowning, were calculated based on the first-listed external cause of injury code (E-code) that was not E000-E030, E849, E967, E869.4, E870-E879 or E930-E949, or, if there were no other E-codes on the discharge record, the first-listed E967, E869.4, E870-E879 or E930-E949 code. The E-code selection process followed CDC guidelines. The traumatic brain injury hospital discharge indicator was coded using nature of disease codes (N-codes). The near-drowning indicator was coded using a combination of E-codes and N-codes. We used CDC's guidelines and definitions of injury indicators^{15,16} whenever possible. Where CDC definitions were not available (i.e., unintentional injury hospital discharges), we followed the *Recommended Framework of E-Code Groupings for Presenting Injury Mortality and Morbidity Data*.¹⁸ Appendix C lists the specific ICD-9-CM codes used in defining the hospital discharge injury indicators.

Emergency department visits. The 2010 and 2011 outpatient and inpatient (hospital discharge) datasets from the Maine Health Data Organization were used to describe injury emergency department (ED) visits. We obtained the 2010 file in June 2013 and the 2011 file in October 2013. The outpatient datasets include outpatient encounters (including ED visits) at nonfederal hospitals in Maine. The inpatient datasets include discharges from all nonfederal hospitals in the state. Following CDC guidelines, we limited our analysis to ED visits at non-psychiatric/non-rehabilitation hospitals that did not end with the person being admitted to that

hospital (identified by linking the inpatient and outpatient datasets) and that either had an injury principal diagnosis (i.e., ICD-9-CM code 800-909.2, 909.4, 909.9, 910-994.9, 995.5-995.59 or 995.80-995.85) or an external cause of injury code (E-code) of E800-E869, E880-E929 or E950-E999. All injury ED indicators in this report, except traumatic brain injury and near-drowning, were calculated based on the first-listed E-code that was not E000-E030, E849, E967, E869.4, E870-E879 or E930-E949, or, if there were no other E-codes on the visit record, the first-listed E967, E869.4, E870-E879 or E930-E949 code. The E-code selection process followed CDC guidelines. The traumatic brain injury ED indicator was coded using nature of disease codes (N-codes). The near-drowning indicator was coded using a combination of E-codes and N-codes. We used CDC's guidelines and definitions of injury indicators^{15,16} whenever possible. Where CDC definitions were not available (i.e., unintentional injury ED visits), we followed the *Recommended Framework of E-Code Groupings for Presenting Injury Mortality and Morbidity Data*.¹⁸ Appendix C lists the specific ICD-9-CM codes used in defining the ED injury indicators.

Maine Integrated Youth Health Survey. The 2011 Maine Integrated Youth Health Survey was used to provide supplemental information for the suicide, assault and unintentional motor vehicle traffic indicators. This written survey monitors select health conditions and health risk behaviors among Maine students. The middle school survey is administered to 7th and 8th graders. The high school survey is administered to 9th through 12th graders.

Behavioral Risk Factor Surveillance System. The Maine 2010 and 2011 Behavioral Risk Factor Surveillance System surveys were used to provide supplemental information for the unintentional falls and unintentional motor vehicle traffic indicators. The survey is administered by phone, and tracks health conditions and risk behaviors among Mainers aged 18 years and older.

2. Average annual counts

Average annual counts were calculated by summing the 2010 and 2011 counts, dividing by 2, and then rounding to the nearest whole number.

3. Rates

Population data. 2010 and 2011 population estimates used in calculating rates were obtained from the U.S. Census Bureau.^{19, 20}

Crude rates. Crude rates were calculated by summing the number of events in 2010 and 2011 for a particular indicator and dividing that total by the 2010 plus 2011 population. Rates are expressed per 100,000 population. Crude rates were calculated for the population as a whole, by sex and by age.

Age-adjusted rates. The direct method (applying age-specific Maine rates to the 2000 U.S. standard population) was used to calculate age-adjusted rates. Rates are expressed per 100,000 population. Age-adjusted rates were calculated for the population as a whole and by sex.

Suppression of rates. Rates based on small numbers tend not to be reliable or precise, so following CDC practice,^{15,16} rates were not calculated if the number of events was less than 20.

Using rates.⁴ The choice of a crude rate versus an age-adjusted rate depends on the purpose for which a rate will be used. Crude rates (or the number of events) should be used to measure or compare the absolute magnitude of injury indicators. Age-adjusted rates should only be used for comparison purposes, when you want to control for differences due only to differences in age composition (e.g., to compare Maine with another state that has a much younger population or to look at Maine data for two different years and control for the aging of the population over time). The numeric value of an age-adjusted rate depends on the standard population used and therefore has no intrinsic meaning. The age-adjusted rates presented in this report can only be compared with other age-adjusted rates that were adjusted to the same 2000 U.S. standard population.

Comparing rates. Age- or sex-specific comparisons were done by placing 95 percent confidence intervals (not shown) around the crude rates. If the intervals did not overlap, the rates were considered to be statistically significantly different.

4. Limitations

This report is subject to several limitations:

- ED visits and hospital discharges of Maine residents that took place in another state or at a federal hospital in Maine are not included.
- Cause of death was not available for Maine residents who died out of state in 2010-2011, so the death counts and rates presented in this report might be slightly underestimated. On average, about 3 percent of deaths of Maine residents each year occur out of state.
- External cause of injury was not available for 7.1 percent of 2010 injury ED visits, 5.2 percent of 2011 injury ED visits, 3.3 percent of 2010 injury hospital discharges and 3.6 percent of 2011 injury hospital discharges. As such, the counts and rates reported here for particular injury indicators (e.g., unintentional fall, poisoning) should be treated as minimum estimates. (“Not available” means either there was no E-code on the record or the only E-code was E000-E030, E849, E967, E869.4, E870-E879 or E930-E949.)
- The deaths and ED visits reported here for a given injury indicator are not mutually exclusive; individuals who died in the ED are included in both figures. Similarly, the deaths and hospital discharges reported here for a given injury indicator are not mutually exclusive; individuals who died while an inpatient in the hospital are included in both figures.

- A given person might appear more than once in the ED or hospital discharge counts and rates for a given indicator. This can occur if a person was seen in the ED or hospitalized more than once at the same hospital for the same injury or was transferred from one hospital to another. Hence, the number of unique individuals who were seen in the ED or hospitalized for a particular indicator will be less than the number of ED visits or hospital discharges reported here for that indicator.
- The use of death, hospital discharge and ED data means that this report reflects the moderate to severe portion of the injury spectrum and, as such, underestimates the overall burden of injury in Maine. A more complete picture of injury in the state would require information on individuals with injuries who are treated in non-hospital outpatient settings (e.g., primary care physician's offices) or do not seek any treatment.
- Survey data reported here are based on self-report and may be subject to recall errors or to people giving the response they feel is expected or acceptable, rather than the response that most accurately reflects their behavior.

5. Comparisons with other reports

Care should be taken when comparing the data presented here with data in other reports. Comparisons should only be made if the methodologies are similar. For example, the CDC methodology used in this report limits hospital discharge analyses to discharges from general hospitals for which the principal diagnosis was an injury. The results obtained using this method will differ from analyses that include all hospitals or all discharges, regardless of what the principal diagnosis was.

The indicator definitions used in the Maine annual and biannual injury reports have changed somewhat over time, in keeping with changes in the CDC guidelines for particular years. It is, therefore, important, when comparing rates across reports, to also compare the case definitions used to calculate those rates.

See Appendices B and C for indicator definitions used in this report.

Survey results from the Maine Integrated Youth Health Survey presented in injury reports should not be compared to data from the Maine Youth Risk Behavior Survey presented in earlier reports, even when the question wording is similar or identical.

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Appendix A. Percent of all deaths, hospital discharges and emergency department visits that were injury related by age and sex, Maine residents, 2010-2011

AGE (YEARS)	PERCENT OF DEATHS THAT WERE INJURY-RELATED			PERCENT OF HOSPITAL DISCHARGES THAT WERE INJURY-RELATED			PERCENT OF EMERGENCY DEPARTMENT VISITS THAT WERE INJURY-RELATED		
	OVERALL	MALE	FEMALE	OVERALL	MALE	FEMALE	OVERALL	MALE	FEMALE
All ages	6.2%	8.4%	4.0%	5.3%	5.4%	5.2%	28.0%	31.8%	24.7%
Under 1	4.6%	3.8%	5.6%	0.3%	0.3%	0.3%	10.6%	10.5%	10.6%
1-4	31.6%	50.0%	18.2%	8.6%	9.2%	7.8%	27.4%	28.5%	26.1%
5-14	48.6%	54.5%	38.5%	8.4%	10.0%	6.6%	40.1%	43.5%	36.4%
15-24	77.8%	83.5%	62.1%	7.1%	19.3%	3.4%	31.1%	41.7%	23.3%
25-34	59.8%	66.0%	44.9%	4.3%	12.3%	2.1%	26.7%	33.0%	21.6%
35-44	37.8%	43.5%	29.9%	6.3%	9.1%	4.4%	27.1%	31.5%	23.3%
45-54	18.0%	20.9%	13.3%	5.6%	6.0%	5.1%	26.8%	29.3%	24.5%
55-64	6.6%	7.8%	4.5%	4.6%	4.4%	4.9%	26.1%	26.5%	25.8%
65-74	3.0%	3.8%	1.9%	4.0%	3.3%	4.7%	23.9%	23.7%	24.0%
75-84	2.4%	3.0%	1.8%	6.1%	4.4%	7.5%	23.7%	22.4%	24.6%
85 and older	2.9%	3.3%	2.7%	10.3%	7.1%	12.1%	28.3%	24.6%	30.1%

Deaths: Sex was unknown for one death that was injury related and two deaths that were not injury related. Age was unknown for three deaths that were not injury related.

Hospital discharges: Sex was unknown for 14 hospital discharges that were not injury related.

Emergency department visits: Sex was unknown for seven ED visits that were injury related and nine ED visits that were not injury related. Age was unknown for three ED visits that were not injury related.

Appendix B. International Classification of Disease codes used to define injury death indicators

MECHANISM (INTENT)	ICD-10 CODES	DESCRIPTION
All injury (all intents)	V01-X59 X60-X84 X85-Y09 Y10-Y34 Y35-Y36 Y85-Y86 Y87 Y89 U01 U02 U03	Accidents Intentional self-harm Assault Event of undetermined intent Legal intervention and operations of war Sequelae of accidents Sequelae of intentional self-harm, assault and events of undetermined intent Sequelae of other external causes (legal intervention, war operations, unspecified) Terrorism - assault Sequelae of terrorism - assault Terrorism - intentional self-harm
Drowning (unintentional)	W65-W74 V90 V92	Accidental drowning and submersion Accident to watercraft causing drowning and submersion Water-transport-related drowning and submersion without accident to watercraft
Fall-related (unintentional)	W00-W19	Falls (accident)
Fire-related (unintentional)	X00-X09	Exposure to smoke, fire and flames
Firearm-related (all intents)	W32-W34 X72-X74 X93-X95 Y22-Y24 Y35.0 U01.4	Exposure to inanimate mechanical forces – firearm discharge (accident) Intentional self-harm by firearm discharge Assault by firearm discharge Firearm discharge of undetermined intent Legal intervention involving firearm discharge Terrorism involving firearms
Homicide	X85-Y09 Y87.1 U01 U02	Assault Sequelae of assault Terrorism - assault Sequelae of terrorism - assault

MECHANISM (INTENT)	ICD-10 CODES	DESCRIPTION
Motor vehicle traffic (unintentional)	V02-V04 (.1, .9), V09.2	Pedestrian injured in transport accident
	V12-V14 (.3-.9), V19 (.4-.6)	Pedal cyclist injured in transport accident
	V20-V28 (.3-.9), V29 (.4-.9)	Motorcycle rider injured in transport accident
	V30-V39 (.4-.9)	Occupant of three-wheeled motor vehicle injured in transport accident
	V40-V49 (.4-.9)	Car occupant injured in transport accident
	V50-V59 (.4-.9)	Occupant of pick-up truck or van injured in transport accident
	V60-V69 (.4-.9)	Occupant of heavy transport vehicle injured in transport accident
	V70-V79 (.4-.9) V80 (.3-.5), V81.1, V82.1, V83-V86 (.0-.3), V87 (.0-.8), V89.2	Bus occupant injured in transport accident Other land transport accidents
Poisoning (all intents)	X40-X49	Accidental poisoning by and exposure to noxious substances
	X60-X69	Intentional self-poisoning
	X85-X90	Assault by poisoning
	Y10-Y19	Poisoning of undetermined intent
	Y35.2	Legal intervention involving gas
	U01 (.6-.7)	Terrorism involving biological or chemical weapons
Suicide (self-inflicted)	X60-X84	Intentional self-harm
	Y87.0	Sequelae of intentional self-harm
	U03	Terrorism - intentional self-harm

MECHANISM (INTENT)	ICD-10 CODES	DESCRIPTION
Traumatic brain injury (all intents)	<p>Underlying cause of death is: V01-Y36, Y85-Y87, Y89, U01-U03</p> <p><u>and</u></p> <p>Any of the multiple cause fields is: S01.0-S01.9 S02.0, S02.1, S02.3, S02.7-S02.9 S04.0 S06.0-S06.9 S07.0, S07.1, S07.8, S07.9 S09.7-S09.9 T01.0 T02.0 T04.0 T06.0</p> <p>T90.1, T90.2, T90.4, T90.5, T90.8, T90.9</p>	<p>Injury</p> <p>Open wound of head Fracture of skull and certain facial bones Injury of optic nerve and pathways Intracranial injury Crushing injury of head Other and unspecified injuries of head Open wounds involving head with neck Fractures involving head with neck Crushing injuries involving head with neck Injuries of brain and cranial nerves with injuries of nerves and spinal cord at neck level Sequelae of injuries of head</p>
Unintentional injury	V01-X59 Y85-Y86	Accidents Sequelae of accidents

Appendix C. International Classification of Disease codes used to define injury hospital discharge and emergency department visit indicators*

MECHANISM (INTENT)	ICD-9-CM CODES	DESCRIPTION
All injury (all intents)	N-codes: 800-909.2, 909.4, 909.9-994.9, 995.5-995.59, 995.80-995.85 and/or E-codes (used only for ED visit indicator): E800-E869, E880- E929, E950-E999	Injury and poisoning Injury and poisoning
Drowning and near-drowning (unintentional)	N-codes: 994.1 and/or E-codes: E830 E832 E910 E954 E964 E984	Drowning and nonfatal submersion Accident to watercraft causing submersion Other accidental submersion or drowning in water transport accident Accidental drowning and submersion Suicide and self-inflicted injury by submersion (drowning) Assault by submersion (drowning) Submersion (drowning), undetermined whether accidentally or purposely inflicted
Fall (unintentional)	E-codes: E880-E886, E888	Accidental falls
Fire-related (unintentional)	E-codes: E890-E899	Accident caused by fire and flames
Firearm-related (all intents)	E-codes: E922.0-E922.3, E922.8, E922.9 E955.0-E955.4 E965.0-E965.4 E985.0-E985.4 E970 E979.4	Accident caused by firearm missile Suicide and self-inflicted injury by firearms Assault by firearms Injury by firearms, undetermined whether accidentally or purposely inflicted Injury due to legal intervention by firearms Terrorism involving firearms
Hip fracture (all intents)	N-code: 820	Fracture of neck of femur

MECHANISM (INTENT)	ICD-9-CM CODES	DESCRIPTION
Homicide / assault	E-codes: E960-E969 E979 E999.1	Injury purposely inflicted by other persons Terrorism Late effect of injury due to terrorism
Motor vehicle traffic (unintentional)	E-codes: E810-E819	Motor vehicle traffic accidents
Poisoning (all intents)	E-codes: E850-E858 E860-E869 E950-E952 E962 E972 E980-E982 E979 (.6-.7)	Accidental poisoning by drugs, medicinal substances and biologicals Accidental poisonings by other solid and liquid substances, gases and vapors Suicide and self-inflicted poisoning Assault by poisoning Injury due to legal intervention by gas Poisoning undetermined whether accidentally or purposely inflicted Terrorism involving biological or chemical weapons
Self-inflicted (including suicide attempt)	E-codes: E950-E959	Suicide and self-inflicted injury
Traumatic brain injury (all intents)	N-codes: 800.00-801.99 803.00-803.99 804.00-804.99 850.0-850.9 851.00-854.19 950.1-950.3 959.01 995.55	Fracture of the vault or base of the skull Other and unqualified skull fractures Multiple fractures involving skull or face with other bones Concussion Intracranial injury, including contusion, laceration and hemorrhage Injury to the optic chiasm, optic pathways or visual cortex Head injury, unspecified Shaken infant syndrome
Unintentional injury	E-codes: E800-E869, E880-E929	Railway accidents; motor vehicle traffic accidents; motor vehicle non-traffic accidents; other road vehicle accidents; water transport accidents; air and space transport accidents; vehicle accidents not elsewhere classifiable; accidental poisoning by drugs, medicinal substances and biologicals; accidental poisoning by other solid and liquid substances, gases and vapors; accidental falls; accidents caused by fire and flames; accidents due to natural and environmental factors; accidents caused by submersion, suffocation and foreign bodies; other accidents; late effects of accidental injury

* The above indicator definitions were applied to injury hospital discharges and emergency department visits, as defined in the *Data Sources* section of the Technical Notes.



Paul R. LePage, Governor

Mary C. Mayhew, Commissioner

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