Maine Injury Prevention Program

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Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services

John E. Baldacci, Governor Brenda M. Harvey, Commissioner

2006 Maine Injury Report




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2006 Maine Injury Report

This report is produced as part of the Public Health Injury Surveillance and Prevention Program cooperative agreement between the Centers for Disease Control and Prevention (CDC) and the Maine Center for Disease Control and Prevention. This report fulfills an objective of the Maine Injury Prevention Strategic Plan to produce an injury surveillance data report for distribution to Maine's residents and injury prevention stakeholders.

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2006 Maine Injury Report

Introduction

Injuries are a preventable public health problem and reducing injuries and the resulting disabilities and deaths is one of the Healthy Maine 2010 goals. Effective injury prevention and control efforts span from preventing the injury from happening in the first place, to treatment, rehabilitation and management of impairments and disabilities related to injury. The 2006 Maine Injury Report summarizes findings from surveillance data and presents an overview of the burden of injury in Maine and prevention efforts.

The World Health Organization (WHO) defines injury as "the physical damage that results when a human body is suddenly or briefly subjected to intolerable levels of energy. It can be a bodily lesion resulting from acute exposure to energy in amounts that exceed the threshold of physiological tolerance, or it can be an impairment of function resulting from a lack of one or more vital elements (i.e., air, water, warmth), as in drowning, strangulation or freezing. The time between exposure to the energy and the appearance of an injury is short." [1]

An injury can be described by its nature (e.g., fracture, concussion) and its cause. The cause of an injury is described 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, operation of war or undetermined. Mechanism refers to the external cause of injury, such as fall, firearm, motor vehicle traffic crash, or poisoning

Injury surveillance is the ongoing process of tracking and monitoring rates, causes, and circumstances related to fatal and non-fatal injuries. Surveillance data provide an overview of the health of a population, describing a health outcome or risk factor according to time, personal characteristics—such as sex and age—and geography. Surveillance data contributes to a clearer understanding of the burden and scope of injury. Since July 2005, a cooperative agreement from the Centers for Disease Control and Prevention (CDC), has allowed the Maine Injury Prevention Program (MIPP) the opportunity to review injury-related surveillance data for all ages and all injury types.

The data for this report come from two surveillance data sources: (1) the 2006 Maine death certificate statistical dataset, managed by the Office of Data, Research and Vital Statistics (ODRVS) of the Maine Center for Disease Control and Prevention, and (2) the 2006 inpatient hospital discharge dataset, maintained by the Maine Health Data Organization (MHDO).

This report provides 2006 Maine resident data on more than 20 injury indicators defined by the federal CDC. Most indicators describe deaths or hospital discharges due to a particular intent and/or mechanism. Data are presented for the following indicators:

- Injury Deaths and Hospital Discharges by Intent of Injury
  - All Injuries
  - Unintentional Injuries
  - Suicides and Suicide Attempts/Self-Inflicted Injuries
  - Homicides and Assault Injuries
- Injury Deaths and Hospital Discharges by Mechanism of Injury
  - Unintentional Drowning and Nonfatal Near Drowning
  - Unintentional Falls
  - Unintentional Fires
  - Unintentional Motor Vehicle Crashes
  - Firearms
  - Poisonings
- Injury Deaths and/or Hospital Discharges by Type of Injury
  - Traumatic Brain Injuries
  - Hip Fractures, Residents 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 two different purposes. Crude rates (or the actual number of events) are used to measure or compare the absolute magnitude of injury indicators. The calculated numeric value of an age-adjusted rate depends on the standard population used and therefore has no intrinsic meaning. Age-adjusted rates are only used 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 at two different points in time and control for the aging of the population over time). The age-adjusted rates presented in this report can only be compared with other age-adjusted rates that are adjusted to the 2000 U.S. standard population.

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

Section I. Injury Key Findings

Injuries are the leading cause of death among Maine residents, ages 1 to 44 years and a significant cause of morbidity and mortality in all ages. Among leading causes of death between 2001 and 2005, unintentional injury ranked first for Mainers between the ages of 1 and 44 years, and suicide ranked second among 15 to 24 and 25 to 39 year-olds. Each year in Maine, an average of 14,469 years of potential life are lost (YPLL) before age 65 due to fatal injuries.[2] Recent studies estimate that a single year's injury fatalities among Maine residents result in over 8 million dollars in medical costs, nearly 600 million dollars in work loss costs and 1.2 billion dollars in quality of life costs. [3,4,5]

The 2006 mortality and hospitalization data support the significance of injury as a public health concern in Maine. Each day more than two Maine residents die as a result of an injury, nearly 22 are discharged from an acute care hospital after hospitalization for an injury. **Table 1** displays injury deaths and hospital discharges occurring among Maine residents overall, and by age and sex.

Table 1. All Injury Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	759	57.4	53.8	7,939	600.7	552.2
By sex:						
Male	511	79.0	76.8	3,607	558.0	560.8
Female	248	36.7	31.8	4,332	641.6	523.5
By age:						
<1 year	2	*	---	42	302.6	---
1-4 years	3	*	---	120	212.9	---
5-14 years	12	*	---	245	158.3	---
15-24 years	108	62.9	---	808	470.6	---
25-34 years	81	53.4	---	632	417.0	---
35-44 years	123	63.0	---	805	412.1	---
45-54 years	126	57.9	---	957	439.6	---
55-64 years	95	56.7	---	774	461.8	---
65-74 years	53	54.0	---	786	800.4	---
75-84 years	74	109.8	---	1,426	2115.1	---
85+ years	82	303.6	---	1,344	4975.6	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

Table 2. Percent of All Deaths and Hospital Discharges that were Injury Related, Maine Residents, 2006

	Percent of Deaths that were Injury-Related			Percent of Hospital Discharges that were Injury-Related		
	Overall	Male	Female	Overall	Male	Female
< 1 yr	2.2%	1.9%	2.7%	0.0%	0.2%	0.3%
1-4	25.0%	16.7%	33.3%	9.2%	9.2%	8.2%
5-14	54.6%	55.6%	50.0%	12.2%	15.0%	8.6%
15-24	77.1%	83.5%	62.8%	7.9%	22.0%	3.4%
25-34	55.9%	61.4%	43.2%	4.5%	14.2%	1.9%
35-44	39.9%	44.1%	32.8%	6.2%	9.3%	4.2%
45-54	15.4%	18.3%	9.9%	5.7%	6.3%	5.1%
55-64	6.8%	8.2%	4.4%	4.0%	3.7%	4.3%
65-74	2.6%	3.1%	2.0%	3.6%	2.6%	4.6%
75-84	2.1%	2.4%	1.8%	5.7%	3.8%	7.2%
85+	2.2%	2.1%	2.2%	10.0%	6.9%	11.7%
All Ages	6.2%	8.4%	4.0%	5.2%	5.5%	5.0%

Injury Deaths

- 759 Maine residents died from an injury in 2006, representing six percent of all deaths among Maine residents.
- More than two-thirds of injury deaths occurred among males (67 percent); the age-adjusted rate of all injury-related fatalities was 76.8 deaths per 100,000 males and 31.8 deaths per 100,000 females.)
- Older individuals experienced higher rates of injury deaths; the rate was highest among individuals aged 85+ years (303.6 per 100,000).
- Approximately one in seven injury deaths occurred among those under age 25. Three-quarters (77 percent) of deaths of 15 to 24 year-olds and 56 percent of deaths of 25 to 34 year-olds were due to injury.
- The age-adjusted rate of injury death in 2006 was slightly less than in 2005 (53.8 versus 56.0 per 100,000). As seen in **Figure1**, because the confidence intervals (indicated by the vertical bars) of the 2005 and 2006 rates overlap, the observed difference between these two rates is not statistically significant.

Figure 1. All Injury Death Rates, Age-Adjusted, (per 100,000), Maine Residents, 2000-2006

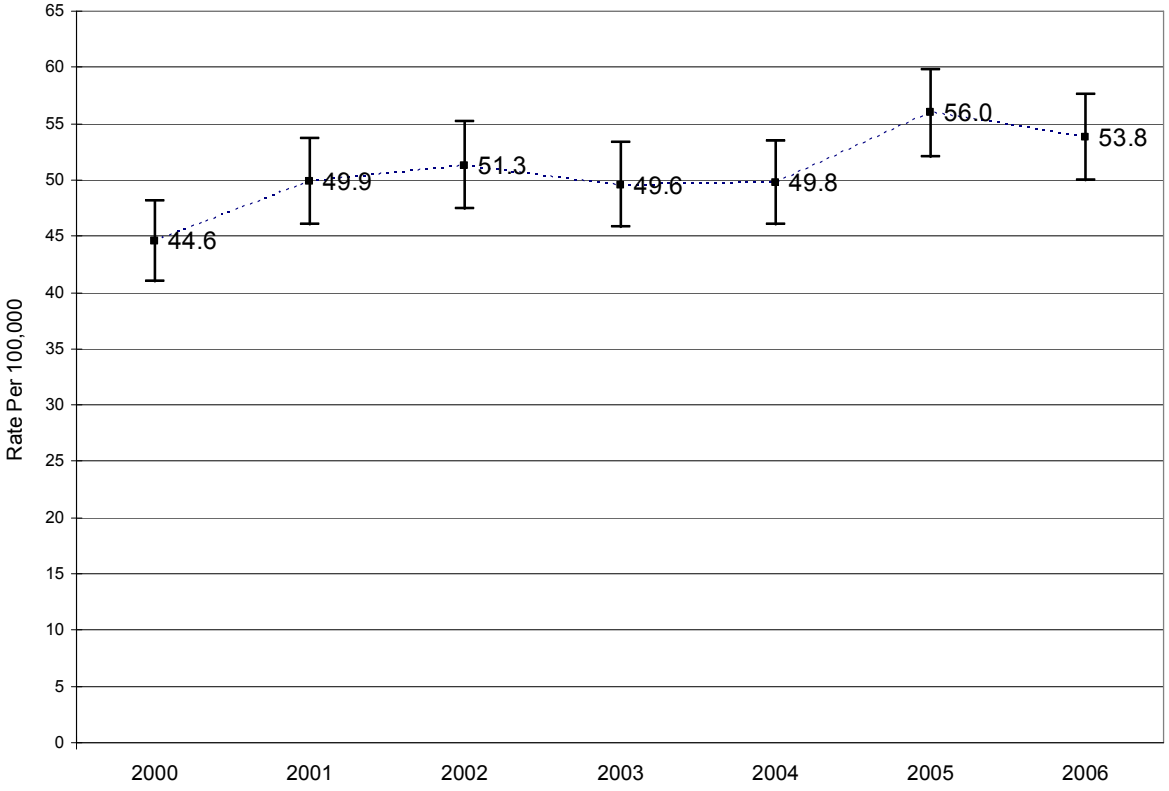
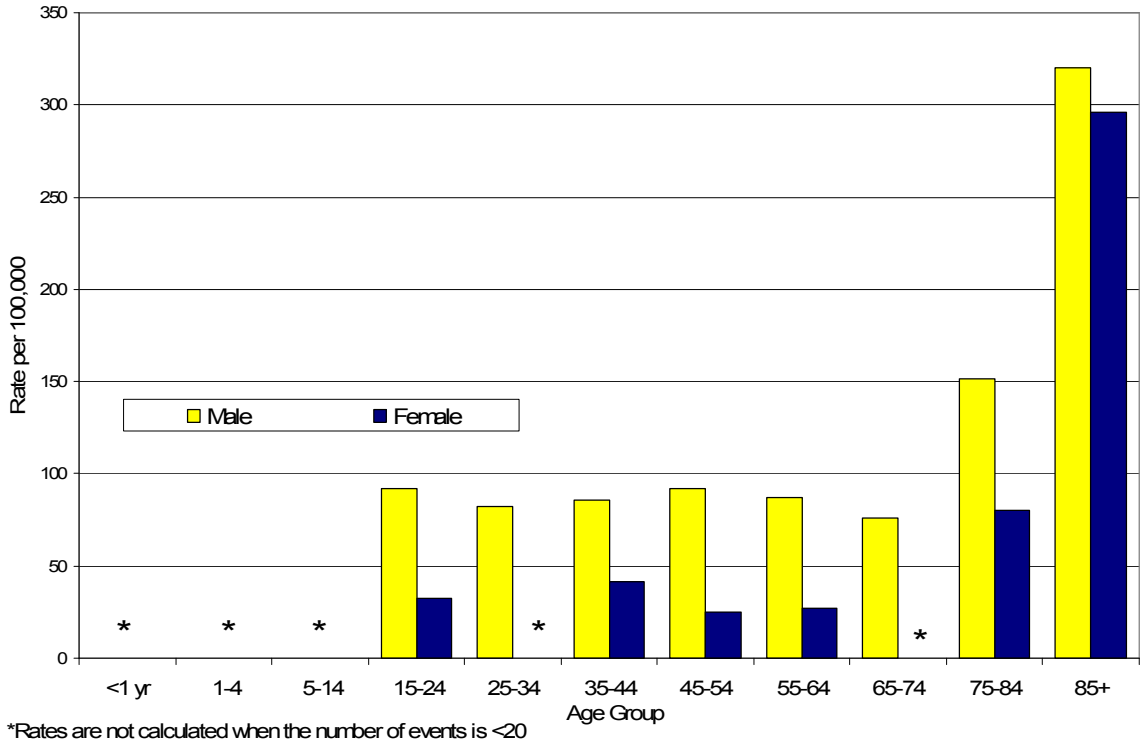


Figure 2. Age and Gender-Specific Rates of Death for Injury (per 100,000), Maine Residents, 2006



*Rates are not calculated when the number of events is <20

Injury Hospital Discharges

- Injuries among Maine residents resulted in nearly 8,000 hospital discharges from Maine hospitals in 2006, representing five percent of all acute care hospital discharges.
- Forty-five percent of injury-related hospital discharges from Maine hospitals were among those ages 65 and greater. The highest injury hospital discharge rate was found among adults aged 85+ years (4975.6 per 100,000 population).
- Approximately one in seven injury-related hospital discharges occurred among those under age 25. Nearly one-quarter (22 percent) of hospital discharges among 15 to 24 year-old males were due to injury, in contrast to only three percent of hospital discharges among 15 to 24 year-old females.
- Although more than half of injury-related hospital discharges occurred among females, males had a higher age-adjusted rate of all injury-related hospital discharges (560.8 versus 523.5 per 100,000 population,).
- The age-adjusted rate of injury hospital discharges in 2006 was slightly less than in 2005 (552.2 versus 571.0 per 100,000 population). As seen in **Figure 3**, because the confidence intervals (indicated by the vertical bars) of the 2005 and 2006 rates overlap, the observed difference between these two years is not statistically significant.

Figure 3. All Injury Hospital Discharge Rates, Age-Adjusted, Maine Residents, 2000-2006

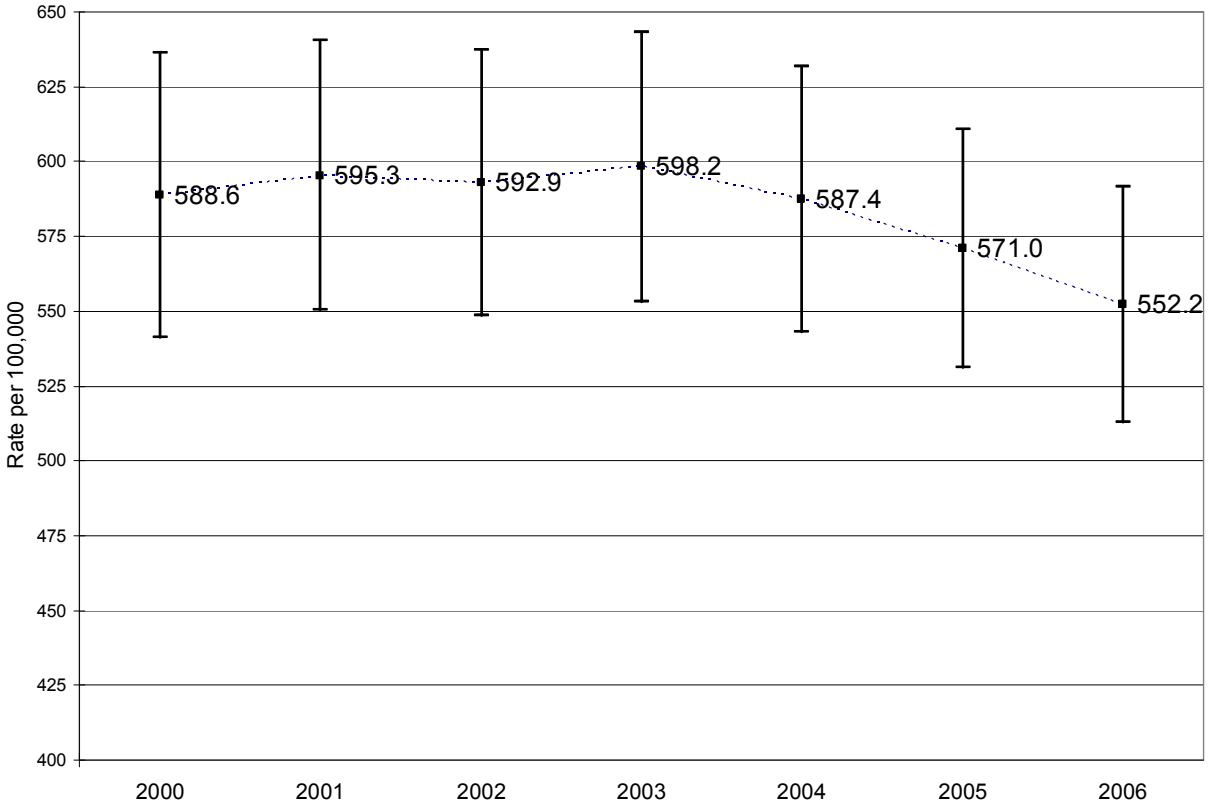
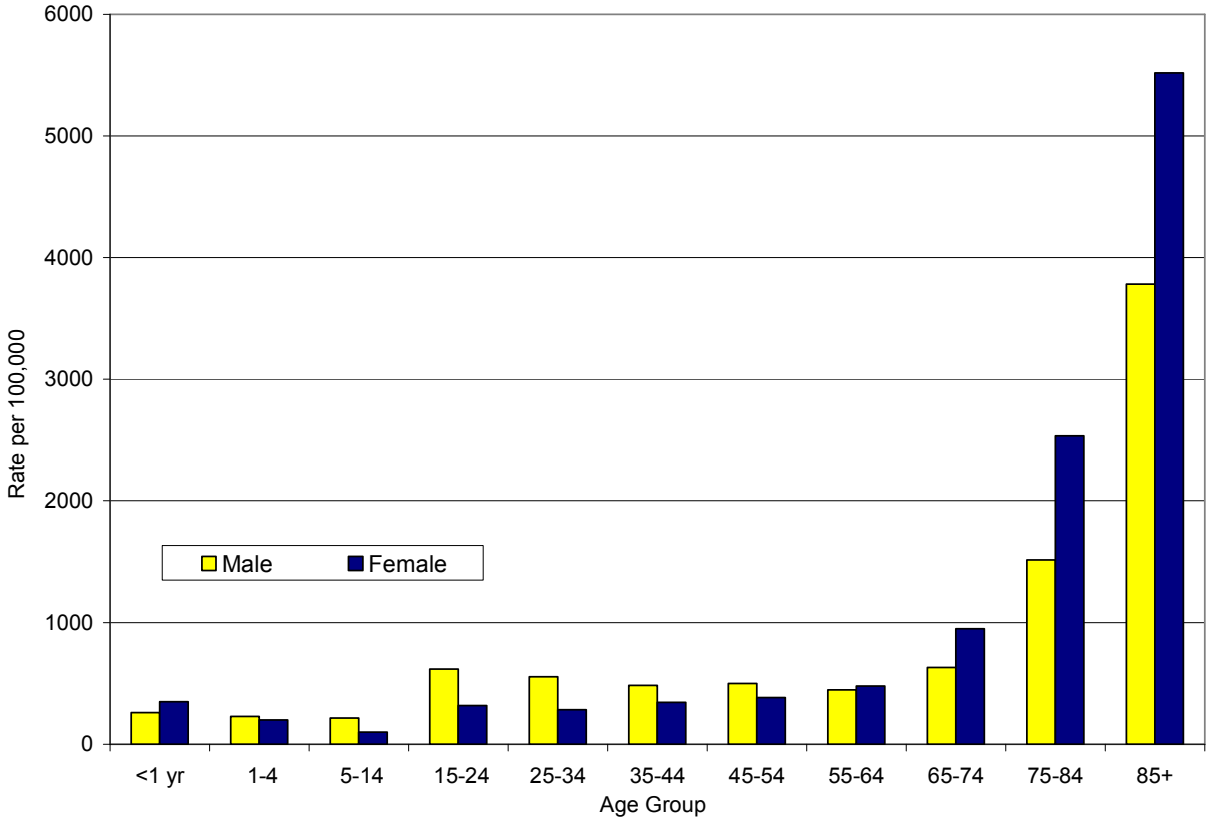
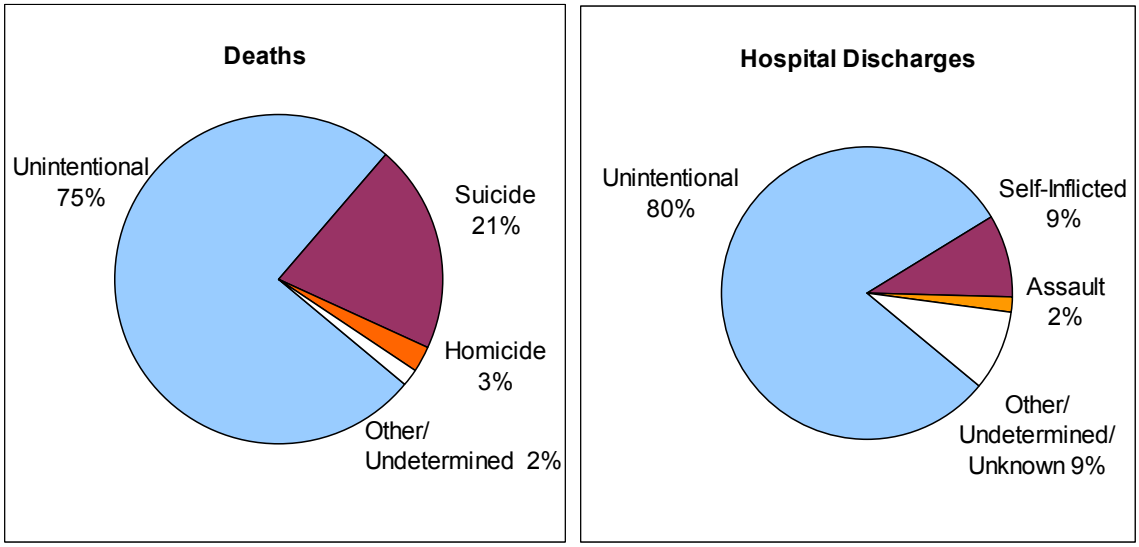


Figure 4. Age and Gender-Specific Rates of Injury Hospital Discharges (per 100,000), Maine Residents, Acute Care Hospitals, 2006



Section II. Intent of Injury

Figure 5. Intent, Injury Deaths, and Hospital Discharges, Maine Residents, 2006



- Unintentional injuries made up 75 percent of all injury deaths and 80 percent of all injury hospital discharges.
- Suicides made up 21 percent of all injury deaths, while self-inflicted injuries made up nine percent of injury hospital discharges.
- Intentional injuries are those that result from purposeful human actions intended to cause harm as directed to self or others. Suicide and homicide deaths totaled 176 in 2006. Combined, these intentional deaths were nearly as many as those caused by unintentional motor vehicle traffic crashes (183) during the same time period.
- Nearly nine suicides occurred for every one homicide. The age-adjusted rate of death from homicide among Maine residents was 1.5 homicides per 100,000 people, while the age-adjusted rate of death from suicide was 10.9 per 100,000.

Unintentional Injury

Table 3. All Unintentional Injury Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	571	43.2	40.5	6,375	482.4	437.2
By sex:						
Male	370	57.2	56.4	2,901	448.8	451.0
Female	201	29.8	25.1	3,474	514.6	406.1
By age:						
<1 year	1	*	---	29	208.9	---
1-4 years	5	*	---	108	191.6	---
5-14 years	9	*	---	216	139.5	---
15-24 years	87	50.7	---	546	318.0	---
25-34 years	59	38.9	---	405	267.2	---
35-44 years	85	43.5	---	534	273.3	---
45-54 years	84	38.6	---	698	320.6	---
55-64 years	58	34.6	---	644	384.3	---
65-74 years	41	41.7	---	697	709.7	---
75-84 years	63	93.4	---	1,269	1882.2	---
85+ years	79	292.5	---	1,229	4549.8	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- Unintentional injury refers to an incident where there was no intent to injure or harm oneself or another person.
- 571 Maine residents died from an unintentional injury in 2006 (age-adjusted rate of 40.5 per 100,000), accounting for 75 percent of all injury deaths. Unintentional injury hospital discharges among Maine residents numbered 6,375 (age-adjusted rate of 437.2 per 100,000).
- The age-adjusted rates of unintentional injury death and hospital discharge among males were greater than for females (56.4 and 451.0 per 100,000 males versus 25.1 and 406.1 per 100,000 females).
- The age-specific rates of unintentional injury deaths and hospital discharges were greatest among those 85 years and above (292.5 deaths per 100,000 and 4,549.8 hospital discharges per 100,000).
- The most common causes of death due to unintentional injuries were motor vehicle crashes (32 percent), poisonings (25 percent), and falls (14 percent); the most common causes of hospital discharges due to unintentional injuries were falls (60 percent), motor vehicle crashes (15 percent), and poisonings (five percent).
- Maine met the Healthy Maine 2010 target of no more than 615.0 nonfatal unintentional injury hospital discharges per 100,000 (age-adjusted) for the first time in 2006, but has not yet met the target of reducing deaths caused by unintentional injury to no more than 27.0 per 100,000.

Suicide and Intentional Self-injury

Table 4. Suicide and Suicide Attempt Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	156	11.8	10.9	731	55.3	55.8
By sex:						
Male	124	19.2	17.8	311	48.1	47.9
Female	32	4.7	4.5	420	62.2	63.4
By age:						
<1 year	0	*	---	0	*	---
1-4 years	0	*	---	0	*	---
5-14 years	0	*	---	12	*	---
15-24 years	14	*	---	153	89.1	---
25-34 years	17	*	---	140	92.4	---
35-44 years	33	16.9	---	182	93.2	---
45-54 years	38	17.5	---	160	73.5	---
55-64 years	32	19.1	---	58	34.6	---
65-74 years	10	*	---	11	*	---
75-84 years	9	*	---	11	*	---
85+ years	3	*	---	4	*	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- Suicide refers to completed suicides; self-inflicted injury hospital discharges include completed suicides in which the person lives long enough to be hospitalized, suicide attempts, and other intentional self-injurious behavior like cutting or burning oneself.
- There were 156 deaths among Maine residents due to suicides in 2006 (10.9 per 100,000) and 731 hospital discharges due to intentional self-injury (55.8 per 100,000).
- The age-adjusted rate for suicide among females was considerably lower than the rate for males (4.5 versus 17.8 per 100,000). The age-adjusted rate for intentional self-injury hospital discharges, on the other hand, was greater for females than for males, (63.4 versus 47.9 per 100,000).
- Two-thirds (66 percent) of the suicide deaths in 2006 occurred among Maine residents between the ages of 35 and 64 years; older residents (aged 65 and older) accounted for 14 percent of suicide deaths.
- Age-specific hospital discharge rates for intentional self-injury were highest among persons aged 25 to 34 (92.4 per 100,000) and 35 to 44 (93.2 per 100,000). Hospital discharges among these two age-groups accounted for more than 44 percent of the total intentional self-injury hospital discharges.
- The leading mechanisms of suicide among Maine residents in 2006 were firearms (55 percent), hanging, strangulation and suffocation (22 percent), and poisoning (19 percent); in contrast, 92 percent of intentional self-injury hospital discharges were poisoning related.
- Maine met the Healthy Maine 2010 targets of reducing suicide deaths to no more than 12.7 suicides per 100,000 and self-inflicted injury hospital discharges to no more than 62.3 per 100,000.

2008 Injury Prevention Activities

- The Maine Youth Suicide Prevention Program (MYSPP), housed within the Maine Injury Prevention Program (MIPP), conducted its 4th Annual Beyond the Basics Conference, and hosted its annual Blaine House Youth Prevention Recognition Day in April.
- The MYSPP recently received three year funding from the Garret Lee Smith Memorial Act, a grant from the Substance Abuse Mental Health Services Administration (SAMHSA) that allows a strategic expansion of key priorities included in Maine's Youth Suicide Prevention Plan. It builds on collaborations and linkages to enhance the capacity of schools and service providers to provide a culturally competent, sustainable system of prevention, early identification, intervention and referral for families and youth in selected areas of the state.
- The MIPP staff will reconvene the Lethal Means Committee of the MYSPP to pursue the development of a statewide public safety policy on the removal of access to lethal means from the home of an individual considered to be at risk for or exhibiting suicidal ideation.
- Members of the MYSPP continue to participate on the Injury Prevention Group (IPG).

Homicide and Assault Injury

Table 5. Homicide and Assault-Related Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	20	1.5	1.5	114	8.6	9.0
By sex:						
Male	12	*	*	105	16.2	16.6
Female	8	*	*	9	*	*
By age:						
<1 year	0	*	---	2	*	---
1-4 years	0	*	---	2	*	---
5-14 years	1	*	---	1	*	---
15-24 years	3	*	---	38	22.1	---
25-34 years	4	*	---	29	19.1	---
35-44 years	4	*	---	13	*	---
45-54 years	4	*	---	21	9.6	---
55-64 years	1	*	---	5	*	---
65-74 years	2	*	---	1	*	---
75-84 years	1	*	---	2	*	---
85+ years	0	*	---	0	*	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- Homicide and assault injury refer to an injury purposefully inflicted by a person against another person, but not including those that are a result of legal intervention or war.
- The number of deaths among Maine residents due to homicides in 2006 was 20; there were 114 hospital discharges due to assaults.
- The age-adjusted death rate was 1.5 per 100,000, and the rate of assault-related hospital discharge was 9.0 per 100,000.
- Sixty percent of the homicides and 92 percent of assault-related hospital discharges occurred among males.
- Forty percent of the homicides and 63 percent of assault-related hospital discharges occurred among residents under 35 years of age.
- Nearly one-third (32 percent) of assault-related hospital discharges were among males in the 15 to 24 year old age group.
- Maine has met the Healthy Maine 2010 target of reducing nonfatal assault-related hospital discharges to no more than 9.9 per 100,000 population.

2008 Injury Prevention Activities

- The Maine Injury Prevention Program continues to provide funding to the University of Maine, Peace Studies and the University of Southern Maine, Maine Law and Civics Education Program conducting youth conflict management, peer mediation, and bullying prevention programs.
- The educational portion of the IPG meeting hosted a representative from the Maine Coalition Against Sexual Assault who provided an overview of the organization, along with accompanying contact information and educational materials.
- MIPP and IPG maintain and distribute a state and national resource directory containing agency contact information on intimate partner violence prevention.

Section III. Mechanism of Injury

Unintentional Drowning and Near-Drowning

Table 6. Unintentional Drowning and Near-Drowning Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	20	1.5	1.4	10	*	*
By sex:						
Male	14	*	*	5	*	*
Female	6	*	*	5	*	*
By age:						
<1 year	0	*	---	0	*	---
1-4 years	1	*	---	2	*	---
5-14 years	1	*	---	1	*	---
15-24 years	3	*	---	1	*	---
25-34 years	0	*	---	0	*	---
35-44 years	3	*	---	2	*	---
45-54 years	3	*	---	0	*	---
55-64 years	5	*	---	2	*	---
65-74 years	2	*	---	0	*	---
75-84 years	1	*	---	1	*	---
85+ years	1	*	---	1	*	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- In 2006, there were 20 deaths and 10 hospital discharges among Maine residents as a result of unintentional drowning or near drowning.
- The age-adjusted unintentional drowning death rate was 1.4 per 100,000.
- Seventy percent of the unintentional drowning fatalities were male, as were 50 percent of the unintentional drowning / near drowning hospital discharges.
- There is no drowning objective in Healthy Maine 2010. Maine has not yet met the national Healthy People 2010 objective of no more than 0.7 drowning fatalities per 100,000 (age-adjusted).

2008 Injury Prevention Activities

- MIPP staff drafted legislation to amend current Maine pool barrier standards for the upcoming 2008/09 session. Proposed legislation would require all newly constructed swimming pools be surrounded by four walls, a side of a house would not be considered one barrier.

Unintentional Fall-Related Injury

Table 7. Unintentional Fall-Related Injury Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	79	6.0	4.9	3,820	289.0	248.0
By sex:						
Male	48	7.4	7.3	1,356	209.8	211.3
Female	31	4.6	3.1	2,464	365.0	267.8
By age:						
<1 year	0	*	---	14	*	---
1-4 years	0	*	---	42	74.5	---
5-14 years	0	*	---	85	54.9	---
15-24 years	0	*	---	77	44.9	---
25-34 years	1	*	---	95	62.7	---
35-44 years	3	*	---	172	88.0	---
45-54 years	8	*	---	309	141.9	---
55-64 years	10	*	---	375	223.8	---
65-74 years	12	*	---	497	506.1	---
75-84 years	16	*	---	1,064	1578.1	---
85+ years	29	107.4	---	1,090	4035.2	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- There were 79 deaths among Mainers due to unintentional falls in 2006 and 3,820 fall-related hospital discharges.
- The age-adjusted death rate due to unintentional falls in Maine was 4.9 per 100,000 and the hospital discharge rate was 248.0 per 100,000.
- The age-adjusted death rate for males was 2.4 times the rate of females, (7.3 versus 3.1 per 100,000); while the hospital discharge rate was slightly greater among females than males (267.8 versus 211.3 per 100,000).
- In 2006, none of the deaths due to unintentional falls were among Mainers under 20 years of age.
- Almost three of every four unintentional fall-related deaths (72 percent) and hospital discharges (70 percent) occurred among Mainers aged 65 and older. Females aged 85 and older had the highest age-specific unintentional fall-related hospital discharge rate at 4,490 per 100,000, accounting for 22 percent of the total unintentional fall-related hospital discharges.
- Maine has not yet met the Healthy Maine 2010 target of no more than 4.0 deaths due to falls per 100,000 residents, although the state has met the target of no more than 366 fall-related hospital discharges per 100,000.

2008 Injury Prevention Activities

- In partnership with the Office of the Maine Fire Marshal, MIPP staff participated in a Senior Spectrum cable television program which addressed the issues of falls and fire safety among older adults. Topics such as proper lighting, clear pathways, and the need to have, and practice an escape plan were also highlighted. The program is being run through October – Fire Prevention Month.
- Data continues to be provided upon request to the Office of Elder Services, Area Agencies on Aging and other partners and stakeholders.
- MIPP staff continue to participate on the Maine Falls Prevention Coalition and the Health Choices for ME committee.
- The IPG supported the efforts of a proclamation submitted to the Governor to recognize the week of September 21 as Falls Prevention Week.

Unintentional Fire-Related Injury

Table 8. Unintentional Fire-Related Injury Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	9	*	*	55	4.2	4.4
By sex:						
Male	6	*	*	39	6.0	6.4
Female	3	*	*	16	*	*
By age:						
<1 year	0	*	---	0	*	---
1-4 years	1	*	---	1	*	---
5-14 years	1	*	---	6	*	---
15-24 years	0	*	---	9	*	---
25-34 years	0	*	---	14	*	---
35-44 years	2	*	---	9	*	---
45-54 years	0	*	---	8	*	---
55-64 years	2	*	---	3	*	---
65-74 years	2	*	---	2	*	---
75-84 years	1	*	---	3	*	---
85+ years	0	*	---	0	*	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- Unintentional fire-related injuries (unintentional exposure to fire, smoke, and flames) accounted for nine deaths and 55 hospital discharges among Maine residents in 2006.
- Two-thirds of the unintentional fire-related deaths and 71 percent of the unintentional fire-related hospital discharges were among males.

2008 Injury Prevention Activities

- MIPP staff, in partnership with the State Fire Marshal's office, the Office of Elder Services, and the Northern New England Poison Center, participated on a local cable television program addressing the issue of falls and fire safety among older adults. Topics included: Rx medication impacting balance and clear thinking, increasing the risk of falls, the criticalness of having and practicing an escape plan, and keeping hallways clear and well lit. Contact information for the poison center and falls prevention work was provided. The program airs the month of October, fire prevention month.
- The IPG and their stakeholders and partners were linked to the National Home Safety Council's free smoke alarm campaign. A completed application sample was provided to the IPG. To date, several agency representatives have shared their success in obtaining 50 to 250 smoke alarms.
- MIPP staff will participate on the Maine Juvenile Fire Safety Collaborative, created by the Governor in June 2008. The Maine JFS Collaborative is established for the purpose of prevention of injuries, the loss of life, and the loss of property from juvenile-set fires.
- The epidemiologist for the IPG continues to provide fire related data upon request to IPG members and other stakeholders and partners.

Unintentional Motor Vehicle Traffic Injury

Table 9. Unintentional Motor Vehicle Traffic Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	183	13.8	13.5	961	72.7	71.5
By sex:						
Male	125	19.3	19.1	570	88.2	87.6
Female	58	8.6	8.2	391	57.9	55.5
By age:						
<1 year	0	*	---	0	*	---
1-4 years	1	*	---	8	*	---
5-14 years	4	*	---	27	17.4	---
15-24 years	49	28.5	---	230	134.0	---
25-34 years	21	13.9	---	142	93.7	---
35-44 years	27	13.8	---	148	75.8	---
45-54 years	23	10.6	---	154	70.7	---
55-64 years	18	*	---	103	61.5	---
65-74 years	15	*	---	68	69.2	---
75-84 years	19	*	---	50	74.2	---
85+ years	6	*	---	31	114.8	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- There were 183 Maine resident deaths and 961 hospital discharges related to unintentional motor vehicle traffic incidents in 2006.
- The age-adjusted death rate was 13.5 per 100,000 and the hospital discharge rate was 71.5 per 100,000 persons.
- Males accounted for 68 percent of the unintentional motor vehicle traffic deaths and 59 percent of the unintentional motor vehicle traffic hospital discharges. The age-adjusted death rate for males was 2.3 times than that of females (19.1 versus 8.2 per 100,000). The age-adjusted hospital discharge rate for males was 1.6 times than that of females (87.6 versus 55.5 per 100,000).
- The age-specific death rate was highest among persons aged 15-24; accounting for 27 percent of the total unintentional motor vehicle traffic deaths. Additionally, 22 percent of deaths occurred among Maine residents aged 65 or greater.
- The 15-24 age group had the highest unintentional motor vehicle traffic hospital discharge rate (134.0 per 100,000 persons), and accounted for 25 percent of the total hospital discharges for this indicator.
- Maine has not met the Healthy Maine 2010 target of reducing deaths caused by motor vehicle crashes to no more than 10.6 per 100,000. Maine has met the target of reducing nonfatal motor vehicle related hospital discharges to no more than 82 per 100,000.

2008 Injury Prevention Activities

- MIPP is partnering with the Bureau of Highway Safety, and the Children's Safety Network to evaluate Maine's Child Passenger Safety Seat Program. The evaluation focus is CPS Technician knowledge and certification retention. Survey questions will be distributed via Survey Monkey to 192 CPS Technicians statewide in mid-December. A report of the results will be distributed to MIPP partners and stakeholders.
- MIPP is assisting and participating in the formation of a teen driver safety focus group. Representatives include the Office of Substance Abuse, MaineDOT, MaineDMV, AAA, Public Safety, and the Safety and Health Council, with others being recruited.
- MIPP is working with IPG partner, Safety and Health Council (Maine office), to evaluate their Alive@25 teen driver safety program. Seven programs are being supported by the MIPP / CDC Surveillance Grant in partnership with the National Safety and Health Council as the Maine office pursues Safe Communities America designation.
- As part of the U.S. Launch of the World Report by WHO in December 2008, Maine is one of nine states selected to host a safety event during 2009. MIPP, in partnership with the Bureau of Highway Safety and Maine Safe Kids, will conduct a child passenger safety check up event in September 2009. MIPP has participated in a conference call outlining technical support etc. to be provided.

Firearm-Related Injury

Table 10. Firearm-Related Injury Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	104	7.9	7.3	30	2.3	2.3
By sex:						
Male	87	13.5	12.4	28	4.3	4.3
Female	17	*	*	2	*	*
By age:						
<1 year	0	*	---	0	*	---
1-4 years	0	*	---	0	*	---
5-14 years	1	*	---	0	*	---
15-24 years	11	*	---	7	*	---
25-34 years	11	*	---	5	*	---
35-44 years	18	*	---	6	*	---
45-54 years	22	10.1	---	8	*	---
55-64 years	20	11.9	---	1	*	---
65-74 years	11	*	---	1	*	---
75-84 years	8	*	---	2	*	---
85+ years	2	*	---	0	*	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- There were 104 deaths and 30 hospital discharges due to firearm-related injuries (all intents combined) among Maine residents in 2006 (yielding age-adjusted rates of 7.3 and 2.3 per 100,000).
- 84 percent of the firearm-related deaths and 93 percent of the firearm-related injury hospital discharges occurred among males.
- More than half (58 percent) of the firearm-related fatalities occurred among 35 to 64 year olds. The most common age for firearm-related hospital discharges was somewhat younger; 15-54 year olds accounted for 87% of these discharges.
- 83 percent of firearm deaths in Maine were suicides and 14 percent were homicides.

2008 Injury Prevention Activities

- MIPP staff, as part of the Maine Youth Suicide Prevention Program, will reconvene the Lethal Means Committee to develop a statewide public safety policy regarding the removal of lethal means from the home of an individual considered at risk for suicide or is exhibiting suicidal ideation.
- MIPP staff, as part of the MYSPP, drafted legislation to strengthen Maine's child access prevention – requiring all firearms be secured unloaded in a locked container, with ammunition secured elsewhere.

Poisoning

Table 11. Poisoning Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	177	13.4	13.3	1,128	85.4	84.8
By sex:						
Male	117	18.1	18.1	499	77.2	76.8
Female	60	8.9	8.4	629	93.2	92.4
By age:						
<1 year	0	*	---	4	*	---
1-4 years	0	*	---	25	44.4	---
5-14 years	2	*	---	15	*	---
15-24 years	25	14.6	---	217	126.4	---
25-34 years	31	20.5	---	180	118.8	---
35-44 years	50	25.6	---	243	124.4	---
45-54 years	45	20.7	---	232	106.6	---
55-64 years	17	*	---	109	65.0	---
65-74 years	1	*	---	36	36.7	---
75-84 years	4	*	---	46	68.2	---
85+ years	2	*	---	21	77.7	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- There were 177 deaths due to poisoning among Maine residents in 2006 and 1,128 hospital discharges.
- The age-adjusted death rate was 13.3 per 100,000 persons and the hospital discharge rate was 84.8 per 100,000 persons.
- The age-adjusted death rate for males was 2.1 times greater than females (18.1 versus 8.4 per 100,000), while the hospital discharge rate among females was 1.2 times than males (92.4 versus 76.8 per 100,000).
- Fifty-four percent of the poisoning deaths occurred among persons 35 to 54 years old. The 15 to 24 and 35 to 44 age groups had the highest rate of poisoning hospital discharges, accounting for nearly 41 percent of those discharges.
- Over 80 percent of poisoning deaths among Maine residents were unintentional and 17 percent were suicides.
- Healthy Maine 2010 does not have any poisoning objectives. Maine has not yet met the national Healthy People 2010 objective of reducing deaths caused by poisoning to no more than 1.5 per 100,000. The Maine rate is more than 8 times greater than this target.

2008 Injury Prevention Activities

- MIPP continues to fund to the Northern New England Poison Center (NNEPC) to conduct a portion of the statewide outreach education and dissemination of educational materials.
- MIPP staff provided input to Maine CDC on draft carbon monoxide legislation requiring installation of carbon monoxide detectors in the home. Maine's legislature reconvenes in December. The IPG members will disseminate CO poison prevention information to its partners and stakeholders.
- The MIPP, in partnership with the tri-state NNEPC (NH and VT), will evaluate the impact of an awareness and educational campaign focused on older adults to increase the use of the Poison Center by that population. The first meeting is October 31.
- MIPP staff participated on a local cable access program for older adults on falls and fire prevention. A segment highlighted the increased risk of falls for seniors using medications. The Poison Center's number was provided to viewers to call with questions and concerns about medication use and potential side effects.
- IPG members were made aware of the 6th Annual ME Benzodiazepine Study Group Conference and 5th Annual Unused Drug Return Conference.

Section IV. Selected Types of Injury
Traumatic Brain Injury (TBI)

Table 12. Traumatic Brain Injury (TBI) Deaths and Hospital Discharges, Maine Residents, 2006

	Deaths			Hospital Discharges		
	#	Crude Rate	Age-Adjusted Rate	#	Crude Rate	Age-Adjusted Rate
Overall	232	17.6	16.3	997	75.4	72.4
By sex:						
Male	171	26.5	25.3	622	96.2	97.1
Female	61	9.0	8.2	375	55.5	48.4
By age:						
<1 year	1	*	---	18	*	---
1-4 years	0	*	---	28	49.7	---
5-14 years	3	*	---	32	20.7	---
15-24 years	34	19.8	---	167	97.3	---
25-34 years	20	13.2	---	116	76.5	---
35-44 years	32	16.4	---	86	44.0	---
45-54 years	40	18.4	---	102	46.9	---
55-64 years	26	15.5	---	95	56.7	---
65-74 years	25	25.5	---	92	93.7	---
75-84 years	31	46.0	---	152	225.4	---
85+ years	20	74.0	---	109	403.5	---

Rates are per 100,000. Age-adjusted rates are adjusted to the 2000 U.S. standard population.
*Rates are not calculated when the number of events is <20.

The Problem in Maine

- A traumatic brain injury (TBI) is caused by a blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain, although not all blows or jolts to the head result in a TBI.[6]
- In 2006, there were 232 traumatic brain injury (TBI) associated deaths and 997 hospital discharges among Maine residents.
- The age-adjusted death rate was 16.3 per 100,000 and the hospital discharge rate was 72.4 per 100,000.
- The age-adjusted death rate for males was more than three times that of females (25.3 versus 8.2 per 100,000) and the age-adjusted hospital discharge rate for males was twice that of females (97.1 versus 48.4 per 100,000).
- The age-specific TBI death and hospital discharge rates were highest among those aged 75 and older. This age group accounted for 22 percent of TBI deaths and 26 percent of TBI hospital discharges.
- Of the 232 TBI associated deaths in 2006, 59 percent were unintentional and 32 percent were suicides. In addition, five percent were the result of homicide and three percent were of undetermined or unknown intent.
- The three leading causes of TBI deaths were self-inflicted firearm injury (32 percent), unintentional motor vehicle traffic crashes (29 percent), and unintentional falls (21 percent).

- Of the 997 TBI associated hospital discharges in 2006, 90 percent were unintentional, five percent were assaults, and less than one percent self-inflicted. Four percent were of undetermined or unknown intent.
- The three leading causes of TBI hospital discharges were unintentional falls (44 percent), unintentional motor vehicle traffic incidents (33 percent), and other unintentional transport incidents (including rail, water, and air transport, motor vehicle non-traffic, and other road vehicle incidents) (6 percent).

2008 Injury Prevention Activities

- Representatives of agencies addressing brain injury continue to participate on the IPG, as well as MIPP staff remaining active on the Acquired Brain Injury Advisory Council, and part of the prevention subcommittee. The IPG served as a link for the ABIAC to distribute notification of upcoming public hearings on the needs of persons with brain injuries in Maine.
- MIPP drafted playground safety legislation requiring the adoption of standards for use by schools and municipalities. Maine's legislature convenes in December.
- MIPP continues to participate on the statewide Abusive Head Trauma team which focuses on infants and children. As part of the educational efforts, MIPP secured and participated in media coverage of the initial stakeholder meeting. MIPP conducted an in-service for pediatric nurses on the prevention of SBS as follow-up. Additionally, MIPP conducted three SBS prevention presentations – one to pediatric nurses and two to inmates at Windham Correctional Facility.
- As part of the Maine Transportation Safety Coalition, MIPP provided recommendations and data to the Maine Chapter of the American College of Emergency Physicians to utilize for the drafting of motorcycle helmet legislation requiring helmet use by youth to age 18.
- IPG members were linked to the Maine Chapter of the American College of Emergency Room Physicians to considering sharing information and recommendations on the pursuit of motorcycle helmet legislation.

Hip Fracture

Table 13: Hip Fractures, Maine Residents Aged 65 Years and Older, 2006

	Hospitalizations	
	#	Crude Rate
Overall	1,284	666.5
By sex:		
Male	344	418.5
Female	940	851.2
By age:		
65-74 years	188	191.4
75-84 years	497	737.2
85+ years	599	2217.5

Rates are per 100,000.

The Problem in Maine

- Hip fractures are among the most serious fall-related injuries, and often result in long-term functional impairments.[7]
- In 2006, there were 1,284 hospital discharges due to hip fracture injuries among Maine residents aged 65 and older, resulting in a rate of 666.5 per 100,000 persons aged 65 and older.
- The hospital discharge rate for females was about 2 times that of males (851.2 versus 418.5 per 100,000).
- The hip fracture hospital discharge rate increased as age increased in the 65 and older population. The rate for people age 85 and older was more than 11 times higher that of 65-74 year olds.
- Nine of 10 hip fractures (89 percent) among Mainers aged 65 and older were known to be due to unintentional falls. (The cause of eight percent of hip fractures was not reported, so it is likely that the true percent due to unintentional falls is more than 89 percent).
- There are no hip fracture objectives in Healthy Maine 2010. Maine has not yet met the national Healthy People 2010 objective of reducing hip fractures among females aged 65 and older to no more than 416.0 per 100,000, although it has met the goal of reducing the rate among males to no more than 474 per 100,000.

2008 Injury Prevention Activities

- MIPP continues to participate on the Maine Falls Prevention Coalition, and subgroup, Healthy Choices for ME. Representatives of both groups continue to participate on the IPG. The group collaborated to obtain a Governor Proclamation during September, Fall Prevention Month.
- Falls related data continues to be provided upon request to IPG stakeholders and partners such as the Office of Elder Services and Southern Maine Area Agency on Aging.

Technical Notes

1. Data sources

Deaths. The 2006 death certificate statistical dataset was used to describe injury deaths. The dataset includes deaths of all Maine residents, regardless of where the death occurred. It is a multiple cause of death file that includes 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 Centers for Disease Control and Prevention's (CDC) guidelines and definitions of injury indicators[8] 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*.[9] Appendix A lists the specific ICD-10 codes used in calculating the injury fatality indicators.

Hospital Discharges. The 2006 inpatient (hospital discharge) dataset from the Maine Health Data Organization was used to describe injury hospital discharges. The dataset includes 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 hospitalization indicators in this report, except traumatic brain injury and near-drowning, were calculated using the first-listed external cause of injury code (E-code) that was not E849, E967, E869.4, E870-E879, or E930-E949. The E-code selection process followed CDC guidelines. The traumatic brain injury hospitalization indicator was coded using nature of disease codes (N-code). 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[8] whenever possible. Where CDC definitions were not available (i.e., unintentional injury hospitalizations), we followed the *Recommended Framework of E-Code Groupings for Presenting Injury Mortality and Morbidity Data*.[10] Appendix B lists the specific ICD-9 codes used in calculating the hospitalization injury indicators.

2. Rates

Population data. 2006 population estimates used in calculating rates were obtained from the U.S. Census Bureau.[11]

Crude rates. Crude rates were calculated by dividing the number of events for a particular indicator by the 2006 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,[12] rates were not calculated if the number of events was less than 20.

Using rates.[13] 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. The numeric value of an age-adjusted rate depends on the standard population used and therefore has no intrinsic meaning.

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 at two different points in time and control for the aging of the population over time). The age-adjusted rates presented in this report can only be compared with other age-adjusted rates that were adjusted to the 2000 U.S. standard population.

3. Limitations

This report is subject to several limitations:

- Maine residents who were hospitalized for injuries in another state or at federal hospitals in Maine are not included.
- External cause of injury was not available for 7.5 percent of injury hospital discharges. As such, the counts and rates reported here for particular causes of injury (e.g., fall, poisoning) should be treated as minimum estimates.
- The deaths and hospital discharges reported here for a given injury indicator are not mutually exclusive; individuals who died in the hospital are included in both figures.
- A given person might appear more than once in the hospitalization counts and rates for a given indicator. This can occur if a person was 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 hospitalized for a particular indicator will be less than the number of hospital discharges reported here for that indicator.
- The use of death and hospital discharge data means that this report reflects the more severe end 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 (1) are treated and released from hospital emergency departments; (2) are treated only at their primary care providers' office, or (3) do not seek any treatment.
- Following CDC guidelines, the following types of injuries are excluded from this injury surveillance report: fatal and non-fatal injuries resulting from legal intervention, operations of war and terrorism, and adverse events in medical care.

4. 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 hospitalization analyses to discharges for which the principal diagnosis was an injury. The results obtained using this method will differ from analyses that include all discharges, regardless of what the principal diagnosis was. Based on CDC guidelines, some of the indicator definitions used in this report differ from those used in the 2004 injury report. Specifically:

- Non-traffic codes have been removed from the unintentional motor vehicle hospitalization indicator.
- Additional diagnosis codes have been added to both the traumatic brain injury fatality indicator (i.e., S04.0) and hospitalization indicator (i.e., ICD-9-CM 950.1-950.3 and 995.55).
- Terrorism codes (i.e., ICD-9-CM E979 and E999, ICD-10 *U01-*U03) have been added to indicator definitions where appropriate.

See Appendices A and B for complete indicator definitions.

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Appendix A. International Classification of Disease Codes Used to Categorize Select Mechanisms of Injury Deaths

Mechanism of Injury (Intent)	ICD-10 Codes	
All injury (all intents)	V01-X59	Accidents
	X60-X84	Intentional self-harm
	X85-Y09	Assault
	Y10-Y34	Event of undetermined intent
	Y35-Y36	Legal intervention and operations of war
	Y85-Y86	Sequelae of accidents
	Y87	Sequelae of intentional self-harm, assault and events of undetermined intent
	Y89	Sequelae of other external causes (legal intervention, war operations, unspecified)
	U01	Terrorism-assault
	U02	Sequelae of terrorism-assault
	U03	Terrorism-intentional self-harm
Drowning (unintentional)	W65-W74	Accidental drowning and submersion
	V90	Accident to watercraft causing drowning and submersion
	V92	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	Handgun, rifle, shotgun, larger firearm, and other and unspecified firearms discharge (accident)
	X72-X74	Handgun, rifle, shotgun, larger firearm, and other and unspecified firearms discharge (intentional self-harm)
	X93-X95	Handgun, rifle, shotgun, larger firearm, and other and unspecified firearms discharge (assault)
	Y22-Y24	Handgun, rifle, shotgun, larger firearm, and other and unspecified firearms discharge (undetermined intent)
	Y35.0	Legal intervention involving firearm discharge
	U01.4	Terrorism involving firearms
Homicide	X85-Y09	Assault
	Y87.1	Sequelae of assault
	U01	Terrorism-assault
	U02	Sequelae of terrorism-assault

Motor vehicle traffic (unintentional)	V02-V04 (.1, .9), V09.2 V12-V14 (.3-.9), V19 (.4-.6) V20-V28 (.3-.9), V29 (.4-.9) V30-V39 (.4-.9) V40-V49 (.4-.9) V50-V59 (.4-.9) V60-V69 (.4-.9) V70-V79 (.4-.9) V80 (.3-.5), V81.1, V82.1, V83-V86 (.0-.3), V87 (.0-.8), V89.2	Pedestrian injured in transport accident (traffic) Pedal cyclist injured in transport accident (traffic) Motorcycle rider injured in transport accident (traffic) Occupant of three-wheeled motor vehicle injured in transport accident (traffic) Car occupant injured in transport accident (traffic) Occupant of pick-up truck or van injured in transport accident (traffic) Occupant of heavy transport vehicle injured in transport accident (traffic) Bus occupant injured in transport accident (traffic) Other land transport accidents (traffic)
Poisoning (all intents)	X40-X49 X60-X69 X85-X90 Y10-Y19 Y35.2 U01 (.6-.7)	Accidental poisoning by and exposure to noxious substances Intentional self-poisoning Assault by poisoning Poisoning, undetermined intent Legal intervention involving gas Terrorism involving biological or chemical weapons
Suicide (self-inflicted)	X60-X84 Y87.0 U03	Intentional self-harm Sequelae of intentional self-harm Terrorism-intentional self-harm
Traumatic brain injury (all intents)	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 T90.1, T90.2, T90.4, T90.5, T90.8, T90.9	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
Unintentional injury	V01-X59 Y85-Y86	Accidents Sequelae of accidents

Appendix B. International Classification of Disease Codes Used to Categorize Select Mechanisms of Injury Hospitalizations

Mechanism of Injury (Intent)	ICD-9 Codes	
All injury (all intents)	N-codes:	
	800-909.2, 909.4, 909.9-994.9, 995.5-995.59, 995.80-995.85	Injury and poisoning
Drowning and near-drowning (unintentional)	N-codes:	
	994.1	Drowning and nonfatal submersion
	and/or E-codes:	
	E830	Accident to watercraft causing submersion
	E832	Other accidental submersion or drowning in water transport accident
	E910	Accidental drowning and submersion
	E954	Suicide and self-inflicted injury by submersion [drowning]
	E964	Assault by submersion [drowning]
	E984	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	Accident caused by firearm
	E955.0-E955.4	Suicide and self-inflicted injury by firearms
	E965.0-E965.4	Assault by firearms
	E985.0-E985.4	Injury by firearms, undetermined whether accidentally or purposely inflicted
	E970	Injury due to legal intervention by firearms
	E979.4	Terrorism involving firearms
Homicide / assault	E960-E969	Injury purposely inflicted by other persons
	E979	Terrorism
	E999.1	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	Accidental poisoning by drugs, medicinal substances, and biologicals
	E860-E869	Accidental poisonings by other solid and liquid substances, gases, and vapors
	E950-E952	Suicide and self-inflicted injury by solid or liquid substances, gases in domestic use, or other gases and vapors
	E962	Assault by poisoning
	E972	Injury due to legal intervention by gas
	E980-E982	Poisoning by solid or liquid substances, gases in domestic use, or other gases, undetermined whether accidentally or purposely inflicted
	E979 (.6-.7)	Terrorism involving biological or chemical weapons
Suicide-attempt (self-inflicted)	E-codes:	
	E950-E959	Suicide and self-inflicted injury
Traumatic brain injury (all intents)	N-codes:	
	800.0-800.9	Fracture of vault of skull
	801.0-801.9	Fracture of base of skull
	803.0-803.9	Other and unqualified skull fractures
	804.0-804.9	Multiple fractures involving skull or face with other bones
	850.0-850.9	Concussion
	851.0-851.9	Cerebral laceration and contusion
	852.0-852.5	Subarachnoid, subdural, and extradural hemorrhage, following injury
	853.0-853.1	Other and unspecified intracranial hemorrhage following injury
		Intracranial injury of other unspecified nature
	854.0-854.1	Injury to the optic chiasm, optic pathways, or visual cortex
	950.1-950.3	Head injury, unspecified
	959.01	Shaken infant syndrome
	995.55	
Unintentional injury	E-codes:	Railway accidents; motor vehicle traffic accidents; motor
	E800-E869,	vehicle nontraffic accidents; other road vehicle accidents;
	E880-E929	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