

Injury and Violence

Background:

Injury and violence are pervasive problems that many Mainers have encountered at some point in their lives. Sexual and domestic violence are widespread crimes that hurt individuals, families and entire communities. Bullying among students occurs on school campuses, in the community and via electronic means, often leading to physical violence as well as suicidal behaviors.

Health Equity Highlight: GLBT Populations

Gay/lesbian/bisexual sexual orientation is associated with increased risk of suicidal behavior and bullying.^{1, 2} On the 2009 Maine Integrated Youth Health Survey (MIYHS), among self-identified lesbian, gay, and bisexual (LGB) youth:³

- One in four (27.8%) attempted suicide within the previous 12 months, more than 3 times the percentage reported by heterosexual youth.
- One in five (19.8%) did not go to school at least once in the past month because they felt unsafe, almost 5 times the percentage of heterosexual youth.
- 40.2% experienced cyber-bullying and 45% had been bullied at school during the past year, over twice the percentage of heterosexual youth.

National studies show that transgendered individuals are also at higher risk for suicide, but no data for Maine are available.⁴

Unintentional and intentional injuries and their consequences are significant causes of morbidity and are responsible for hundreds of millions in health care costs each year in Maine.⁵ Many injury deaths occur in childhood, adolescence and young adulthood, making injury a leading cause of lost years of productive life in Maine and in the nation as a whole.⁶ The physical, emotional and financial impact from injuries can be significant and lifelong.⁶ Injury and violence prevention efforts are intended to save lives, reduce disabilities, and minimize health care costs.⁶

Maine has the 2nd highest rate of injury deaths among the New England states.⁷

Unintentional injury is the leading cause of death for Mainers aged 1-44 years and the 5th leading cause of death across the lifespan.⁷ The leading causes of injury death for Maine residents are: suicide, motor vehicle traffic injuries, unintentional poisoning and unintentional falls.⁸

The Public Health Response

Injury and violence are preventable. Steady advances in injury and violence prevention science and improvements in data collection have helped inform evidence-based interventions. Many of these are available for dissemination in Maine, although some require further testing for applicability in rural areas. The core elements of injury/violence prevention mirror that of essential public health services with a focus on primary prevention in a population-based approach. Decisions and prevention activities are based on data collection and analyses that identify and track over time the leading causes of mortality and morbidity, risk and protective factors, and high risk groups. Best practice interventions, including education, policy development, and training can then lead to reduced rates of mortality and morbidity. Evaluation of the impact of these activities ensures that effective strategies are continued.

To achieve a reduced burden of injury and violence in Maine it is crucial to implement effective policies that address the incidence of injury prevention and enhance collaborations among key systems including public health, health care, education, law enforcement, mental health, social services, substance abuse, recreation, economic development, business, and the general public.

While many gains in injury and violence prevention have been achieved and many lives saved, there remains a unique attitude of acceptance about injury and violence when compared to other leading causes of death. Injury and violence incidents are often not viewed as preventable, when, in fact, they are.

HM2020 Objectives

1. Reduce the suicide rate

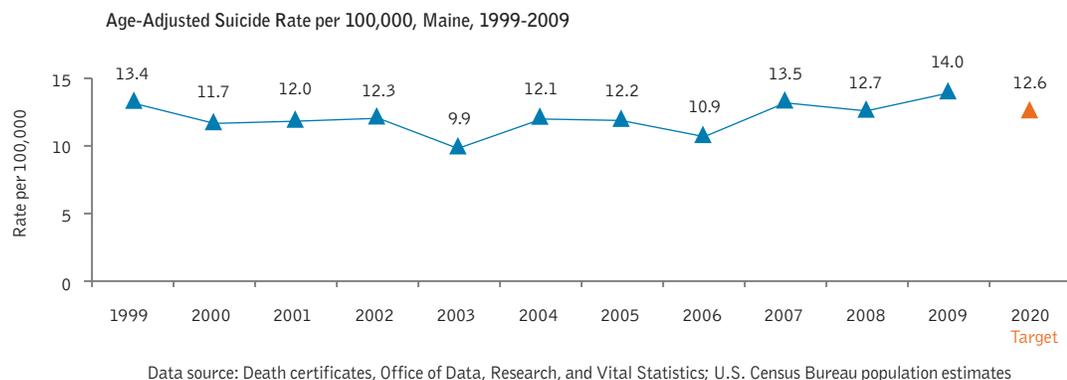
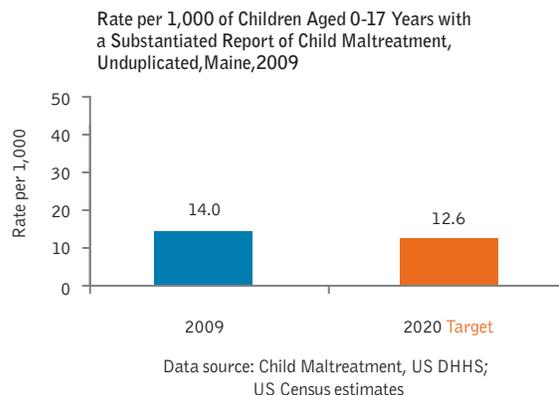
In Maine, suicide occurs seven times more often than homicide, with an average of one suicide every two days.⁵ Suicide is the second leading cause of death among 15-34 year-old Mainers and the tenth leading cause among all ages combined.⁷ The suicide rate in Maine did not change significantly between 1999 and 2009. It has consistently been similar to the U.S. rate and higher than the rate in the Northeast.⁹ In 2009 there were 14 suicides per 100,000 Maine residents.

Despite the challenges, evidence-based programs developed in Maine and across the nation demonstrate that it is possible to reduce suicidal behaviors through education, early intervention and treatment.¹⁰ The Healthy Maine goal is to reduce the suicide rate to 12.6 suicides per 100,000 Maine residents by 2020.

Suicidal behavior is a much larger public health problem than what is represented by death statistics alone. It is estimated that, for every completed suicide, there are from 25 to 100 non-fatal youth suicide attempts.¹⁰ The impact of suicide is devastating to surviving family, friends, and entire communities.

2. Reduce nonfatal child maltreatment

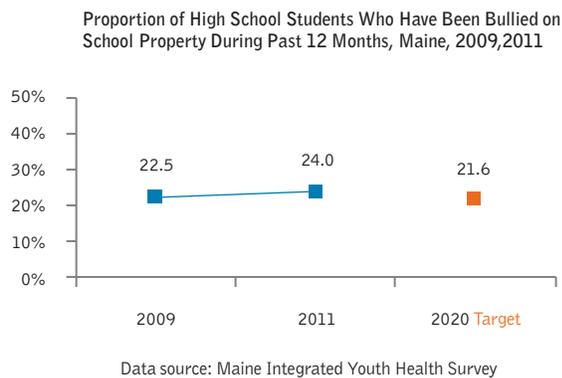
Child maltreatment can result in long-term physical, psychological, and behavioral problems including sleep disturbance, cognitive impairment, obesity, depression, attention problems, teen pregnancy, alcoholism, and criminal behavior.¹¹



In 2009, Maine had a rate of 14 cases of child maltreatment per 1,000 children; the Healthy Maine 2020 goal is 12.6 cases per 1,000. Data for this measure is not available before 2009, but other measures for child maltreatment indicated that it has increased in Maine over the past five years and is higher than national rates.¹²

3. Reduce bullying among adolescents

Youth who are bullied are at increased risk for problems such as anxiety, depression, headaches, and poor school adjustment. Youth who bully others are at increased risk for academic problems, substance use, and violence later in life.¹³ In 2011, 24.0% of Maine high school students had been bullied on school property in the past 12 months.

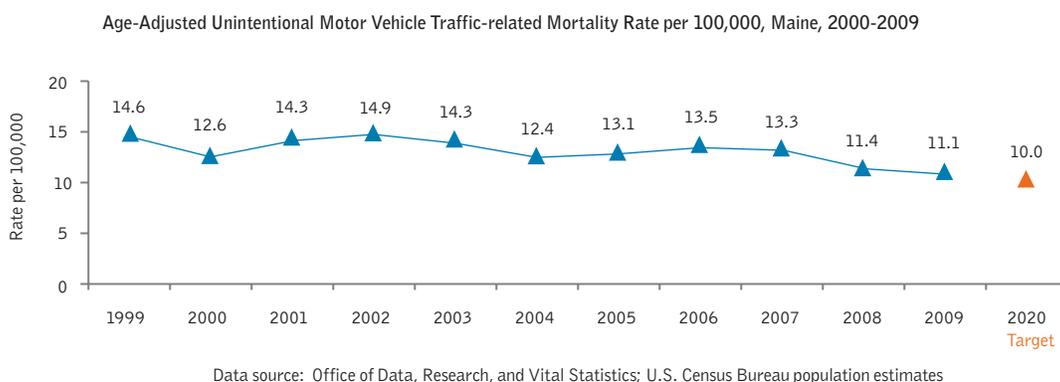


Bullying among students is also a significant issue beyond school campuses, both in the community and via electronic means. In 2009, one in five Maine high school students reported having been “cyber-bullied” (harassed via e-mail, chat room, or other electronic media) in the last 12 months.¹⁴ Among those who had been cyber-bullied, 55% reported being bullied at school, whereas 45% of non-cyber-bullied students reported being bullied at school. Students who were cyber-bullied were twice as likely to report suicidal thoughts.¹⁴ The Healthy Maine goal is to reduce bullying on school property to 21.6% by 2020.

4. Reduce motor vehicle crash related deaths

Unintentional motor vehicle traffic crashes were the leading cause of death among 5-24 year-olds in Maine between 2003 and 2007. The lifetime medical and work-loss costs associated with all motor vehicle traffic deaths that occurred in Maine in 2005 alone were estimated to be nearly \$154 million (in 2005 dollars).⁷

The unintentional motor vehicle traffic mortality rate in Maine declined slowly beginning in 2002, though the decline was not statistically significant. In 2009 unintentional motor vehicle traffic crashes resulted in 11.1 deaths per 100,000 people; the Healthy Maine goal is to reduce the mortality rate 10% (to 10 deaths per 100,000 people) by 2020.



5. Reduce sexual and domestic violence

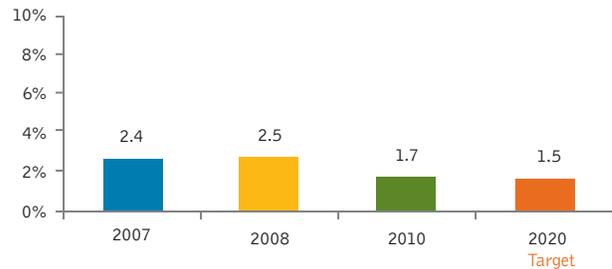
Sexual and domestic violence are public health issues that can be prevented through changes in policies, environment and cultural norms, education, early intervention, and support for survivors. Because many women do not feel safe or comfortable reporting these crimes to public safety officers, Intimate Partner Violence (IPV) and sexual violence statistics may be under-reported. To combat this problem, population-wide data has been collected on the Behavioral Risk Factor Surveillance System (BRFSS). However, as of 2010, IPV and sexual violence survey questions are still relatively new and trend data are not yet available.

5a. Reduce violence by current or former intimate partners

Domestic violence continues to be both a criminal and public health issue with over 5,000 cases of domestic assault reported in Maine annually.¹⁵ IPV includes emotional abuse, threats, physical violence and/or sexual violence. The harmful effects can be physical, emotional, or behavioral; examples include cuts and scratches, broken bones, head trauma, flashbacks, panic attacks, low self-esteem, difficulty trusting others, and having risky sex.¹⁶

In 2010, 1.7% of adults had experienced physical violence or unwanted sex with a current or former partner in the past 12 months; the Healthy Maine

Percent of Adults Aged 18 and Over Who Experienced Physical Violence or Unwanted Sex with a Current or Former Intimate Partner in the Past 12 Months, Maine 2007, 2008, 2010



Data source: Maine BRFSS

2020 goal is 1.5%.

5b. Reduce rape or attempted rape

Victims of sexual violence, and their families and communities, can experience both immediate and long term physical, psychological, social, and health behavior problems. Examples include chronic pelvic pain, anxiety, withdrawal, attempted or completed suicide, strained relationships, drug use, and overeating.¹⁷

The Maine BRFSS questions for rape have not consistently been included in the past, and only selected years can be presented. Previously, 2006 provided the most inclusive data and in that year, 10% of Maine women reported ever experiencing rape or attempted rape. The Healthy Maine goal is to reduce that to 9% by 2020.

Percent of Women Who Report Ever Having Unwanted Sex, or Attempted Unwanted Sex, Maine, 2006 and 2009



Data source: Maine BRFSS

Age-Adjusted Poisoning Mortality Rate per 100,000 By Intent, Maine 1999-2009



Data source: Death certificates, Office of Data, Research, and Vital Statistics; U.S. Census Bureau population estimates

6. Prevent an increase in the rate of poisoning deaths

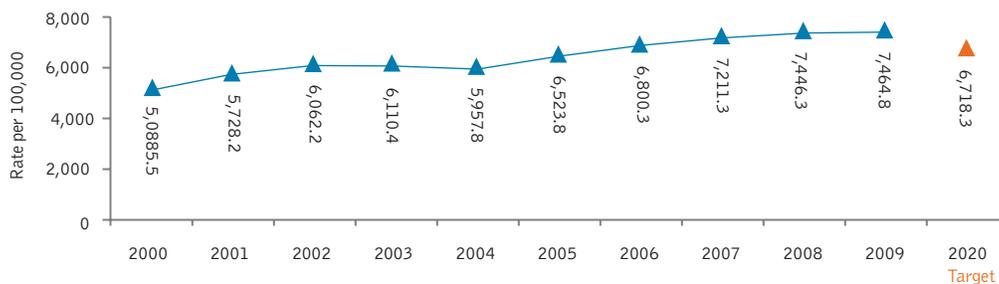
Almost one of every four injury deaths in Maine in 2004-2008 was due to poisoning (intentional and unintentional).¹⁷ The lifetime combined medical and work loss costs from poisoning deaths in Maine in 2005 alone were estimated to be nearly \$162 million (in 2005 dollars). The poisoning death rate increased nearly 2½-fold between 1999 and 2009. This increase was driven by unintentional poisonings. Unintentional poisoning was the third leading cause of injury deaths in Maine between 2004 and 2008.¹⁸ The unintentional and undetermined intent poisoning death rate increased four-fold between 1999 and 2009. The Healthy Maine goal is to maintain the baseline rate of poisonings through 2020.

7. Reduce emergency department visits from unintentional falls

One of every three U.S. adults aged 65 or older falls each year. Injuries caused by falls such as head trauma and hip fractures can decrease an older person’s ability to live independently and increase their risk of early death.¹⁹

In Maine the 2009 unintentional fall-related emergency department visit rate (7,465 per 100,000) was nearly 1½ times higher than the 2000 rate (5,089 per 100,000). The Healthy Maine goal is to reduce the unintentional fall-related emergency department visit rate to 6,718.3 per 100,000 adults aged 65 years or more.

Unintentional Fall-related Emergency Department Visit Rate Among 65+ Year Olds, Maine, 2000-2009



Data source: Hospital outpatient; Hospital inpatient; U.S. Census Bureau population estimates

Methodology notes

1. Reduce the suicide rate

Measure: Age-adjusted suicide rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is U03, X60-X84, or Y87.0

Denominator: Number of Maine residents.

Target setting method: 10 percent improvement.

Other notes: Rates per 100,000, age adjusted using the 2000 census population counts.

2. Reduce nonfatal child maltreatment

Measure: Rate per 1,000 of children aged 0-17 years with a substantiated report of child maltreatment in the past year.

Numerator: Number of unduplicated Maine children aged 0-17 years with a substantiated report of child abuse or neglect.

Denominator: Number of children in Maine aged 0-17.

Target setting method: 10 percent improvement.

Other notes: 2009 was the first year that data on substantiated reports on unduplicated children were presented in the national Child Maltreatment Reports (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau).

3. Reduce bullying among adolescents

Measure: Percent of high school students who have been bullied on school property during past 12 months.

Numerator: Number of respondents who answer yes to "During the past 12 months, have you ever been bullied on school property?"

Denominator: Number of respondents who answer yes or no to this question.

Target setting method: 10 percent improvement.

Other notes: Data are statistically weighted to be more representative of the general student population of Maine and to adjust for non-response. 2009 data are weighted using the original methods.

4. Reduce motor vehicle crash related deaths

Measure: Age-adjusted unintentional motor vehicle traffic related mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is V02-V04 (.1, .9), V09.2, V12-V14 (.3-.9), V19 (.4-.6), V20-V28 (.3-.9), V29-V79 (.4-.9), V80 (.3-.5), V81.1, V82.1, V83-V86 (.0-.3), V87 (.0-.8), or V89.2

Denominator: Number of Maine residents.

Target setting method: 10 percent improvement.

Other notes: Age-adjusted to the 2000 U.S. Census Bureau population estimates.

5. Reduce sexual and domestic violence

SUB-OBJECTIVES:

5a. Reduce violence by current or former intimate partners.

Measure: Percent of 18+ year olds who experienced physical violence or unwanted sex with a current or former intimate partner in the past 12 months.

Numerator: Number of respondents who answered yes to "In the past 12 months have you been frightened for the safety of yourself, your family or friends or because of the anger or threats of an intimate partner?" Or answered yes to "during the last 12 months have you experienced physical violence or had unwanted sex with a current or former intimate partner?"

Denominator: Number of respondents who answered these questions.

Other notes: BRFSS prevalence rates are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. 2008 numerator is <50.

5b. Reduce rape or attempted rape.

Measure: Percent of women who report ever having unwanted sex, or attempted unwanted sex

Numerator: Number of respondents who answered yes to “has anyone ever had sex with you after you said or showed that you didn’t want them to?” and/or number of respondents who answered yes to “has anyone ever attempted to have sex with you after you said or showed that you didn’t want to, but sex did not occur?” Healthy People 2020 includes four intimate partner violence developmental objectives (physical violence, sexual violence, psychological abuse, and stalking), with data to be obtained from the National Intimate Partner and Sexual Violence Survey. These data were not available at the time this report was produced.

Denominator: Number of respondents who answered these questions.

Other notes: 2010 question wording differs slightly “Has anyone ever had sex with you after you said or showed that you didn’t want them to or without your consent?” BRFSS prevalence rates are statistically weighted to be more representative of the general adult population of Maine and to adjust for non-response. Healthy People 2020 includes this measure as a developmental objective, with data to be obtained from the National Intimate Partner and Sexual Violence Survey, which was unavailable at the time this report was produced.

Target setting method: 10 percent improvement.

6. Prevent an increase in the rate of poisoning deaths

SUB-OBJECTIVES:

6a. All intents

Measure: Age-adjusted poisoning mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is U01.6-U01.7, X40-X49, X60-X69, X85-X90, Y10-Y19, or Y35.2.

Denominator: Number of Maine residents.

6b. Unintentional or undetermined intent among all persons.

Measure: Age-adjusted unintentional or undetermined poisoning mortality rate, per 100,000.

Numerator: Number of deaths of Maine residents for which the underlying cause of death ICD-10 code is X40-X49 or Y10-Y19.

Denominator: Number of Maine residents.

Target Setting method: Using the HP2020 target.

Other Notes: Unintentional or undetermined intent is a HP2020 sub-objective, and is included, since unintentional poisoning deaths are where the increase is happening.

7. Reduce hospitalizations from unintentional falls

Measure: Unintentional fall-related emergency department visit rate among 65+ year olds, per 100,000

Numerator: Number of inpatient or outpatient dataset records with 450-459 revenue code and E880.0-E886.9 or E888 listed in one or more diagnosis/E-code fields and age at admission \geq 65 years

Denominator: Number of 65+ year old Maine residents

Target setting method: 10 percent improvement

Other notes: crude rates per 100,000. Includes both inpatient and outpatient dataset records with 450-459 revenue code and E880.0-E886.9 or E888 listed in one or more diagnosis/E-code fields. Healthy People 2020 uses data from the National Hospital Ambulatory Medical Care Survey to measure this objective at the national level. State-level data are not available from that survey, so Maine data will be taken instead from Maine hospital datasets.

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