



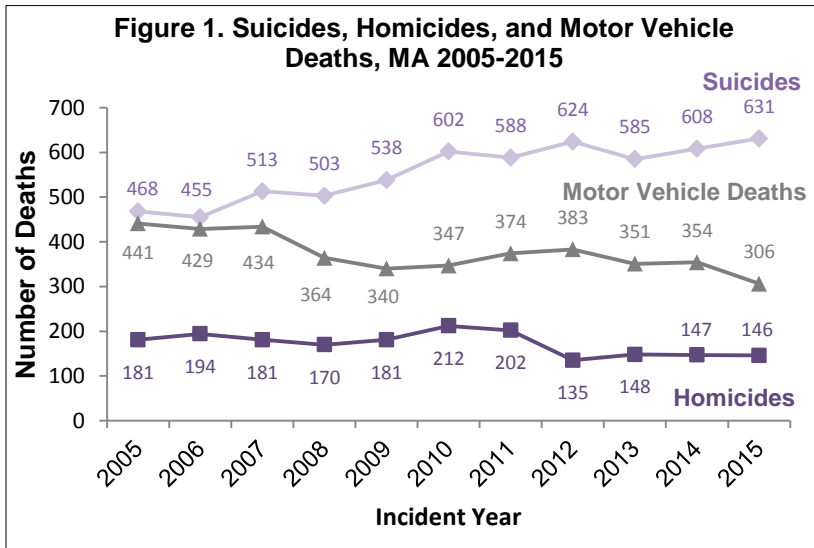
# DATA BRIEF 2015

## SUICIDES AND SELF-INFLICTED INJURIES IN MASSACHUSETTS

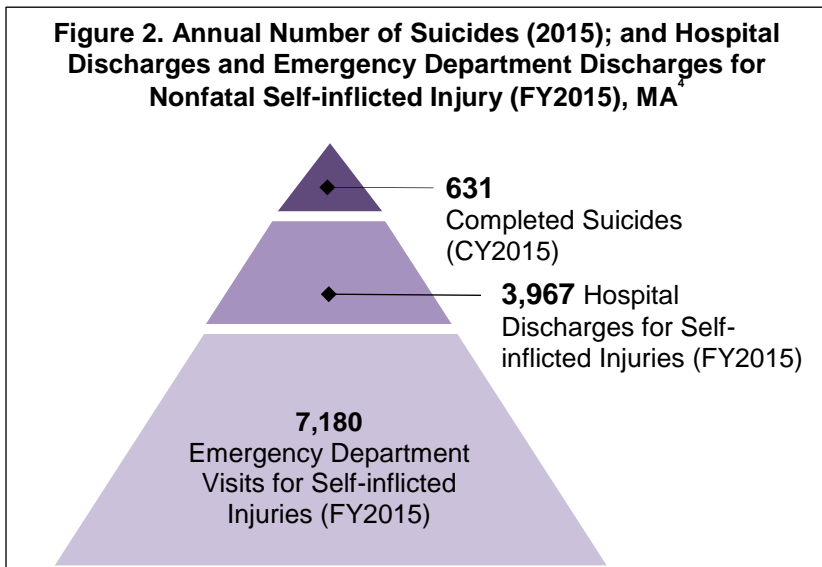
Injury Surveillance Program, Massachusetts Department of Public Health

Fall 2017

Suicide and self-inflicted injuries are a significant yet largely preventable public health problem. The purpose of this bulletin is to provide information for practitioners and prevention specialists on the magnitude, trends, and risk factors for suicides and self-inflicted injuries in Massachusetts. While suicide refers to completed suicides, nonfatal self-inflicted injuries can include both suicide attempts and non-suicidal self-injury. The Massachusetts Department of Public Health Suicide Prevention Program works in collaboration with multiple state, national, and local partners to reduce these deaths and injuries.



Sources: MA Violent Death Reporting System, MA Department of Public Health; Fatality Analysis Reporting System (FARS), National Highway Traffic Safety Administration (NHTSA)



Sources: MA Violent Death Reporting System, MA Department of Public Health; MA Inpatient Hospital Discharge Database, MA Emergency Department Discharges Database, MA Center for Health Information and Analysis

### Number and Trends of Suicides in MA

- In 2015, 631 suicides occurred in Massachusetts.
- The number of suicides was more than 2 *times higher* than the number of motor vehicle traffic-related deaths (N=306) and *four times higher* than homicides (N=146).
- Massachusetts has a lower rate of suicides compared to the rest of the U.S. In 2015, the age-adjusted rate for the U.S. was 13.3/100,000 persons compared to 9.3/100,000 for MA.<sup>1</sup>
- Suicide rates in MA increased an average of 2.6% per year between 2005 and 2015.<sup>2</sup> The overall increase was 27.4%: from 7.3 to 9.3/100,000. There were 35% more suicides in 2015 than in 2005. This rise mirrors the U.S. age-adjusted suicide rates which increased an average of 2% per year since 2005.<sup>1</sup>
- While males make up the majority (74%) of suicides in MA, there have been steady increases in the rates of suicides for both sexes between 2005 and 2015. From 2005 to 2015, the rate of suicides increased 26% for males and 34% for females.<sup>2</sup>
- There were a total of 11,147 hospital discharges and emergency department visits for non-fatal self-inflicted injuries in FY2015.
- In 2016, the Massachusetts Samaritans and the United Way of Tri-County's *Call2Talk Center* responded to 167,708 crisis phone calls and 3,800 text conversations.<sup>3</sup>

<sup>1</sup> CDC, WISQARS (Restricted) – Fatal Injuries Report, 1999-2015, for National, Regional, and States.

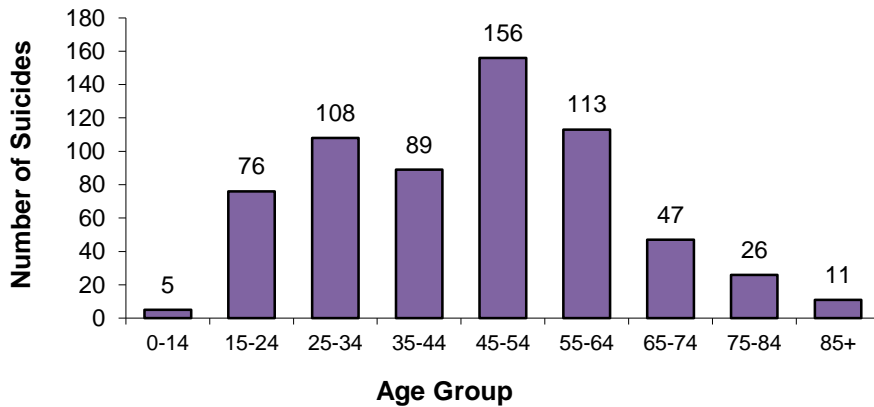
<sup>2</sup> Statistically significant at an alpha level of 0.05.

<sup>3</sup> This number includes repeat callers and texters (individuals contacting hotlines or participating in text conversations more than once) and callers who were concerned about others.

<sup>4</sup> Hospital discharges and emergency department visits are MA residents; deaths are MA occurrent.

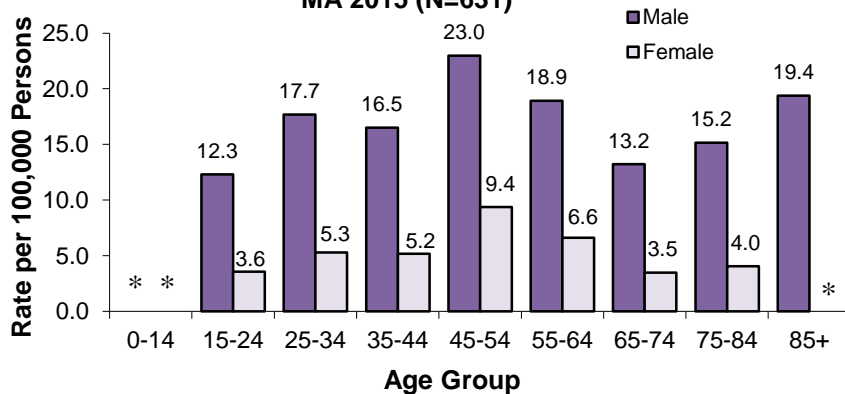
# Suicides and Hospitalizations for Nonfatal Self-inflicted Injuries by Age Group and Sex

**Figure 3A: Suicides by Age Group, MA 2015 (N=631)**



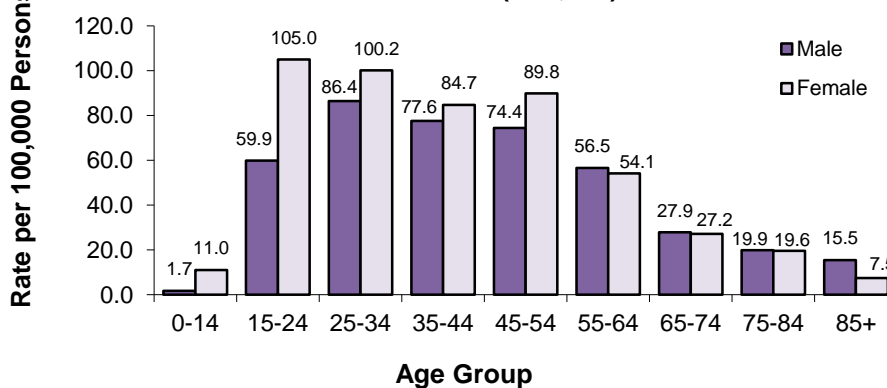
Source: MA Violent Death Reporting System, MA Department of Public Health

**Figure 3B: Suicide Rates by Sex and Age Group, MA 2015 (N=631)**



Source: MA Violent Death Reporting System, MA Department of Public Health; National Center for Health Statistics Vintage 2015 Postcensal Estimates of Resident Population

**Figure 4. Hospital Discharge Rates for Nonfatal Self-inflicted Injury by Sex and Age Group, MA Residents FY2015 (N=3,967)**



Source: MA Hospital Discharge Database, MA Center for Health Information and Analysis; National Center for Health Statistics Vintage 2015 Postcensal Estimates of Resident Population

## Suicides by Age Group

- The majority of suicides that occurred in 2015 were among individuals age 45-64 years (n=269, 43%). Between 2005 and 2015, the rate of suicides in this group increased an average of 3.3% per year.
- There were 2.9 times more male suicides than female suicides in 2015: 468 male deaths (14.2/100,000 persons) compared to 163 female deaths (4.7/100,000 persons).
- The highest male suicide rate was among individuals age 45-54 years (23.0/100,000 persons, n=109).
- The highest female suicide rate was among individuals age 45-54 years (9.4/100,000 persons, n=47).

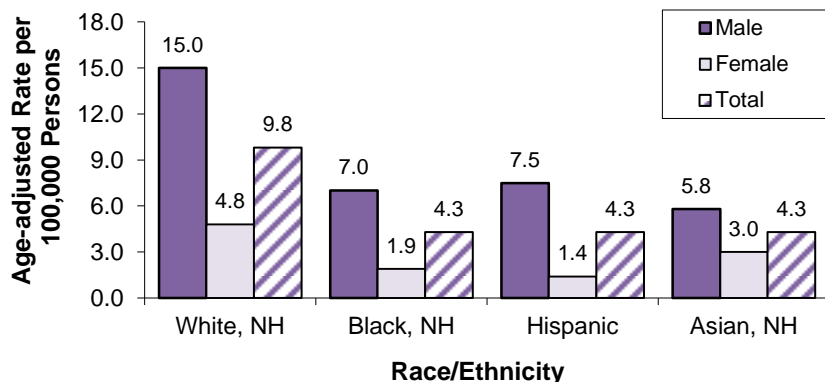
## Nonfatal Self-inflicted Injuries, Hospital Discharges in FY15

- The overall rate of hospital discharges for nonfatal self-inflicted injury was 58.5/100,000 persons (N=3,967).
- Females had a higher rate of hospital discharges for nonfatal self-inflicted injury (63.9/100,000 persons, n=2,233) than males.
- Females age 15-24 years had the highest rate among all the age groups (105.0/100,000 persons, n=499).
- The overall rate of nonfatal self-inflicted hospital discharges in males was 52.7/100,000 persons (n=1,734).

\*Rates are not calculated on counts of less than six. See Methods section for additional information on rates.

## Suicides by Race/Ethnicity and Suicide and Nonfatal Self-inflicted Hospitalizations by Method

**Figure 5. Average Annual Suicide Rates by Sex and Race/Ethnicity, MA 2011-2015 (N=3,037)<sup>5,6</sup>**

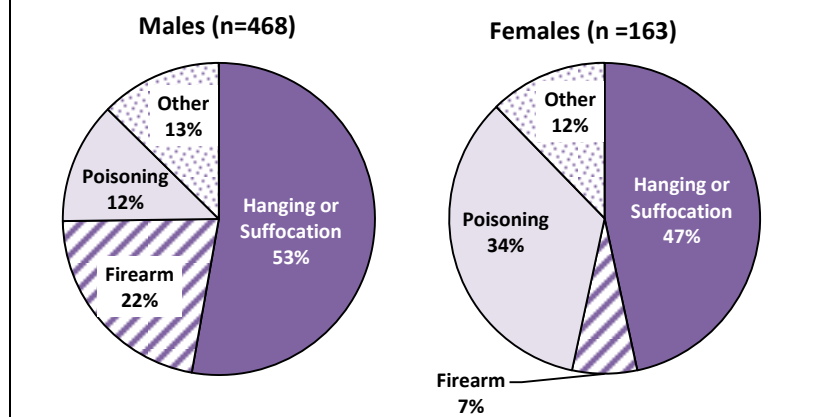


### Suicide by Sex and race/Ethnicity

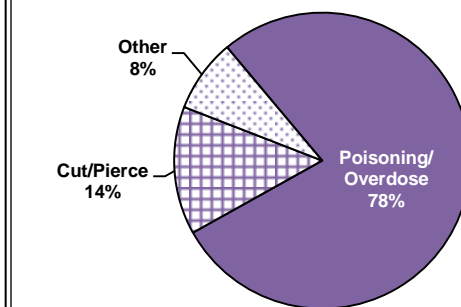
- For 2011-2015, the average annual age-adjusted suicide rate was highest among white, non-Hispanic males (15.0/100,000 persons, n=1,986).
- Similarly, white, non-Hispanic females had a higher average annual age-adjusted rate (4.8/100,000 persons, n=673) of suicide compared to black, non-Hispanic and Hispanic females.

Source: MA Violent Death Reporting System, MA Department of Public Health; National Center for Health Statistics Vintage 2015 Postcensal Estimates of Resident Population

**Figure 6A. Methods of Suicides by Sex, MA 2015 (N=631)**



**Figure 6B. Hospital Discharges for Nonfatal Self-inflicted Injuries, MA Residents FY2015 (N=3,967)**



Source: MA Violent Death Reporting System, MA Department of Public Health; MA Center for Health Information and Analysis

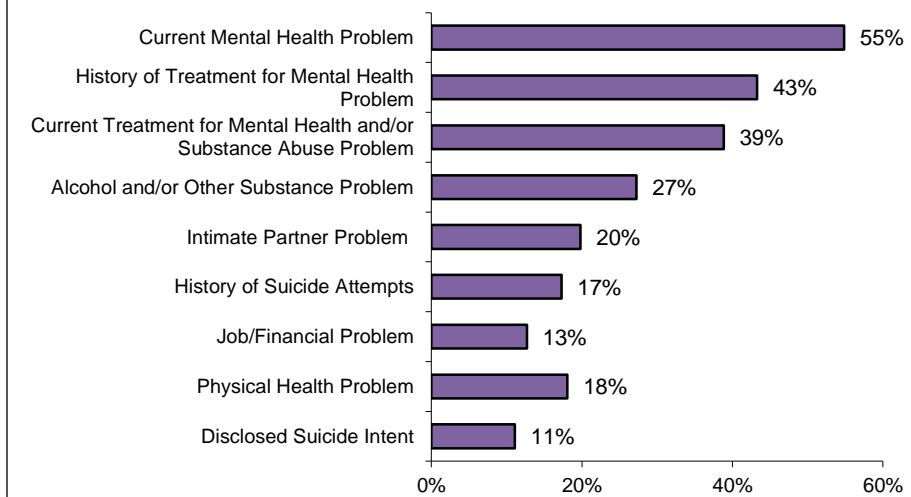
- Hanging/suffocation (n=247) and firearm (n=103) were the most common suicide methods for men.
- Hanging/suffocation (n=76) and poisoning/overdose (n=56) were the most common suicide methods for women.
- The most common method of *non-fatal* self-inflicted injuries for both sexes in FY2015 was poisoning/overdose.
- For suicides by poisoning/overdose, opiates and antidepressants were the most common classes of substances used.

<sup>5</sup> Rates are age-adjusted using the Standard US Census 2000 population. The five most recent years of data were used to improve the stability of the rate.

<sup>6</sup> Total n includes 34 suicides for whom race/ethnicity was American Indian/Alaska Native, Pacific Islander, other race or unknown. Rates were not calculated for these groups due to numbers less than six or lack of denominator information.

## Circumstances Associated with Suicide

**Figure 7A. Circumstances Associated with Suicide, MA 2015 (N=631)<sup>7</sup>**



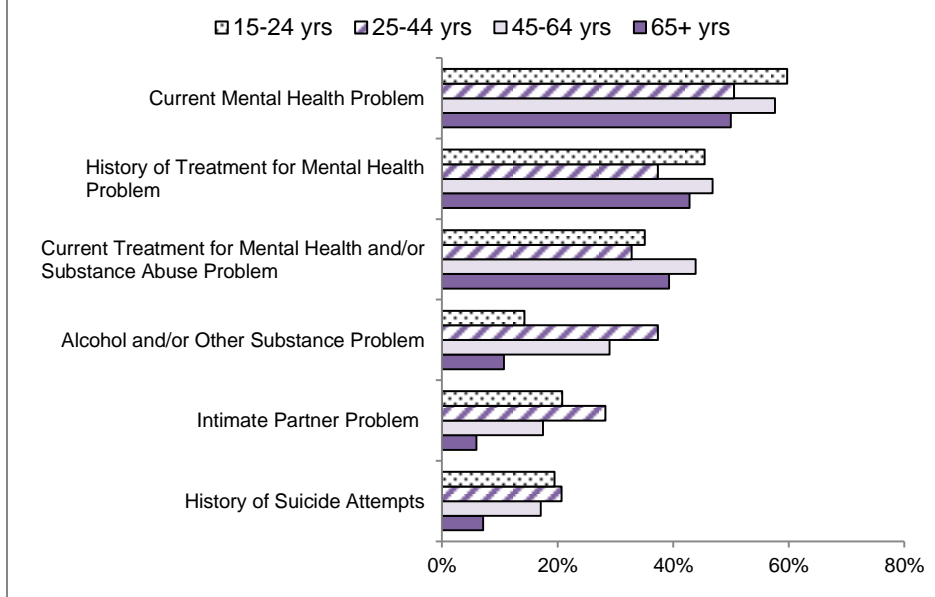
Source: MA Violent Death Reporting System, MA Department of Public Health

### Suicide Circumstances<sup>7</sup>

Certain circumstances are more likely to be known/reported on than others. Some of the most commonly noted circumstances are presented here.

- 55% of suicide victims had a documented current mental health problem.
- 39% were currently receiving treatment for a mental health and/or substance abuse problem and 43% had a history of treatment for mental illness.
- 27% had an alcohol or other substance use problem.
- 20% experienced an intimate partner problem prior to their death, such as a divorce, break-up, or conflict with an intimate partner.
- 17% had a known history of suicide attempts.

**Figure 7B. Circumstances Associated with Suicide by Age Group, MA 2015 (N=631)<sup>6</sup>**



Source: MA Violent Death Reporting System, MA Department of Public Health

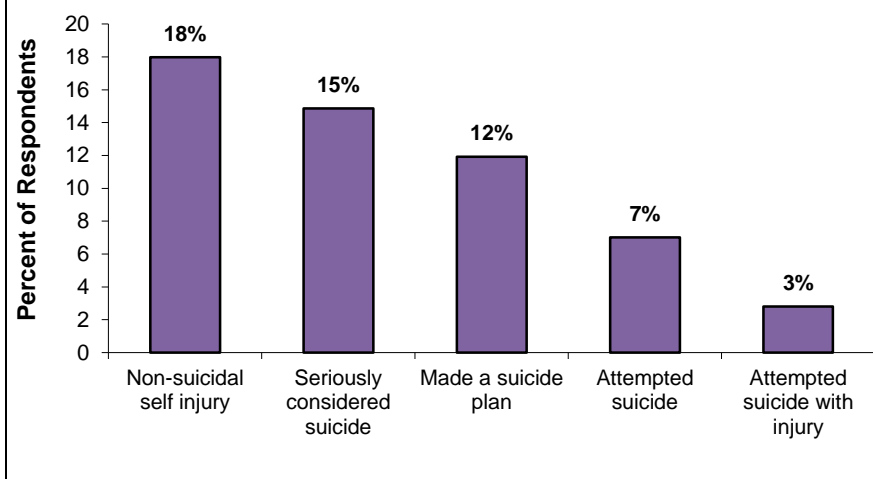
Circumstances for suicides varied by age group in 2015:

- 15-24 year olds had the highest percent of current mental health problem.
- 45-64 year olds had the highest percent of current treatment for mental illness or substance abuse.
- 25-44 year olds had the highest percent of alcohol and/or substance abuse problem, history of suicide attempts and intimate partner problem compared to the other age groups.

<sup>7</sup> Circumstances are not mutually exclusive; more than one circumstance may be noted on each suicide.

## Suicidal Thoughts and Behaviors in Youth

**Figure 9. Suicidal Thinking and Behavior among High School Students, MA 2015**



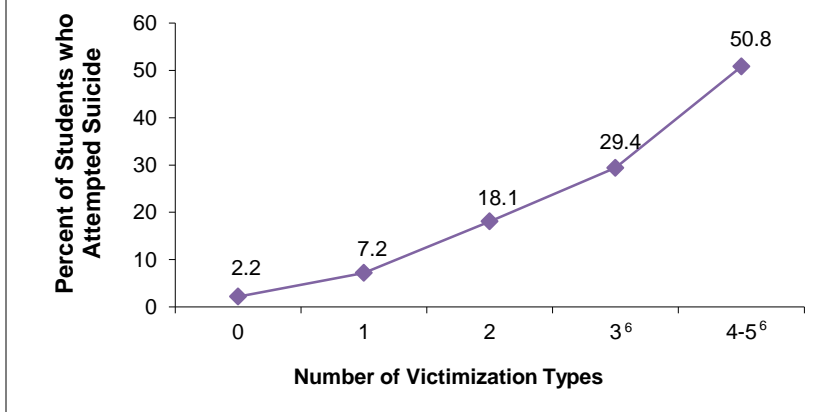
Source: MA Youth Risk Behavior Survey 2015, weighted data

### MA Youth Risk Behavior Survey (MA YRBS)

The MA YRBS is an anonymous, written self-report survey of youth in public high schools in MA. In 2015, results showed that:

- 15% of students seriously considered suicide during the past year.
- 7% made a suicide attempt and of these, 40% resulted in an injury or required medical attention.
- 27% of high school students reported feeling “so sad” or “depressed daily” for at least two weeks during the previous year that they discontinued usual activities. A significantly larger percentage of females (35%) than males (20%) reported feeling this way (not depicted on graph).

**Figure 10. Percent of High School Students who Attempted Suicide by Number of Victimization Types, MA 2013 and 2015<sup>8</sup>**



Source: MA Youth Risk Behavior Survey from 2013 and 2015, weighted data

### Victimization and Suicide Attempts

Survey findings from the MA YRBS show that, as the number of victimization types a student experiences rises, the percent of suicide attempts increases as well. The five victimization types from YRBS include:

- students who had ever been bullied on school property during the past 12 months.
- students who did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way to or from school.
- students who had been threatened or injured with a weapon (such as a gun, knife, club) on school property one or more times during the previous 12 months.
- students who had ever been hurt physically by a date or someone they were going out with.
- students who responded that someone had ever had sexual contact with them against their will.

<sup>8</sup>The student attempted suicide one or more times in the previous 12 months.

**For more information, contact these programs at  
Massachusetts Department of Public Health,  
250 Washington Street, Boston, MA 02108**

## Where to go for *help*

MA Coalition for Suicide Prevention  
(617) 297 – 8774  
info@masspreventssuicide.org

## 24 hour help lines

**SAMARITANS ... call or text**  
**(877) 870 – HOPE (4673)**

**NATIONAL LIFELINE**  
**(800) 273 – TALK (8255)**  
**TTY: (800) 799 - 4TTY (4889)**

### **INJURY SURVEILLANCE PROGRAM (ISP)**

Bureau of Community Health and Prevention (BCHAP)  
(617) 624 - 5664 (MAVDRS)  
(617) 624 - 5648 (General injury information)  
<http://www.mass.gov/dph/isp>

### **SUICIDE PREVENTION PROGRAM (SPP)**

Bureau of Community Health and Prevention (BCHAP)  
(617) 624 – 6076  
<http://www.mass.gov/dph/suicideprevention>

### **BUREAU OF SUBSTANCE ABUSE SERVICES (BSAS)**

(800) 327 – 5050  
TTY: (888) 448 – 8321  
<http://www.mass.gov/dph/bsas>

## Methods

### **General Notes:**

All suicide and self-inflicted injury data were ascertained using guidelines recommended by the Centers for Disease Control and Prevention (CDC) and are based upon the International Classification of Disease codes (ICD-10) for morbidity and mortality. The most recently available year of data for each data source was used for this bulletin. All rates reported in this bulletin are crude rates with the exception of Figure 5. Age-adjusted rates are used for Figure 5 to minimize distortions that may occur by differences in age distribution among compared groups. Rates presented in this bulletin cannot be compared to bulletins published prior to 2008 due to a methodology change. In prior bulletins, individuals less than 10 years old were excluded in both the numerator and denominator due to the rarity of this age group completing suicide. For consistency with other publications, the analysis was modified to include all ages for both numerator and denominator; this change results in slightly lower rates. Rates are not calculated on counts of less than five and rates based on counts less than 20 are considered unstable. Prior to data year 2010, death data used in the bulletin was from the Massachusetts Registry of Vital Records and Statistics (MA RVRS) and included Massachusetts residents regardless of where the death occurred.

### **Data Sources:**

- *Death Data:* MA Violent Death Reporting System (MAVDRS), MA Department of Public Health (DPH). The National Violent Death Reporting System (NVDRS) is a CDC-funded system in 32 states that links data from death certificates, medical examiner files, and police reports to provide a more complete picture of the circumstances surrounding violent deaths. MAVDRS operates within the Injury Surveillance Program (ISP) at DPH. MAVDRS captures all violent deaths (homicides, suicides, deaths of undetermined intent, and all firearm deaths) occurring in MA, regardless of residency, and has been collecting data since 2003. Data reported are for calendar year and were analyzed by ICD-10 code.
- *Statewide Acute-care Hospital Discharges:* MA Inpatient Hospital Discharge Database, MA Center for Health Information and Analysis. Data reported are for the fiscal year (October 1 - September 30). Deaths occurring during the hospital stay and transfers to another acute-care facility were excluded from the counts presented. All discharge diagnoses were analyzed to ascertain injury.
- *Statewide Emergency Department Discharges at Acute-care Hospitals:* MA Emergency Department Discharge Database, MA Center for Health Information and Analysis. Data reported are for the fiscal year (October 1 - September 30). Deaths occurring during treatment or those admitted to the hospital were excluded from the counts presented. All discharge diagnoses were analyzed to ascertain injury.
- *Suicide Crisis Call Data:* United Way of Tri-County Call2Talk; Samaritans, Inc.; Samaritans of Fall River; Samaritans of Merrimack Valley; Samaritans on the Cape & Islands.
- *MA Youth Risk Behavior Survey:* MA Department of Education, MA Department of Public Health, and CDC MMWR Vol. 65, No. 6, June 2016.
- *Population Data:* National Center for Health Statistics. Postcensal estimates of the resident population of the United States for July 1, 2010-July 1, 2016, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex (Vintage 2016). Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm) as of June 26, 2015, following release by the U.S. Census Bureau of the unabridged Vintage 2016 postcensal estimates by 5-year age group on June 26, 2017.
- *U.S. injury rates and U.S. population* were accessed from CDC, National Center for Injury Prevention and Control (NCIPC), and the Web-based Injury Statistics Query and Reporting System (WISQARS).

**Statistical Significance:** A result that is statistically significant is one that is *unlikely* to have occurred by chance alone, and is therefore, *likely* to represent a true relationship between a risk factor such as race, age, or sex and a disease or injury of interest. Statistical significance does not necessarily imply importance and should not be the only consideration when exploring an issue. Because a rate is not “statistically significant” does not mean there is not a real problem that could, or should be addressed.

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