TECHNICAL NOTES

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Rates (Also See Age-Adjusted Rate)

A rate is a measure of a type of event, disease, or condition occurring among a population per unit(s) of time, for instance, the number of deaths due to heart disease per 100,000 population for a given year or across multiple years. Three types of rates are presented in this report: crude rates, age-specific rates (ASRs), and age-adjusted rates (AARs).

Most health indicator rates in this report are based on the primary diagnosis only. Nonfatal assault-related gunshot/stabbing emergency department visits and substance abuse death rates are based on consideration of multiple levels of diagnosis.

The population denominators used in calculating health indicator rates are from the 2010 U.S. Census and are used for rates for single years, such as 2010 as well as for rates of combined years such as 2009-2010. Rates in this report cannot be compared to previous Health of Boston reports since those rates were calculated based on population denominators from the 2000 U.S. Census.

Crude rates are used to present data pertaining to the entire population, such as all of Boston, or to present data pertaining to an entire group within a population, such as all males or females. A crude rate is calculated by dividing the number of events for the entire population by the total population. It is usually calculated on the basis of every 100,000 people or, in the case of birth rates, every 1,000 females of childbearing age.

Age-specific rates (ASRs) take into account the size of a specific age group within a population, for example, 15-24 year old females. ASRs enable the reader to compare different groups without being concerned that differences in observed health status are due to differences in the sizes of the underlying specific age group population. An ASR is calculated by dividing the number of events among people in an age group by the number of people in that age group. ASRs for deaths and for communicable diseases are usually calculated on the basis of every 100,000 people.
Age-adjusted rates (AARs) are used to present data for comparison among two or more populations, such as Boston neighborhoods, in which distribution of age may differ considerably. The calculation for AARs takes into account the differences at various levels of the age distribution and adjusts for them. An AAR is derived by: (1) calculating age-specific rates across all age groups (2) applying the population distribution of the 2000 U.S. standard population to the age-specific rates, (3) summing the adjusted age-specific rates. In Health of Boston: A Neighborhood Focus 2012-2013, AARs are mainly used for presentation of Boston death and hospital data.

New cases of a communicable disease such as hepatitis C and Chlamydia are presented as incidence rates, which may be age-specific or crude. In this report, hepatitis C and Chlamydia incidence rates are presented as crude rates. Incidence rates are usually reported on the basis of every 100,000 people per year.

**Population**

Two types of population statistics are used in this report. The first type is the census of the population taken every ten years by the federal government, a literal count of people living in the United States. The second type is population estimates made by the U.S. Census Bureau. Data from the 2010 U.S. Census are presented in the Boston and Neighborhood Demographic and Socioeconomic sections in Health of Boston: A Neighborhood Focus 2012-2013.

The national decennial census provides the best actual count of the U.S. population. It presents data to the level of small areas called census tracts, which may have only a few thousand residents, to larger areas such as zip codes. Census tracts or zip codes can be combined to permit Boston neighborhood-level analyses. Zip-code based populations from the 2010 U.S. Census were used in calculating the rates of infectious diseases, sexually transmitted infections, hospitalizations, and emergency department visits presented in this report. Census tract based populations from the 2010 U.S. Census were used in calculating birth and death rates.

Population estimates are developed by the U.S. Census Bureau based on the American Community Survey (ACS). The year-to-year results are designed to take into account in- and out-migration and other changes occurring in the population between census years. Estimates, by their nature, are less precise than population census data. Because they have resulted from a sample, estimates present with a margin of error that seeks to describe their level of accuracy. Margins of error need be considered when making any comparisons among estimate data. In Health of Boston: A Neighborhood Focus 2012-2013, ACS estimates are used in the Demographic and Socioeconomic sections for Boston overall and Boston neighborhoods. Though corresponding margins of error are not presented with these estimates, differences cited reflect statistical significance at the 95% confidence level. Additionally, socioeconomic estimates with coefficients of variation equal to or greater than 30% have not been included. For more information on the treatment of ACS estimates within this report, please contact the Boston Public Health Commission Research and Evaluation Office.

**Racial and Ethnic Designations**

All racial and ethnic designations are self-reported, except those from the death certificates, some hospital discharge data, and some emergency department data.

Several cautions should be kept in mind when using data reported by race/ethnicity. Race and ethnicity are social constructions, not biological facts. There is often more genetic variation between members of the same race than between members of different races. In addition, the meanings of these designations are highly subject to historical, cultural, and political forces. Not only do these designations change over time, but there is also a very subjective element that influences who is
considered a member of one group or another. The concept of race can be notably vague: the term "Black," for example, includes people describing themselves as African American, African, or Caribbean, groups with distinct histories and differing health risks.

Nevertheless, racial designations are useful in that they are nearly universally used by people in the United States to describe themselves, and they permit us to identify and address health inequities that exist across racial and ethnic groups.

Boston-specific data in this report are presented for each racial and ethnic subgroup when numbers are large enough to allow calculation of percentages or reliable rates. In this report, percentages and rates with counts of less than 20 have been calculated but those results should be interpreted with caution. Few sources have data in large enough numbers to allow presentation of data about smaller groups such as the many ethnicities included in the category "Asian."

Since Latinos can be of any race, federal data sources often report Latino persons within the race categories Black or White. In Health of Boston: A Neighborhood Focus 2012-2013, this was done for data presented in the socioeconomic sections by race/ethnicity but Latino ethnicity was also included alongside other racial/ethnic groups. Prior to 2008, Massachusetts' hospitalization and emergency department visits data by race/ethnicity was subject to variation in reporting practices by hospitals. Also, because of changes made by the U.S. Census Bureau in the collection and reporting of population data by race/ethnicity, comparing 1990 U.S. Census population data by race/ethnicity with 2000 or 2010 U.S. Census population data by race/ethnicity is discouraged.

**Age-Adjusted Rate (Also see Rates)**

The age-adjusted rate (AAR) is a calculation that adjusts for the differences in age distribution when comparing populations. It can be used for calculating death rates and hospitalization rates. An age-adjusted death rate is calculated by applying a standard population age distribution (i.e., the 2000 standard U.S. population) to the age-specific death rates in a population, summing the adjusted age-specific rates, and multiplying by 100,000.

An age-adjusted hospitalization rate is calculated by applying the year 2000 standard U.S. population age distribution to the age-specific hospitalization rates for a given population and then summing the adjusted age-specific rates. Hospitalization rates are typically presented per 1,000 population.

**International Classification of Disease (ICD)**

The causes of death used in describing specific death rates are based on The International Classification of Disease (ICD) which is a coding system developed by the World Health Organization (WHO) and 10 international centers. The ICD system standardizes medical terms used on death certificates and groups them for statistical purposes. Death data from death certificates are coded using ICD-10. The change from ICD-9 to ICD-10 became effective with 1999 death data which means that causes of death classified according to ICD-10 are not precisely comparable to causes of death classified according to ICD-9.

The International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) is used for categorizing and classifying morbidity data from inpatient and outpatient records of hospitals.

**Boston Neighborhoods**

Neighborhoods can be identified in a number of ways. In Health of Boston: A Neighborhood Focus 2012-2013, zip codes and census tracts are used to identify neighborhood boundaries since this
Health of Boston 2012 - 2013

information is often collected with health data. Please note that the census tract and zip code neighborhood definitions used in this report may differ from what are used by other organizations and agencies.

The choice to utilize census tract or zip code based neighborhood definitions was driven by what the data source would accommodate: census-tract based neighborhood definitions were used for neighborhood-level demographic, socioeconomic, birth, and death data whereas zip code-based neighborhood definitions were used for neighborhood-level hospitalization, hospital emergency department visit, and infectious disease data.

The census tracts and zip codes used in this report for identifying neighborhoods are those from the 2010 U.S. Census (see below). In previous Health of Boston reports, the census tracts and zip codes were from the 2000 U.S. Census. Because Boston’s census tract and zip code definitions and population totals changed from 2000 to 2010, the overall Boston and neighborhood rates included in this report should not be compared to those in previous Health of Boston reports.

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Census Tracts</th>
<th>Zip Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allston/Brighton</td>
<td>1.0-8.03</td>
<td>02134, 02135, 02163</td>
</tr>
<tr>
<td>Back Bay (Back Bay, Downtown, West End, North End)</td>
<td>101.03-101.04, 106-108.02, 201.01-203.03, 301-305, 9815.01, 9817</td>
<td>02108-02110, 02113-02114, 02116, 02199</td>
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<tr>
<td>North End (only)</td>
<td>301-305</td>
<td>02113</td>
</tr>
<tr>
<td>Charlestown</td>
<td>401-408.01</td>
<td>02129</td>
</tr>
<tr>
<td>East Boston</td>
<td>501-512, 9813, 9816</td>
<td>02128</td>
</tr>
<tr>
<td>Fenway</td>
<td>102.03-105</td>
<td>02115, 02215</td>
</tr>
<tr>
<td>Hyde Park</td>
<td>1401.02-1404, 9807</td>
<td>02136</td>
</tr>
<tr>
<td>Jamaica Plain</td>
<td>1201.03-1207, 0812, 9810, 9818</td>
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</tr>
<tr>
<td>Mattapan</td>
<td>1010.01-1011.02</td>
<td>02126</td>
</tr>
<tr>
<td>North Dorchester</td>
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<td>Roslindale</td>
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<td>Roxbury</td>
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<tr>
<td>South Dorchester</td>
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<td>02122, 02124</td>
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<tr>
<td>South End (includes Chinatown)</td>
<td>701-702, 703, 704, 705-712.01</td>
<td>02111, 02118</td>
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<tr>
<td>Chinatown (only)</td>
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<tr>
<td>West Roxbury</td>
<td>1301-1304.06</td>
<td>02132</td>
</tr>
</tbody>
</table>

A map showing neighborhoods by census tracts and a map showing neighborhoods by zip codes are available at the end of this section.
Maps

In addition to community asset maps for Boston neighborhoods which display some major resources available in each neighborhood, this year's report also includes several neighborhood maps to supplement selected demographic and health indicator data provided in various sections of the report. The maps serve as a visual representation of birth outcomes, chronic disease mortality, chronic disease hospitalizations, substance abuse, and suicide among Boston neighborhoods.

U.S. Census Poverty Designation

There are two predominant definitions of poverty. One is defined by the U.S. Census Bureau and referred to as "poverty thresholds," and the other is defined by the Department of Health and Human Services and referred to as "poverty guidelines." The poverty definition used for data presented in poverty-related charts in Health of Boston: A Neighborhood Focus 2012-2013 is that of the U.S. Bureau of the Census. Poverty estimates are derived from the U.S. Census Bureau, American Community Survey (ACS) for 2010. Poverty estimates for Boston neighborhoods are derived from the U.S. Census Bureau, 2006-2010 American Community Survey.

The U.S. Census Bureau's definition of poverty is a federal definition characterized by a series of "poverty thresholds" which specify before-taxes, monetary income maximums, in dollars, an individual and/or family can earn in a given year and still be declared impoverished. This definition is based on same household of residence and takes into account family size and whether or not any members in one or two-person familial units are over the age of 65. It does not include any income that may have been generated through federal financial assistance programs, capital gains, or from children under the age of 15; foster children are not included in the calculations.

Starting in 1969, poverty thresholds have been modified annually to account for inflation according to rates specified by the Consumer Price Index. Poverty thresholds are not adjusted for regional differences in mean/median income levels, nor do they include prison inmates, residents of nursing homes, students who live in on-campus university housing, and persons who live in military barracks; however, persons living in shelters are included.
ABBREVIATIONS KEY: A/B=Allston/Brighton, BB=Back Bay (includes Beacon Hill, Downtown, the North End, and the West End), CH=Charlestown, EB=East Boston, FW=Fenway, HP=Hyde Park, JP=Jamaica Plain, MT=Mattapan, ND=North Dorchester, RS=Roslindale, RX=Roxbury, SB=South Boston, SD=South Dorchester, SE=South End (includes Chinatown), and WR=West Roxbury

DATA SOURCE: Census 2010, US Department of Commerce, Bureau of the Census, American FactFinder
MAP CREATED BY: Boston Public Health Commission Research and Evaluation Office
DATA SOURCES AND LIMITATIONS


The American Community Survey (ACS) uses a sample of the population to provide information about demographic, housing, and socioeconomic characteristics of communities for the years between censuses. People who live in households, students, and those in institutions or other group quarters (e.g. jails, college dormitories, and nursing homes) are sampled. In addition to single year estimates, Health of Boston: A Neighborhood Focus 2012-2013 presents some 5-year estimates (2006-2010) where indicated.

The ACS results used in describing the Boston population are subject to the limitations common to all surveys. Samples produce estimates that can never be as precise as tabulations of the whole population. Other kinds of errors can further affect the precision of estimates, and nonrandom (or systematic) error has the potential to bias findings.

Births, Massachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Division of Research and Epidemiology, Registry of Vital Records and Statistics.

The recording of resident live births is nearly complete for Massachusetts resident births, including those that take place at home or out of state but to Massachusetts residents.

Race/ethnicity is self-reported by the mother. Infants are assigned their mother’s race/ethnicity, not a combination of both parents' race/ethnicity.

Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

The Boston Behavioral Risk Factor Surveillance System (BBRFSS) is a system of telephone health surveys of adults ages 18 and over that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury.

The Boston Public Health Commission conducts an independent survey every other year modeled after the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) survey. Over time, the survey has been modified by the Commission to be more reflective of health risk behaviors specific to the Boston population. However, the Boston Behavior Risk Factor Surveillance System (BBRFSS) survey has maintained many standard core questions included in the BRFSS used by the State. Results from the survey are used by the Commission to plan and implement health initiatives; to identify health problems within a population; to identify racial/ethnic disparities in access to and utilization of health care, in risk behaviors, and selected health conditions; to establish and monitor health objectives; to support health-related legislative activities; to evaluate disease prevention activities and programs, and to assist in receiving grants and other funding.


The U.S. census is conducted every ten years. Census 2010 data were used in the calculation of rates for 2005 forward in Health of Boston: A Neighborhood Focus 2012-2013. Since the population data used for these rates is the same from year to year, the impact of actual year to year population changes on rates during the time period 2005 through 2009 or 2010 is largely unknown. As a result, observed rate changes over time may to some extent reflect actual changes in the underlying population. Additionally, undercounts of certain subpopulations may occur when people, for example, undocumented immigrants, avoid being recorded in the census for fear of contact with the
government or for other reasons. Because U.S. Census 2010 population data were used in the calculation of rates in this report, rates in previous Health of Boston reports are not comparable.

The collection and coding of race and ethnicity data has changed significantly over time. Hispanic ethnicity was not asked until 1930, and then was limited to Mexican ancestry. It was collected in 1940 for all Hispanics/Latinos, but not again until 1970, and then only in samples, not in the count of the whole population. Beginning in 1980, Hispanic origin has been a regular part of the data collection. The capacity to distinguish race groups from Hispanic/Latino origin was not built into the census until 1980. See Race and Ethnicity section in Technical Notes for additional information.

Deaths, Massachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Division of Research and Epidemiology, Registry of Vital Records and Statistics.

Death data used by the Boston Public Health Commission pertain only to Boston residents.

Death records are completed with the assistance of an informant, typically a family member or funeral director, which may result in errors (for example, in race/ethnicity reporting) that would not occur in self-reported data.

Inconsistencies in the recording of immediate cause of death, intervening causes, and the underlying cause of death have been documented nationally. Such inconsistencies may result in under- or over-reporting of certain causes. Death data are embargoed until after public release by the Massachusetts Department of Public Health, approximately 14 months after the close of the data year.

Death due to homicide as reported by the Boston Police Department (not included in this report) applies to any homicide that occurs in Boston without regard to the actual city of residence of the deceased. As a result, the number of homicides reported by the Boston Public Health Commission (i.e., Boston resident homicides) will likely differ from those reported by the Boston Police Department.

Inpatient Hospital Discharge Database, Massachusetts Center for Health Information and Analysis (formerly Massachusetts Division of Health Care Finance and Policy).

The inpatient hospital discharge data included in this report do not represent individuals but rather discharges from Massachusetts hospitals.

Prior to 2007, the collection of race/ethnicity information varied by reporting hospital. Some hospitals requested self-reported information from patients who were hospitalized while others had staff report patient race/ethnicity. Due to changes in reporting practices, race/ethnicity data for 2007, 2008, 2009, and 2010 cannot be compared to data for previous years.

Infectious Diseases, Boston Public Health Commission, Communicable Disease Control Division.

Data from communicable disease surveillance systems are limited by the degree to which people with a condition seek health care that results in testing and reporting to the system. Many such diseases are asymptomatic or mild, or are treated presumptively without formal testing, and for some conditions, reporting may be less than complete. All of these factors may contribute to underestimates of the frequency of disease and/or distortions in the pattern of disease seen in the reported data.

Lead Screening, Boston Public Health Commission, Environmental Health, Boston Childhood Lead Poisoning Prevention Program.

Massachusetts law requires annual mandatory screening of children between 6 and 48 months of age. The Boston Public Health Commission Lead Poisoning Prevention Program conducts annual screening of Boston children 72 months of age or under.
The elevated blood lead level data reported in this report are solely related to those children who are screened. The guidelines used for diagnosing elevated blood lead levels in children were changed earlier this year. See Technical Notes.

Observational Stay Discharge Database, Massachusetts Center for Health Information and Analysis (formerly Massachusetts Division of Health Care Finance and Policy).

The observational stay data included in this report do not represent individuals but rather discharges from Massachusetts hospital observational stay settings.

Prior to 2007, the collection of race/ethnicity information varied by reporting hospital. Some hospitals requested self-reported information from patients who were hospitalized while others had staff report patient race/ethnicity. Due to changes in reporting practices, race/ethnicity data for 2007, 2008, 2009, and 2010 cannot be compared to data for previous years.

Outpatient Hospital Emergency Department Database, Massachusetts Center for Health Information and Analysis (formerly Massachusetts Division of Health Care Finance and Policy).

The outpatient hospital emergency department data presented in Health of Boston: A Neighborhood Focus 2012-2013 represents visits not individuals. As with hospital discharge and observational stay data, unduplicated counts of individuals using emergency department services are not available in this report.

Of note, emergency department visit data (e.g., nonfatal assault-related gunshot and stabbing wounds) result from an aggregation of patient data across three databases representing each of the three hospital settings from which a patient seen in the emergency department may be ultimately discharged from hospital care (i.e., hospital inpatient, observational stay, and outpatient hospital emergency department). The aggregated total represents an unduplicated count of emergency department visits.

Prior to 2007, the collection of race/ethnicity information varied by reporting hospital. Some hospitals requested self-reported information from patients who had hospital emergency visits while others had staff report patient race/ethnicity. Due to changes in reporting practices, race/ethnicity data for 2007, 2008, 2009, and 2010 cannot be compared to data for previous years.

Sexually Transmitted Infections (Chlamydia, gonorrhea, and syphilis), Massachusetts Department of Public Health, Center for Clinical and Laboratory Services, Division of Sexually Transmitted Disease (STD) Prevention.

New cases of Chlamydia, syphilis and gonorrhea infection are reported to the Massachusetts Department of Public Health by diagnosing physicians and laboratories. Undiagnosed cases and variations in screening practices and compliance with reporting requirements may influence the accuracy of reported sexually transmitted diseases. Due to changes in case identification practices, counts and rates of sexually transmitted diseases, such as Chlamydia, presented in Health of Boston: A Neighborhood Focus 2012-2013 cannot be compared to data in Health of Boston reports prior to 2011.

Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention

The Youth Risk Behavior Surveillance System (YRBSS) is a system of national school-based surveys conducted by the Centers for Disease Control and Prevention (CDC) every other year among public high school students in grades 9-12. It is currently conducted in 44 states and 22 cities. The survey contains questions related to risk behaviors such as unintentional injuries and violence, alcohol and drug use,
tobacco use, and sexual behavior; unhealthy eating behaviors, physical inactivity; and the prevalence of obesity and asthma.

The Boston Public Health Commission uses results from the YRBSS to identify the prevalence of health risk behaviors among Boston youth, identify racial/ethnic disparities, plan and implement health initiatives, support health-related legislative activities, assist in obtaining grants and other funding, and other activities.
GLOSSARY

This glossary provides the reader with definitions of terms commonly used throughout this report.

Adolescent Births: In this report, adolescent births are considered births to females ages 15-17. However, some other organizations and agencies consider adolescent births as births to females ages 15-19.

Age-Adjusted Rate (AAR): Used to present data for comparison among several populations, such as Boston neighborhoods, in which distribution of age can differ considerably. The calculation for AARs takes into account the differences in age distribution and adjusts for them. The age-adjusted rate of one group can then be compared to the age-adjusted rate of another group with confidence that differences in the rates of the two areas or groups likely do not stem from differences in the age structure of their underlying populations. See Technical Notes for additional information.

Age-Specific Rate (ASR): The number of events such as deaths or cases of disease experienced by individuals within a specified population age group per the total number of individuals within the specified population age group during a specified time period (e.g., per year).

Age-Specific Birth Rate: The number of live births to women in an age group divided by the female population of that age group, expressed per 1,000 females in that age group.

Alzheimer’s Disease: A degenerative brain disease that is progressive, irreversible and ultimately fatal. It affects memory, thinking, and language skills slowly destroying them. Individuals with Alzheimer’s disease eventually also have behavioral problems and an inability to perform normal daily activities. In this report, ICD-10 codes G30, G30.0, G30.1, G30.8, G30.9 are used to identify deaths from Alzheimer’s Disease for analysis.

Asian: All persons self-identified as Asian or Pacific Islander (e.g., Chinese, Japanese, Hawaiians, Cambodians, Vietnamese, Asian Indians, and Filipinos) who do not also identify themselves as Latino.

Asthma: Asthma is a chronic inflammatory condition defined by sudden periodic attacks of difficulty in breathing accompanied by wheezing caused by a spasm of the bronchial tubes.

Asthma Emergency Department Visits: Emergency department visits for children under age 5 in this report were identified among three databases from the Massachusetts Center for Health Information and Analysis (formerly Massachusetts Division of Health Care Finance and Policy): Inpatient Hospital Discharge Database, Outpatient Emergency Department Database, and Outpatient Hospital Observation Database. ICD-9-CM code 493 was used to identify asthma-related cases.

Boston Behavioral Risk Factor Surveillance System (BBRFSS): See Data Sources and Limitations and Technical Notes sections of this report.

Birth Weight: The weight of an infant at the time of delivery. It may be recorded in either grams or pounds/ounces. If recorded in pounds/ounces, it is converted to grams for use in this report based on the following formula: 1 pound = 453.6 grams; 1,000 grams = 2 pounds and 3 ounces.

Black: All persons self-identified as Black (e.g., African Americans, Haitians, West Indians) who do not also identify themselves as Latino.
Blood Lead Levels: The amount of lead in micrograms per deciliter, detected in the blood during finger stick screening or venous confirmation blood tests. Elevated blood level in children has been identified by the detection of lead ≥10 micrograms per deciliter (≥10 µg/dL).

Body Mass Index (BMI): BMI is calculated by dividing a person’s weight in kilograms by his or her height in meters squared (kg/m²); a measure of the appropriateness of weight in relation to height and allows for categorization of people into weight classes. This calculation is used to screen and monitor populations in order to detect risks of health or nutritional disorders. BMI is used differently with children than with adults and is plotted according to age and sex-specific charts. The BMI cut points for adults are as follows:
- Overweight: BMI of 25.0 to 29.9
- Obese: BMI of 30.0 or more

Cancer: A term used to describe diseases in which abnormal cells divide without control and can spread to other parts of the body. Cancer is a leading cause of death. According to the National Cancer Institute, there are more than 100 different types of cancer. In this report, ICD-10 codes C00-C97 are used to identify cancer deaths for analysis.

Census 2010: The count of the entire American population undertaken by the U.S. Census Bureau in 2010.

Cerebrovascular Disease: A group of brain dysfunctions (including stroke) related to the disease of the blood vessels supplying the brain. ICD-9-CM codes 430-438 are used to identify hospitalizations and ICD-10 codes I60-I69 are used to identify deaths due to cerebrovascular disease.

Chlamydia: A sexually transmitted disease caused by the bacterium Chlamydia trachomatis. About half of infected men and three-quarters of infected women have no symptoms. Chlamydia can permanently damage a woman’s reproductive organs if not treated promptly.

Chronic Obstructive Pulmonary Disease (COPD): Diseases including bronchitis, asthma, emphysema, and allergies from inhaled organic dust particles, which decrease the ability of the lungs to oxygenate the blood. The major cause of COPD is smoking. ICD-10 codes J40-J47 are used in identifying COPD deaths, and ICD-9-CM codes 490-496 are used in identifying COPD hospitalizations for analysis.

Codes (hospital and death): The hospitalization codes used are from the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). The cause-of-death codes are from the International Classification of Diseases, 10th Revision (ICD-10). ICD-9-CM and ICD10 are products of the World Health Organization (WHO).

Community Assets: Community assets are the resources that improve the quality of community life and provide a healthier environment for residents.

Confidence Interval: A range of values based on a chosen probability level within which the true value of a population parameter is likely found. With a 95% confidence interval, one can assume the true value has a high probability of being contained within the interval (i.e., falling between the two values that define the end points of the interval).

Crude Rates: A crude rate is calculated by dividing the number of events for the entire population by the total population. It is usually calculated on the basis of every 100,000 people. Crude rates are used to present data pertaining to the entire population, such as all of Boston, or to present data pertaining to an entire group within a population, such as all males or females. Also see the Technical Notes section of this report.
Death Rate: The number of deaths per year per 100,000 people. This can be presented as an age-specific rate, crude rate, or age-adjusted rate.

Demographics: The statistical study of characteristics of human populations and of population distributions such as age, sex, and race/ethnicity.

Diabetes: Diabetes Mellitus is a group of diseases in which the body cannot effectively regulate blood glucose (sugar) due to deficiencies in producing or utilizing a hormone called insulin. ICD-9-CM code 250 is used to identify hospitalizations due to diabetes for the purpose of analysis. Due to this change in diagnostic code used in identifying diabetes hospitalizations and the use of population from the 2010 U.S. Census, counts and rates cannot be compared to hospitalization data presented in previous Health of Boston reports.

Diseases of the Heart: A class of diseases that involves the heart and/or blood vessels. ICD-10 codes I10-I25, I26-I28, I30, I31, I33, I34-I38, I40, I42, I44-I45, I46, I47-I51, and I70-I99 are used to identify deaths.

Emergency Department Visits: See Hospital Emergency Department Visits.

Heart Disease: A group of conditions, that includes valve and conductive disorders as well as hypertensive diseases. ICD-9-CM codes 391-398, 402, 404, 410-416, 420-429 are used in identifying heart disease hospitalizations.

Hepatitis C: A viral disease caused by the hepatitis C virus (HCV) that leads to swelling of the liver.

Hispanic: See Latino.

Homeless: The federal government defines “homeless” to mean (1) an individual who lacks a fixed, regular, and adequate night-time residence; or (2) an individual who has a primary night-time residence that is (i) a supervised publicly or privately operated shelter designed to provide temporary living accommodations (including welfare hotels, congregate shelters, and transitional housing for the mentally ill); (ii) an institution that provides a temporary residence for individuals intended to be institutionalized; or (iii) a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings. This term does not include any individual imprisoned or otherwise detained under an Act of Congress or a state law.

Homicide: A death intentionally caused by a person other than the deceased. ICD-10 codes X85-Y09 and Y87.1 are used in identifying homicides for analysis.

Hospital Emergency Department Visits: Visits to acute care hospital emergency departments for care. Emergency department visit data (e.g., nonfatal assault-related gunshot and stabbing wounds) result from an aggregation of patient data across three databases representing each of the three hospital settings from which a patient seen in the emergency department may be ultimately discharged (i.e., hospital inpatient, observational stay, and outpatient hospital emergency department). The aggregated total represents an unduplicated count of emergency department visits.

Hospitalization: A patient’s continuous stay of one night or more in the hospital for observation, care, diagnosis, or treatment before being released by the hospital, or before death. Hospitalization data presented in this report represents only hospitalizations from acute, short-stay, non-federal hospitals.

Incidence: The number of new cases of a particular disease over a period of time (usually a year) and in relation to the population in which it occurs.
Incidence Rates: Incidence rates are the number of new cases in a given time period divided by the number of people at risk in the population at the beginning of the study. Incidence rates are usually reported on the basis of every 100,000 people per year. New cases of a communicable disease, such as hepatitis, are presented as an incidence rate, which may be age-specific or crude.

Infant Death Rate: The number of deaths under one year of age per 1,000 live births.

Infectious Diseases: Infectious diseases are illnesses resulting from the presence of pathogenic microbial agents, such as viruses, bacteria, fungi, parasites, and prions. Transmission can occur from one person or species to another.

Injury: Injury deaths include five categories: homicides, suicides, motor vehicle-related injuries, (other) unintentional injuries, and “undetermined” injuries (for which it was not determined on the death certificate whether the injury was intentional). The latter three categories are presented together in this report (see Other Injury Deaths). ICD-10 codes are used for identifying the type of injury that resulted in death. The determination of intent appearing on a death certificate or in medical records is for purposes of medical record-keeping only. Visits to emergency departments, clinics, hospitals, physician offices, and other outpatient facilities for treatment of injuries are identified by type of injury using ICD-9-CM E-codes.

Insufficient Sample Size: In this report the phrase “insufficient sample size” is used on occasion when certain data points are not presented. This occurs when survey data are stratified by population groups and, as a result, there is not a large enough sample (number of survey respondents or recorded health events) to allow the presentation of reliable point estimates. Data are also not presented if a sample size is too low to protect the confidentiality of the respondents.

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes: Hospitalization data shown in this report are classified according to ICD-9-CM. This is the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the United States.

International Classification of Disease, Tenth Revision (ICD-10) codes: Death data presented in this report are classified according to the ICD-10, released by the World Health Organization in 2000 and adopted by the United States National Center for Health Statistics (NHS), Centers for Disease Control and Prevention.

Latino: Includes people of any race (Asian, Black, White, or Other) self-identified as Hispanic or Latino (such as Puerto Rican, Mexican, Cuban, Spanish, or Dominican).

Lead Screening: The measurement of blood lead levels in children to identify those who have been exposed to toxic levels of environmental lead. In Boston, annual screening of children between 6 and 48 months of age is mandatory. Also see Blood Lead Levels.

Low Birth Weight (LBW): Birth weight of less than 2,500 grams (5 pounds, 8 ounces).

Micrograms per Deciliter (µg/dL): A measurement unit for level of lead in a measured quantity of blood: a billionth of a gram in a tenth of a liter. As of May 2012, children with blood lead levels of 5 µg/dL or higher are considered to have elevated blood lead levels. Previously 10 µg/dL or higher was the measurement used.

Mortality: Death, or the relative frequency of death per unit of population in a specific time period.

NA: A notation used to indicate that no data was available for this indicator.
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n<5: A notation used to indicate that for this health indicator there were fewer than five occurrences (for example, births, deaths, new case of a disease) and therefore a rate could not be presented. Also see the Note to Readers section of this report.

n<7: A notation used to indicate that for this health indicator there were fewer than seven occurrences (for example, hospitalizations, ED visits, outpatient observation) and therefore a rate could not be presented. Also see the Note to Readers section of this report.

Neighborhood: One of 15 distinct geographical areas in Boston. See the Technical Notes section of this report.

Nephritis/Nephrosis: Inflammation of the kidneys (nephritis), or kidney disease with severe protein loss and fluid retention or degenerative changes in the kidneys without inflammation (nephrosis). For data from 1999 and later years, ICD-10 codes N00-N07, N17-N19, and N25-N27 are used to identify deaths from nephritis/nephrosis for analysis.

Nonfatal Assault-Related Gunshot/Stabbings: Injuries due to assault-related gunshots and/or piercings and cuts by a sharp object such as a knife. Such injuries were identified among three databases from the Massachusetts Center for Health Information and Analysis (formerly Massachusetts Division of Health Care Finance and Policy): Inpatient Hospital Discharge Database, Outpatient Emergency Department Database, and Outpatient Hospital Observation Database. ICD9 E-codes, E956 and E965 are used to identify emergency department visits for nonfatal assault-related gunshot/stabbings for the purpose of analysis.

Obesity: Obesity is a condition in which an accumulation of excess body fat has occurred to the extent that it may lead to adverse health events. Adults with a Body Mass Index (BMI) of 30 or higher are considered obese. Obesity for high school students is determined by a BMI percentile standard ranking of 95% or higher.

Other Injury Deaths: Injury deaths are those due to motor vehicle accidents, other land transport accidents, unspecified transport accidents, falls, accidental discharge of firearms, accidental drowning and submersion, accidental exposure to smoke, fire, and flames, accidental poisoning and exposure to noxious substances, other and unspecified nontransport accidents and their sequelae, discharge of firearms of undetermined intent, other and unspecified events of undetermined intent and their sequelae.

Point Estimate: A single value calculated from survey sample data indicating the estimated percentage of a population with a given characteristic. A point estimate serves as the best approximation for an unknown population parameter and should be interpreted with information that considers the standard error associated with the estimate. See the Note to Readers section of this report.

Population: The total number of residents. Population statistics in this report are drawn from two main sources. The first is the census of the population taken every ten years by the federal government which provides a literal count of people living in the United States. The second is population estimates made by the U.S. Census Bureau American Community Survey.

Poverty Level: A poverty level is the minimum level of income deemed necessary to achieve an adequate standard of living in a given country. The poverty definition used in Health of Boston: Neighborhood Focus 2012-2013 is that of the US Census Bureau. Small adjustments are made to these thresholds based on the composition of the family. Also see the Data Sources and Limitations section and the Technical Notes section of this report.

Pregnancy: The condition of carrying a developing embryo or fetus in the uterus.
Preterm Births: A preterm birth refers to the birth of a baby less than 37 weeks gestational age. Preterm births are the major cause of low birth weight and infant mortality in the United States.

Regular Physical Activity: Defined for adolescents as engaging in physical activity for at least one hour per day on five or more days during the past week. For adults, regular physical activity is defined as engaging in vigorous activity 20 minutes per day on 3 or more days during the past week or engaging in moderate activity for 30 minutes per day on 5 or more days during the past week.

Rolling Average: A statistical method and presentation of data that assists trend identification by effectively “smoothing out” random fluctuations over time. A rolling average rate uses aggregated data from multiple years to generate the average annual rate at each time point. Calculation of the rate at each successive time point requires adding data from the newest (i.e., next) data year and dropping data from the oldest data year. In this report, five-year or six-year rolling average infant death rates are presented because the small number of infant deaths per year produces an annual rate that fluctuates widely over time.

Sample Size: Sample size refers to the number of observations of a statistical sample. For survey data, the sample size refers to the number of people who responded to the survey (i.e., respondents). Also see definition for insufficient sample size.

Sexually Transmitted Infections (STIs): Infection spread by transfer of organisms from person to person during sexual contact. Also known as Sexually Transmitted Diseases (STDs).

Socioeconomic Status (SES): An economic and sociological measure based on income, education, and occupation that describes an individual's or family's economic and social position relative to others. Socioeconomics is the statistical study of the social and economic characteristics of a population, such as education and poverty levels. Also see Socioeconomic Profile and Demographic Profile sections of this report.

Standard Population: Population data used to scale data from different sources to a common single population, thus allowing rate comparisons that have adjusted for underlying population differences. For this report, fixed age and race distributions from the year 2000 U.S. standard population were used during calculation of age-adjusted rates.

Statistical Significance: An attribute of an observed difference in data that is assessed using statistical tests that help determine whether the observed difference accurately describes the actual experience of the population of interest.

Stroke (also known as a cerebrovascular accident): A stroke occurs when a blood vessel in the brain bursts or when the blood supply to part of the brain is blocked, depriving the brain of oxygen. ICD-10 codes I60-I69 are used in identifying deaths due to stroke and ICD-9-CM codes 430-438 are used in identifying hospitalizations due to stroke for analysis.

Substance Abuse Deaths: Deaths in which alcohol and/or drugs played a causal role (Alcohol-Related Deaths and Drug-Related Deaths). Due to changes in case identification practices, counts and rates of substance abuse deaths cannot be compared to data presented in previous Health of Boston reports. Alcohol-Related Deaths: Death induced by alcohol use/abuse, such as liver disease due to alcohol consumption, and accidental alcohol overdose. This category does not include deaths indirectly due to alcohol use, such as deaths due to injuries occurring while intoxicated or deaths caused by another person who was intoxicated. The alcohol-related death code definition is from National Vital Statistics Reports, Vol. 58, No. 19, May 20, 2010 (page 120). ICD-10 codes E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, R78.0, X45, X65, and Y15 are used across multiple cause levels to identify alcohol-related deaths. Drug-Related Deaths: Deaths due to use of drugs other than alcohol and
tobacco, including direct physiological causes as well as some accidental deaths in which drug use/abuse is involved. This classification does not include deaths indirectly due to drug use, such as deaths due to injuries occurring while under the influence of drugs or deaths caused by another person under the influence of drugs. The drug-related death codes definition used is from National Vital Statistics Reports, Vol. 58, No. 19, May 20, 2010 (pages 119-120). ICD-10 codes D52.1, D59.0, D59.2, D61.1, D64.2, E06.4, E16.0, E23.1, E24.2, E27.3, E66.1, F11.0-F11.5, F11.7-F11.9, F12.0-F12.5, F12.7-F12.9, F13.0-F13.5, F13.7-F13.9, F14.0-F14.5, F14.7-F14.9, F15.0-F15.5, F15.7-F15.9, F16.0-F16.5, F16.7-F16.9, F17.0, F17.3-F17.5, F17.7-F17.9, F18.0-F18.5, F18.7-F18.9, F19.0-F19.5, F19.7-F19.9, G21.1, G24.0, G25.1, G25.4, G25.6, G44.4, G62.0, G72.0, I95.2, J70.2, J70.3, J70.5, K85.3, L10.5, L27.0, L27.1, M10.2, M32.0, M80.4, M81.4, M83.5, M87.1, R50.2, R78.1, R78.2, R78.3, R78.4, R78.5, X40-X44, X60-X64, X85, and Y10-Y14 are used across multiple cause levels for identifying drug-related deaths.

Suicide: The intentional and voluntary taking of one’s own life. For data from 1999 and later years, ICD-10 codes X60-X84 and Y87.0 are used in identifying suicides for analysis.

White: All persons self-identified as White who do not also identify themselves as Latino.

Youth Risk Behavioral Surveillance System (YRBSS): See Data Sources and Limitations and Technical Notes sections of this report.