Technical Notes

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

Asbestos hazard/violation: While it is not against the law to have asbestos in good condition present in a building, defective or damaged asbestos materials are a public health hazard which must be either repaired or removed by a licensed contractor working under a permit. A hazard/violation occurs if unsafe conditions, illegal removal, or contractor non-compliance for asbestos is identified by the Environmental and Occupational Health Division during an initial complaint inspection or compliance check of an active permitted asbestos abatement project.

Adolescent births: In this report, adolescent births are considered births to females ages 15-19.

Age-adjusted rate (AAR): Age-adjustment is a statistical process applied to rates of disease and death which allows populations or groups with different age structures to be compared. The occurrence of disease and death is often associated with age and the age distribution between populations may differ considerably. Thus, AARs are helpful when comparing rates over time and between groups or populations.

An AAR is derived by: 1) calculating age-specific rates (ASRs) across all age groups, 2) multiplying the ASRs by age-specific weights that come from proportion of the 2000 U.S. standard population within each age group, 3) summing the adjusted age-specific rates. In Health of Boston 2016-2017 AARs are mainly used for the presentation of death, hospitalization, and emergency department visit data. All AARs are based on a standard population distribution that covers all ages except for AARs that pertain to substance misuse data and premature mortality rates. Substance misuse AARs are based on a standard population distribution of individuals ages 12 and older, and premature mortality AARs are based on a standard population distribution of individuals under age 65.

Age specific rate (ASR): Age-specific rates (ASRs) are a type of crude rate limited to a particular age group within a population (e.g. 15-24-year-old females). ASRs enable the comparison of event frequency between different age groups. The calculation for an ASR is the same as for a crude rate.

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.

Alcohol misuse mortality: Death induced by alcohol use/misuse, such as liver disease due to alcohol consumption, and accidental alcohol overdose. In addition to excluding suicide determinations, this category excludes 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-misuse related death code definition is from National Vital Statistics Reports, Vol. 58, No. 19, May 20, 2010 (page 120). In the report, alcohol misuse mortality was identified among decedents with either alcohol or drug misuse identified as underlying (i.e., primary) cause and any of the following ICD-10 codes subsequently identified across any of up to ten causes (i.e., underlying and associate): E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, R78.0, X45, and Y15.

Alzheimer's disease: A degenerative brain disease that is progressive, irreversible and ultimately fatal. It affects memory, thinking, and language skills by 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, and G30.9 are used to identify deaths from Alzheimer's disease for analysis.

Asian: For the purposes of analysis in this report, Asian residents are all persons self-identified as Asian or Native Hawaiian or Other Pacific Islander (e.g., Chinese, Japanese, Samoan, Cambodian, Vietnamese, Asian Indian, and Filipino) who do not also identify 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. Hospitalizations and emergency department visits in this report were identified through the Acute Hospital Case Mix Databases from the Massachusetts Center for Health Information and Analysis. ICD-9-CM code 493 was used to identify asthma-related cases.

Binge drinking: A pattern of alcohol consumption that brings the blood alcohol concentration (BAC) level to 0.08% or more. This pattern of drinking usually corresponds to 5 or more drinks on a single occasion for men or 4 or more drinks on a single occasion for women, generally within about 2 hours.

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: For the purposes of analysis in this report, Black residents are all persons self-identified as Black (e.g., African American, Haitian, West Indian) who do not also identify as Latino.

Blood-lead level: The amount of lead in micrograms per deciliter of blood, detected during finger stick or venous blood draw tests. Previously, the blood lead level of concern was defined as lead 10 or greater micrograms per deciliter of blood (>=10 µg/dL). In May 2012, the Centers for Disease Control and Prevention established a new reference level defined as lead 5 or greater micrograms per deciliter of blood (>=5 µg/dL). The new lower value means that more children will likely be identified as having lead exposure allowing parents, doctors, public health officials, and communities to take action earlier to reduce the child's future exposure to lead.

Body mass index (BMI): A measure of the appropriateness of weight in relation to height and allows for categorization of people into weight classes. BMI is calculated by dividing a person's weight in kilograms by his or her height in meters squared (kg/m2). This calculation is used to screen and monitor populations to detect risks of health or nutritional disorders. BMI is used differently with children and teenagers (ages 2-19) than with adults (ages 20+) and is plotted according to age- and sex-specific charts.

For children and teenagers, BMI-for-age weight status categories and the corresponding percentiles are shown in the following table.

Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obese	Equal to or greater than the 95th percentile

The BMI cut points for adults are as follows:

Weight Status Category	BMI
Underweight	Less than 18.5
Healthy weight	18.5 to 24.9
Overweight	25.0 to 29.9
Obese	30.0 or more

Cancer: A group of diseases in which abnormal cells divide without control and can spread to other parts of the body. Cancer is a leading cause of death in the United States. 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.

Carbon monoxide poisoning: Carbon monoxide (CO) is a colorless, odorless, nonirritating gas that is produced through the incomplete combustion of hydrocarbons. CO poisoning is a leading cause of unintentional poisoning deaths in the United States. This report adopts the Council of State and Territorial Epidemiologists' surveillance case definition of confirmed CO poisoning using administrative data (in the absence of case investigation). A confirmed CO poisoning emergency department visit was defined as an admission to the emergency department for which a primary or other diagnosis ICD-9-CM code in the range of 986.0–986.9 or cause-of-injury code E868.3.0, E868.8, E868.9, E952.1, or E982.1 was recorded.

Cause of death undercount: Death data totals change as new information is obtained. The most recent data year (i.e., 2015) typically experiences the most subsequent updating because of there being a higher number of open cases that eventually close. Among open cases, deaths related to injury are most common because the state medical examiner is conducting investigations to determine the cause and/or manner (e.g., natural, accidental, homicide, suicide, undetermined) of death. In 2015 Boston death data as of December 2016, there were 56 deaths that had yet to be assigned a cause with manner pending by the state medical examiner. Many of these will subsequently receive an injury-related causal determination (e.g., unintentional overdose, homicide, suicide) once the case review is completed. As a result, death count totals and rates for injury-related deaths are likely to increase as more information is obtained.

Chlamydia: A sexually transmitted disease caused by the bacterium Chlamydia trachomatis. It is the most common sexually transmitted disease in the United States.

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 to identify COPD deaths.

Cold-related illness: Cold-related illness ranges from hypothermia to less severe conditions such as frost bite, trench foot, and chilblains. A cold-related illness emergency department visit was defined as an admission to the emergency department that met the following criteria: 1) it occurred during the seasonally cold months of November–March, and 2) a primary or other diagnosis ICD-9-CM code in the range of 991.0–991.9 or cause-of-injury code E901.0, E901.8, E901.9, or E988.3 was recorded.

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 endpoints of the interval).

Crude rate: Crude rates are used to present data pertaining to an entire population, such as all of Boston, or to present data pertaining to a subpopulation, such as males or females. A crude rate is calculated by dividing the number of events for the entire population or subpopulation by the total population or subpopulation. In this report, rates of infectious disease, sexually transmitted infection, and birth are presented as crude rates.

Death rate: The number of deaths per year per 100,000 people. In this report, death rates are presented as age-adjusted rates.

Demographics: Characteristics of human populations 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 codes 249 and 250 are used to identify hospitalizations due to diabetes. Diabetes-related deaths are identified using ICD-10 codes E10-E14.

Diseases of the heart: A group of conditions that involves the heart and/or blood vessels, such as ischemic heart diseases and coronary artery disease. ICD-10 codes I00–I09, I11, I13, I20-I22 I24-I31, I33-I38 I40, I42- I51 are used to identify deaths.

Drug misuse mortality: Deaths, excluding suicide and homicide determinations, due to use of specified drugs other than alcohol and tobacco, including direct physiological causes as well as accidental deaths and poisoning deaths with undetermined manner in which drug use/misuse was 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. In this report, drug misuse mortality was identified among decedents with either alcohol or drug misuse identified as underlying (i.e., primary) cause and any of the following ICD-10 codes subsequently identified across any of up to ten causes (i.e., underlying and associate): 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, and Y10-Y14.

Emergency department (ED) visit: Visits to acute-care hospital emergency departments for care. In this report, emergency department visit data includes cases seen in the emergency department that resulted in either a discharge directly from the hospital ED or from a hospitalization that followed ED care. ED visits resulting in a discharge from the observational stay setting are excluded from this report. For Chapter 12: Injury, ED visits include only cases with a discharge from the emergency department and exclude ED visits resulting in a hospitalization.

Fentanyl: Fentanyl is a highly potent opioid produced and distributed both legally and illegally. Though fentanyl can be prescribed for severe pain relief, much of the fentanyl in Massachusetts is believed to be illicitly produced according to the U.S Department of Justice Drug Enforcement Administration's 2015 Investigative Reporting (January 2015). In the electronic death files provided by the Massachusetts Department of Public Health, from 2011 to September 2014, direct identification of fentanyl is not possible. When specifically identified as a drug having a causal role in the death, the case receives ICD-10 code T40.4 (i.e., Other Synthetic Narcotics). Beginning in October 2014, Massachusetts death data provide the literal name of drugs specified as having a causal role in the death in addition to the relevant ICD-10 codes. Subsequent analysis of these death data for Boston reveal that 96% of unintentional overdose deaths with ICD-10 code T40.4 assigned had fentanyl literally specified.

Head of household: See "Householder."

Heat-related illness: Heat-related illness comprises mild heat edema, heat syncope, heat cramps, heat exhaustion, and heat stroke. A heat-related illness emergency department visit was defined as an admission to the emergency department that met the following criteria: 1) it occurred during the seasonally warm months of May-September, and 2) a primary or other diagnosis ICD-9-CM code in the range of 992.0–992.9 or cause-of-injury code E900.0 or E900, excluding cases with a code of E900.1 (exposure to a man-made source of heat), was recorded.

Heart disease: A group of conditions, including valve and conductive disorders such as hypertensive heart disease and congestive heart failure. ICD-9-CM codes 391-398, 402, 404, 410-416, and 420-429 are used in identifying heart disease hospitalizations.

Hepatitis B & C: Diseases caused by the hepatitis B or C virus that lead to inflammation of the liver.

Homeless: The homeless data included in *Health of Boston 2016-2017* is based on individuals and families determined to be homeless by the Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009. In general, according to that legislation, homelessness pertains to individuals or families whose primary nighttime place of residence is not a house or building designed for regular sleeping accommodations and is not suitable for humans; individuals or families living in supervised shelters (including hotels/motels) considered temporary and designated for the homeless; and individuals or families with no arrangement for permanent housing. For more information, see https://www.hudexchange.info/resources/documents/HEARTH_HomelessDefinition_FinalRule.pdf.

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. 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 homicide rates in this report will likely differ from those reported by the Boston Police Department.

Hospitalization: Hospitalization represents a patient's continuous stay of one night or more in the hospital for observation, care, diagnosis, or treatment before being discharged (released) from the inpatient setting by the hospital. Only hospitalizations from acute-care, non-federal hospitals have been included. In this report, hospitalizations include cases originating in the emergency department that result in inpatient hospital admissions.

Hospital patient encounters: In this report, hospital patient encounters include both emergency department visits and hospitalizations (see definitions in Technical Notes). Hospital observational stay discharges are excluded because the data were unavailable.

Householder: The U.S. Census Bureau designates one person in each household as the householder. In most cases, this is the person or one of the people in whose name the home is owned, being bought, or rented and who is listed on line one of the American Community Survey questionnaire. If there is no such person in the household, any adult household member 15 years old and over could be designated as the householder. In Health of Boston 2016-17, the terms "householder" and "head of household" are interchangeable.

Incidence: The number of new cases of a particular disease over a period (usually a year) and in relation to the population in which it occurs. Incidence rates are usually reported on the basis of every 100,000 people per year. New cases of an infectious disease such as hepatitis B and C are presented as incidence rates, which may be age-specific or crude.

Infant mortality rate: The number of deaths to children under one year of age per 1,000 live births.

Infectious/Communicable disease: Infectious or communicable diseases are illnesses resulting from the presence of pathogenic microbial agents, such as viruses, bacteria, fungi, parasites, or prions. Diseases can be spread directly or indirectly from one person to another.

Injury-related mortality: Injury deaths are defined as those with an ICD-10 code of V01-Y36, Y85-Y87, Y89, or U01-U03 in the underlying (i.e., primary) cause of death field. Adverse medical/surgical effects are excluded. This definition follows the guidelines set forth in *State Injury Indicators Report: Instructions for Preparing 2014 Data* (published April 2016) by the Centers for Disease Control and Prevention. For the ranking of leading causes of injury mortality, only the subset of ICD-10 codes from *State Injury Indicators Report: Instructions for Preparing 2014 Data* that were also found in "List of 113 Selected Causes of Death" (National Center for Health Statistics Instruction Manual, Part 9, "ICD-10 Cause-of-Death Lists for Tabulating Mortality Statistics", updated March 2011 to include WHO updates to ICD-10 for data year 2011) were considered.

Injury-related hospitalizations: Injury-related hospitalizations are defined as those with an ICD-9-CM code of 800-909.2, 909.4, 909.9, 910-994.9, 995.5-995.59, or 995.80-995.85 in the principal diagnosis field. Adverse medical/surgical effects are excluded. This definition follows the guidelines set forth in *State Injury Indicators Report: Instructions for Preparing 2014 Data* (published April 2016) by the Centers for Disease Control and Prevention.

Injury-related emergency department (ED) visits: Injury-related ED visits include discharges from the emergency department but exclude care resulting in hospitalizations. Injury-related ED visits are defined as those with an ICD-9-CM code of 800-909.2, 909.4, 909.9, 910-994.9, 995.5-995.59, or 995.80-995.85 in the principal diagnosis field (these codes exclude adverse medical/surgical effects) or E800-E869, E880-E929, or E950-E999 in any external cause-of-injury (E-code) field. This definition follows the guidelines set forth in *State Injury Indicators Report: Instructions for Preparing 2014 Data* (published April 2016) by the Centers for Disease Control and Prevention.

Insufficient sample size: In this report insufficient sample size is used when certain data points are not presented. This occurs with survey data when there is not a large enough sample (number of survey respondents) to allow for the presentation of reliable point estimates. Data are also not presented if a sample size is too small, which may compromise the confidentiality of the respondents, or if the percentage of missing responses among all responses equals or exceeds 20% of the survey sample.

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. The ICD system standardizes medical terms and groups them for statistical purposes.

International Classification of Diseases, 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 (NCHS), Centers for Disease Control and Prevention. The ICD system standardizes medical terms and groups them for statistical purposes.

Labor force participation rate: The labor force participation rate represents the proportion of the population that is in the labor force. For example, if there are 100 people in the population 16 years and over, and 64 of them are in the labor force, then the labor force participation rate for the population 16 years and over would be 64 percent.

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 high levels of environmental lead. In Massachusetts, annual screening of children between 9 and 48 months of age once a year is mandatory. In May 2012, the Centers for Disease Control and Prevention (CDC) issued a recommendation to change the guidelines used for determining clinical lead poisoning from 10 or greater micrograms of lead per deciliter of blood (>=10 µg/dL) to 5 or greater micrograms of lead per deciliter of blood (>=5 µg/dL) for children 72 months old and under. This recommendation was based on an increasing body of scientific evidence demonstrating that these lower blood lead levels can also produce negative health consequences over one's lifetime. See Blood-Lead Level for more information.

Life expectancy: Calculated using 5-year abridged period life tables for a hypothetical cohort of 100,000 residents developed by the Office for National Statistics, United Kingdom. Applied methodological options are described in "Life Expectancy at Birth: Methodological Options for Small Populations, National Statistics Methodological Series #33," (authors: Barbara Toson and Allan Baker), and include: 1) the calculation of life expectancy at birth based on Chiang's revised methodology, 2) no life expectancy at birth calculations made for populations below 5,000, and 3) no adjustments made by imputing values for age bands with no deaths.

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

Micrograms per deciliter (µg/dL): A measurement unit for level of lead in a measured quantity of blood: a millionth of a gram in a tenth of a liter.

Mold hazard/violation: The Environmental and Occupational Health Division of the Boston Public Health Commission responds to complaints or inquiries from the public regarding mold. A mold hazard/violation is said to have occurred upon inspection if mold is identified in heating, ventilation, or air conditioning systems or if an indoor air quality hazard is identified involving chronic dampness or mold.

n<5: A notation used to indicate that for this health indicator there were fewer than five occurrences (for example, births, deaths, new cases of a disease) and therefore a rate could not be presented.

n<11: A notation used to indicate that for this health indicator there were fewer than eleven occurrences (for example, hospital patient encounters and ED visits) and therefore a rate could not be presented.

Neighborhood: Neighborhoods can be identified in several ways. In Health of Boston 2016-2017 zip codes are used to identify neighborhood boundaries since this information is collected with health data. Please note that the zip code neighborhood definitions used in this report may differ from what are used by other organizations and agencies.

The zip codes used in this report for identifying neighborhoods are those currently used by the United States Postal Service (USPS). USPS zip codes are not based on geography, demographics, or population size; they are collections of mail delivery routes that are defined at the convenience of the U.S. Postal Service and may change from time to time.

Data from the U.S. Census Bureau comes in the form of Zip Code Tabulation Areas (ZCTAs), generalized areal representations of USPS zip code service areas. ZCTA is a trademark of the U.S. Census Bureau whereas ZIP Code is a trademark of the U.S. Postal Service.

Boston Neighborhoods Defined by Zip Codes/Zip Code Tabulation Areas (ZCTAs)

Neighborhood	Zip Codes/ZCTAs
Allston/Brighton	02134, 02135, 02163
Back Bay (includes Downtown, Beacon Hill, North End, West End)	02108-02110, 02113-02114, 02116, 02199
Charlestown	02129
Dorchester (zip codes 02121, 02125)	02121, 02125
Dorchester (zip codes 02122, 02124)	02122, 02124
East Boston	02128
Fenway	02115, 02215
Hyde Park	02136
Jamaica Plain	02130
Mattapan	02126
North End	02113
Roslindale	02131
Roxbury	02119, 02120
South Boston	02127, 02210
South End (includes the zip code typically used to identify Chinatown (02111))	02111, 02118
West Roxbury	02132

Neighborhood boundaries on maps presented in Chapter 3: Community Assets vary slightly from boundaries presented in all other maps in *Health of Boston 2016-2017*. Boundaries were adjusted in this chapter in order to more accurately reflect how Franklin Park is divided among Boston neighborhoods.

In previous Health of Boston reports, Dorchester was presented as two distinct neighborhoods—North Dorchester and South Dorchester. This was done to highlight health experience differences within Dorchester. While this report continues to present health data representing these two geographic regions, the "North "and "South" designations have been dropped because of their historical role related to race-based housing segregation within Boston.

Since neighborhood health data in this report is zip code-based, *Health of Boston 2016-2017* differentiates the two Dorchester areas by identifying associated zip codes in the labels. Neighborhood maps and text in the report present references to these areas as "Dorchester (zip codes 02121, 02125)" and "Dorchester (zip codes 02122, 02124)", respectively.

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). ICD-10 codes N00-N07, N17-N19, and N25-N27 are used to identify deaths from nephritis/nephrosis for analysis.

Nitrogen dioxide (NO2): NO2 primarily gets in the air from the burning of fuel. NO2 forms from emissions from motor vehicles, power plants, and off-road equipment. The 1-hour and annual National Ambient Air Quality Standards for NO2 set by the U.S. Environmental Protection Agency for public health protection are 100 parts per billion and 53 parts per billion, respectively. Between 2005 and 2016, the Massachusetts Department of Environmental Protection (MassDEP) monitored outdoor NO2 levels in Boston at 4 locations: Long Island, Fenway (Kenmore Square), Dorchester (Von Hillern Street), Roxbury (Harrison Avenue). MassDEP opened the Von Hillern Street site in 2013 and closed the Long Island monitoring site in 2015.

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 equal to or greater than 30 kg/m2 are considered obese. Obesity among children and youth is determined by a BMI percentile standard ranking of 95% or higher.

Overcrowded housing: Overcrowded housing is defined as more than one occupant per room within a housing unit.

Ozone (O3): Ground-level or "bad" ozone is not emitted directly into the air but is created by chemical reactions between oxides of nitrogen and volatile organic compounds in the presence of sunlight. Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the (indirect) major sources of ground-level ozone. In 2015, the U.S. Environmental Protection Agency strengthened the National Ambient Air Quality Standards for ground-level ozone by revising the 8-hour standard downward from 75 to 70 parts per billion. Between 2005 and 2016, the Massachusetts Department of Environmental Protection (MassDEP) monitored ground-level ozone levels in Boston at 2 locations: Long Island and Roxbury (Harrison Avenue). MassDEP closed the Long Island monitoring site in 2015.

Particulate matter less than or equal to 2.5 microns in diameter (PM2.5): PM2.5 refers to particulate air pollution, specifically fine, inhalable particles with diameters that are generally 2.5 microns and smaller. The current 24-hour and annual National Ambient Air Quality Standards for PM2.5 set by the U.S. Environmental Protection Agency for public health protection are 35 micrograms per cubic meter and 12.0 micrograms per cubic meter, respectively. Between 2005 and 2016, the Massachusetts Department of Environmental Protection (MassDEP)monitored outdoor PM2.5 levels in Boston at 5 locations: Charlestown, Fenway (Kenmore Square), North End, Dorchester (Von Hillern Street), and Roxbury (Harrison Avenue). MassDEP opened the Von Hillern Street site in 2013 and closed the Charlestown monitoring site in 2015.

Physical activity: Physical activity is anything that gets your body moving. According to the *2008 Physical Activity Guidelines for Americans*, adults and children need to do two types of physical activity to improve health: aerobic and muscle-strengthening.

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.

Population: Two types of population statistics are presented in this report. The first is the census of the population taken every ten years by the U.S. Census Bureau; it is a literal count of all residents of the United States. The second is population estimates from a sample of the population taken by the U.S. Census Bureau using the American Community Survey (ACS). Data from the 2000 and 2010 U.S. Censuses as well as American Community Survey are presented in Chapter 1: Demographics and Chapter 2: Social Determinants of Health in *Health of Boston 2016-2017*.

The national decennial census provides the most accurate count of the U.S. population. It presents data from 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 derived through interpolation and extrapolation using data from the 2000 and 2010 U.S. Censuses are included in the calculation of rates for this report.

The U.S. Census Bureau uses the American Community Survey (ACS) to produce annual estimates that describe the population and housing characteristics of people in the United States. Estimates, by their nature, are less precise than population census data. Because they are generated from a sample, estimates are associated with margins of error that describe their level of accuracy. Margins of error need to be considered when comparisons are made with sample data. Though margins of error are not presented alongside ACS estimates in *Health of Boston 2016-2017*, differences cited reflect statistical significance at the 95% confidence level (as opposed to the 90% confidence level that ACS provides). Additionally, estimates with relative standard errors 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.

Poverty: 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 2016-2017* is the United States Census Bureau poverty thresholds. Poverty estimates are derived from the American Community Survey (ACS).

The U.S. Census Bureau's definition of poverty is a federal definition characterized by a series of poverty thresholds or dollar amounts which specify before-taxes, income maximums an individual and/or family can earn in a given year and still be declared impoverished. This definition takes into account family size and age structure (for example, in 2015, a family of four with two children and two adults had a poverty threshold of $24,036 while a single person under the age of 65 had a poverty threshold of $12,331). Income questions in ACS were asked of the population ages 15 and older. The following types of income are not included in the ACS definition of income, and therefore they are not considered when determining poverty status: capital gains; money received from the sale of property (unless the recipient was engaged in the business of selling such property); the value of income "in kind" from food stamps, public housing subsidies, medical care, employer contributions for individuals, etc.; withdrawal of bank deposits; money borrowed; tax refunds; exchange of money between relatives living in the same household; gifts and lump-sum inheritances, insurance payments, and other types of lump-sum receipts. Poverty thresholds are not adjusted for regional differences in mean/median income levels. However, they are modified annually to account for inflation according to rates specified by the Consumer Price Index.

Poverty level: A poverty level is the minimum level of income deemed necessary to achieve an adequate standard of living in a given country. Poverty level is what is used to describe poverty thresholds throughout this report.

Premature mortality rate: The number of deaths per year per 100,000 people under age 65. In this report, premature mortality rates are presented as age-adjusted rates (i.e., adjusted to the 2000 U.S. standard population under age 65).

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 neonatal mortality in the United States.

Race/Ethnicity: All racial and ethnic designations except those from the death certificate, some hospital discharge data, and some emergency department data are self-reported.

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.

Latinos can be of any race. In *Health of Boston 2016-2017* data for persons of Latin descent are presented alongside non-Latino racial groups. Prior to 2008, Massachusetts' hospitalization and emergency department visits data by race/ethnicity were subject to variation in reporting practices by hospitals. As a result, stratification of hospitalization and emergency department visit data by race/ethnicity prior to 2008 was not possible in this report. 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.

In this report, Boston-specific data by race and ethnicity is presented for non-Latino Asian residents, non-Latino Black residents, non-Latino White residents, and Latino residents of any race. Few sources have data in large enough counts to allow presentation of data about smaller groups such as the many ethnicities included in the category "Asian."

Rates: A rate is a measure of a type of event, disease, or condition occurring among a population per unit of time, for instance, the number of deaths due to diseases of the heart 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).

In this report, most hospitalization, emergency department visit, and death rates are based on the primary diagnosis only. Injury ED visits and substance misuse rates are based on consideration of multiple levels of diagnosis. The population denominators used for calculating rates are derived through interpolation or extrapolation using data from the 2000 and 2010 U.S Censuses. Linear interpolation/extrapolation involves the calculation of an average annual percent change for use in estimating population denominators. Linear interpolation is preferred to using a single year of U.S. Census data when calculating rates for intercensal years. This method is used in this report and was first used in *Health of Boston 2014-2015*; therefore, rates from this report cannot be compared to rates in Health of Boston reports prior to *Health of Boston 2014-2015* since those rates were calculated based on population denominators that came directly from the 2000 or 2010 U.S. Census.

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

Secondhand tobacco smoke exposure at home: The Boston Behavioral Risk Factor Surveillance System administered the following question for assessment of secondhand tobacco smoke exposure at home, "Thinking about the past 7 days, about how many hours a week were you exposed to other people's tobacco smoke when you were at home?" Secondhand tobacco smoke exposure at home was defined as a response of 1 hour per week or higher.

Sexually transmitted infection (STI): An infection spread from person to person during sexual contact.

Socioeconomic status (SES): An economic and sociological measure based on multiple factors, including but not limited to income, education, and occupation, that describes an individual's or family's economic and social position relative to others.

Standard population: A specific population (e.g., Boston) or subpopulation (e.g., Boston females) whose age distribution is used in the calculation of standardized rates for purposes of comparison. The two standard populations used in this report (i.e., all ages, and ages 12 and older) come from the 2000 U.S. standard population.

Statistical significance: An attribute of data based on statistical testing. A statistical test examines differences between rates or percentages to help determine if that observed difference reflects a true difference in the actual population experience. Statistical significance means that an observed difference is most likely true but not that it is necessarily meaningful or important. For more information see methods.

Substance misuse mortality: Deaths in which alcohol and/or drugs played an underlying (i.e., primary) causal role excluding suicide and homicide determinations. Overdose deaths in which the manner (e.g., natural, accidental, intentional) was unknown/undetermined are included among all substance misuse death data. See Drug Misuse Mortality and Alcohol Misuse Mortality for specific ICD-10 code definitions..

Substance misuse hospital patient encounters: Substance misuse-related patient visits/discharges from either the hospital inpatient or emergency department settings. Substance misuse hospital patient encounters are identified by ICD-9-CM codes relating to alcohol/drug dependence, alcohol/drug misuse, and unintentional overdose/poisoning of alcohol and other drugs of misuse. The relevant ICD-9-CM codes could present on any level of diagnosis. As a result, a single encounter could present with multiple drug mentions and would be counted once in each of the relevant totals. Patient encounters do not represent unique persons. A unique person may present to the hospital multiple times in a given period (e.g., year). Drugs included for unintentional overdose/poisonings are a subset of all drugs and include alcohol, heroin, other opiates/opioids, cocaine, benzodiazepines, barbiturates, other sedatives, other tranquilizers, antidepressants, psychodysleptics (hallucinogens) and psychostimulants (see ICD-9-CM codes below). Additionally, all overdose/poisoning patient encounters required having the first external causes of injury code (e-code) among E800-E869, E880-E929, E980-E989 (identifying accidental or undetermined intent) or present with no e-code in the case record. ICD-9-CM Codes: Alcohol dependence or misuse (303, 303.0, 303.9, 305.0), drug dependence or misuse (304.0, 304.1, 304.2, 304.3, 304.4, 304.5, 304.6, 304.7, 304.8, 304.9, 305.2, 305.3, 305.4, 305.5, 305.6, 305.7, 305.8, 305.9), and unintentional alcohol or drug overdose/poisoning (E860.0, E860.9, 980.0, E850.0, E850.1, E850.2, E850.9, E853.0, E853.1, E853.2, E853.8, E853.9, E854.0, E854.1, E854.2, E854.3, E854.8, E851, E852, E855.2, 965.0, 967.0, 967.4, 967.8, 968.5, 969.0, 969.1, 969.2, 969.3, 969.4, 969.5, 969.6, 969.7, 969.8, 969.9, 970.0, 970.8, 980.9). Encounters only having codes related to alcohol/drug dependence and nondependent misuse (303-305) and specifying remission status (i.e., having fifth-digit subclassification equal to 3) were excluded.

Substance use disorders: *The Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5), no longer uses the terms substance abuse and substance dependence, rather it refers to substance use disorders, which are defined as mild, moderate, or severe to indicate the level of severity, which is determined by the number of diagnostic criteria met by an individual. Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically

and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home. According to the DSM-5, a diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria.

Suicide: The intentional and voluntary taking of one's own life. ICD-10 codes X60-X84 and Y87.0 are used in identifying cases of suicide. Of note, every year there are a number of injury-related deaths with unknown/undetermined intent. In these cases, medical examiners did not have enough information to determine if the death was an accident, suicide, or homicide. As a result, the rates of suicide likely reflect an undercount of suicides and are lower than they would be if the intent was known for all injury-related deaths.

Tap water lead concentration: The Lead and Copper rule issued by the U.S. Environmental Protection Agency requires that 9 out of 10, or 90%, of sampled homes must have lead levels in drinking water below the Action Level of 15 parts per billion. Since 2012, the Boston Water and Sewer Commission has sampled 25 at-risk homes in Boston during the month of September. The homes sampled are considered higher risk for high lead levels because they have a lead service line or they had water service lines installed in 1983, 1984, or 1985.

Unintentional cocaine overdose mortality: Accidental deaths or deaths with undetermined manner (i.e., not determined to be accidental or intentional) due to drug or alcohol poisoning as underlying cause of death as identified by the ICD-10 codes X40-X45 and Y10-Y15 with the cocaine poisoning ICD-10 code T40.5 identified on any of up to nine subsequent associate causes.

Unintentional drug overdose mortality: Accidental deaths or deaths with undetermined manner (i.e., not determined to be accidental or intentional) due to drug poisoning as underlying cause of death as identified by the following ICD-10 codes: X40-X44 and Y10-Y14.

Unintentional opioid overdose mortality: Accidental deaths or deaths with undetermined manner (i.e., not determined to be accidental or intentional) due to drug or alcohol poisoning as underlying cause of death as identified by the ICD-10 codes X40-X45 and Y10-Y15 with an opioid-related ICD-10 code (T40.0-T40.4 and T40.6) identified on any of up to nine subsequent associate causes.

Unintentional overdose/poisoning: Hospital and mortality cases directly resulting from accidental drug and/or alcohol poisoning or in which the intent was undetermined/unknown. Known self-harm/suicide and homicide cases are excluded. Additionally, hospital cases resulting from adverse effects of drugs taken as prescribed are excluded.

Water leaks or stains: Water leaks are of concern because persistent moisture can promote mold growth as well as encourage insect or rodent infestations. Evidence of water leaks or stains includes (but is not limited to) water stains or discoloration on walls, floors, or ceiling tiles as well as active leaks where water is present.

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

Data Sources

Infectious Disease Data

Source: Infectious Disease Bureau, Boston Public Health Commission

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. Diseases may be asymptomatic or mild, or are treated presumptively without laboratory testing, and for some conditions, reporting may be less than complete. These factors may contribute to underestimates of the frequency of disease.

New cases of chlamydia, syphilis and gonorrhea infection are reported to the Massachusetts Department of Public Health and the Boston Public Health Commission 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 infections. Due to changes in case identification practices, counts and rates of sexually transmitted infections, such as chlamydia, presented in *Health of Boston 2016-2017* cannot be compared to data in Health of Boston reports prior to 2011.

Source: HIV/AIDS Surveillance Program, Massachusetts Department of Public Health

New cases of HIV infection (incidence) and cases of people living with HIV/AIDS (prevalence) are reported to the Massachusetts Department of Public Health by diagnosing physicians and laboratories. Undiagnosed cases may influence the accuracy of reported cases and impede interpretation of HIV/AIDS case data.

Survey Data

Source: American Community Survey, U. S. Census Bureau

The American Community Survey (ACS) uses a sample of the population to provide information about demographics, housing, and socioeconomic characteristics of communities. People who live in households, students, and those in institutions or other group quarters (e.g. jails, college dormitories, and nursing homes) are sampled. *Health of Boston 2016-2017* presents estimates both for single and aggregated years.

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.

Source: American Community Survey (ACS), Public Use Microdata Sample (PUMS), U.S. Census Bureau

A data set that provides a full range of population and housing unit responses collected on individual ACS questionnaires for a subsample of ACS housing units and group quarter persons.

The data set allows for a custom analysis of ACS data using a sample of actual responses to the American Community Survey (ACS). It is used to create new measures and categories not supported by the standard ACS tables. This dataset is not aggregated and cannot be analyzed at the neighborhood level.

Source: Boston Behavioral Risk Factor Survey, 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 living in non-institutional household settings 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 (BPHC) conducts an independent survey approximately 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 BPHC to be more reflective of health risk behaviors specific to the Boston population. In 2013, BBRFSS data across all data years were re-weighted to accommodate post-stratification to five population dimensions (i.e., age, gender, racial/ethnic group, education and marital status). As a result, rates, percentages, and point estimates will vary from and cannot be compared with previously produced BBRFSS results. However, the Boston Behavioral Risk Factor Surveillance System survey has maintained many standard core questions included in the BRFSS used by the Massachusetts Department of Public Health. Results from the survey are used by BPHC to plan and implement health initiatives; to identify health problems within populations; to identify racial/ethnic inequities 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.

Source: Boston Youth Risk Behavior Survey, Youth Risk Behavior Surveillance System (YRBSS), Centers for Disease Control and Prevention and Boston Public Schools

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 47 states, 6 territories, 2 tribal governments, and 22 cities. The survey contains questions related to risk behaviors such as unintentional injuries and violence, alcohol and drug use, tobacco use, 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 inequities, plan and implement health initiatives, support health-related legislative activities, and assist in obtaining grants and other funding.

Vital Records

Source: Boston Resident Live Births, Registry of Vital Records and Statistics, Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health

These data present Massachusetts birth certificate information. The recording of resident live births is considered nearly complete for Massachusetts resident births, including those that take place at home or out-of-state but to Massachusetts residents. Birth data in this report pertain only to Boston residents.

For analytical purposes, infants are assigned their mother's self-reported race/ethnicity, and not a combination of both parents' race/ethnicity.

Source: Boston Resident Deaths, Registry of Vital Records and Statistics, Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health

These data present Massachusetts death certificate information. Death data used by the Boston Public Health Commission pertain only to Boston resident decedents. Cause of death determinations are typically made by the certifying physician. However, the Office of the Chief Medical Examiner is responsible for investigating the cause and manner of death occurring under violent, suspicious or unexplained circumstances. Due to delays in investigational results, cause and manner determinations may get updated after analysis of data for any given year. Based on comparison to previous years, we estimate that approximately 20-30 Boston resident deaths in 2015 with cause pending determination (i.e., UC=R99) will likely get resolved post December 2016. As a result, injury deaths are considered likely undercounts for 2015. In addition, out of state resident death records are often delayed. For these and other reasons death totals, especially for the most recent 2015 data year, may change in subsequent cuts of the data. Additionally, certain information within the death record is obtained 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.

Source: Boston Resident Linked Infant Birth-Infant Death file (death cohort), Registry of Vital Records and Statistics, Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health

These data present information from an infant's birth record linked to the infant's death record. The death cohort consists of Boston resident infants that died during the specified year regardless of their residency at birth. For analytical purposes, infant race/ethnicity in this report reflects the mother's reported race/ethnicity on the birth certificate.

Other Data

Source: Air Assessment Branch, Massachusetts Department of Environmental Protection http://www.mass.gov/eea/agencies/massdep/ (accessed January 11, 2017)

The Massachusetts Department of Environmental Protection (MassDEP) is the state agency responsible for monitoring outdoor air quality in Massachusetts and developing plans and regulatory programs to reduce emissions of pollutants that adversely affect public health, welfare, and the environment. The Air Assessment Branch of MassDEP submits all ambient air quality data to the national Air Quality System database that is administered by the U.S. Environmental Protection Agency.

Source: Acute Hospital Case-Mix Databases (Hospital Inpatient Discharge Database and Outpatient Emergency Department Database), Massachusetts Center for Health Information and Analysis

These hospital patient encounter (HPE) data present information on Boston resident hospitalizations and emergency department visits to acute care hospitals in Massachusetts. All rates are based on encounter count totals covering fiscal years running October through September (e.g., year 2015 covers HPEs from October 2014-September 2015). Data from the Outpatient Hospital Observation Discharge Database are not included in this report.

For a given HPE, the patient's primary diagnosis is used for determination of most health conditions in this report. Some specific injury-type hospitalizations and ED visits and all substance misuse hospital patient encounters are based on further consideration of multiple diagnosis levels after consideration of the primary diagnosis (See Injury and Substance Misuse Hospital Patient Encounters in Technical Notes for more information).

Source: City of Boston Annual Homeless Census, Department of Neighborhood Development, Boston Continuum of Care (CoC) Homeless Assistance Programs Dashboard Reports, 2012-2017, U.S. Department of Housing and Urban Development

The City of Boston Homeless Census is conducted annually. The last count was conducted the night of January 25, 2017. The homeless census is a count of Boston homeless persons, for example, living on the streets, in emergency shelters, in domestic violence programs, in residential mental health or substance misuse programs, in transitional housing, and in specialized programs serving homeless youth and homeless veterans.

The reported count in Health of *Health of Boston 2016-2017* is based on data provided to HUD by Continuums of Care (CoC) Homeless Assistance Programs and represents a different methodology from that used in the past for determining the number of Boston homeless during the annual City of Boston Homeless Census. As a result, the homeless count presented in previous Health of Boston reports may not be comparable to the data presented in this current report.

Source: Boston Water and Sewer Commission, http://www.bwsc.org/ (accessed November 15, 2016)

In accordance with the Lead and Copper Rule issued by the U.S. Environmental Protection Agency, the Boston Water and Sewer Commission must test tap water for lead in a sample of 25 at-risk homes every year. The homes sampled are considered higher risk for high lead levels because they have a lead service line or they had water service lines installed in 1983, 1984, or 1985. In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes, and other plumbing materials to 8.0%. It is assumed that lead solder was used when installing water service lines in 1983, 1984, or 1985, since those were the last years it was legal to use lead solder in plumbing.

Source: Bureau of Substance Abuse Services, Massachusetts Department of Public Health

The Bureau of Substance Abuse Services at the Massachusetts Department of Public Health provides publicly-supported substance misuse treatment admissions data for Boston resident treatment clients. These data are fiscal year based (July-June). Drug-specific rates of treatment clients presented within Health of Boston 2016-2017 reflect unique-person counts of clients identifying a specific drug as being either a primary, secondary or tertiary substance of misuse. This methodology of quantifying a given drug's exposure among the treatment client base is meant to better help identify the extent of drug-specific misuse among the client base for drugs not typically identified as a primary drug of misuse. Treatment admissions data reflect only individuals who have successfully accessed the treatment system and, therefore, do not describe the whole Boston resident drug use disorder population.

Source: Census 2000 and 2010, Bureau of the Census, U.S. Department of Commerce

The U.S. census is conducted every ten years. Data from the 2000 and 2010 Censuses were used to interpolate and extrapolate population counts used as denominators for the calculation of rates in this report. These population estimates aim to reflect changes in the underlying population during non-census years. The use of interpolated/extrapolated population data was not used in Health of Boston reports before *Health of Boston 2014-2015*. Therefore, population-based rates in those previous Health of Boston reports are not comparable.

The collection and coding of race/ethnicity data has changed significantly during the past century but has been consistent during the health data reporting periods in this report. Hispanic ethnicity was not asked until 1930, and then was limited to Mexican ancestry. It was collected in 1940 for all Hispanics/Latinos, but then not again until 1970 when it was only included in samples, and 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.

Source: Childhood Lead Poisoning Program, Bureau of Environmental Health, Massachusetts Department of Public Health

The Boston Public Health Commission acquires annual lead poisoning screening data for Boston children 72 months of age or under from Childhood Lead Poisoning Program.

The elevated blood lead level data reported in this report are solely related to those children who are screened. In 2012, the guidelines used for diagnosing elevated blood lead levels in children were changed. See Technical Notes.

Source: Environmental & Occupational Health Division, Boston Public Health Commission

The Environmental & Occupational Health Division of the Boston Public Health Commission responds to requests from the public for inspections related to a broad range of potential environmental health hazards, including mold, in private residences, public buildings, workplaces, and outdoor spaces. If health hazards or violations of laws for mold are found upon initial inspection, the responsible parties are required to take corrective action.

All asbestos removal or repair projects in Boston require a permit issued by the Environmental & Occupational Health Division. The Division conducts investigations in response to public complaints/inquiries about potential asbestos hazards in public and private buildings, homes, and open spaces as well as random compliance checks of permitted asbestos removal work.

The Environmental & Occupational Health Division is also mandated by city ordinance to conduct bi-annual environmental inspections for all elementary, middle, and high schools in Boston Public Schools. These inspections serve as a method of tracking the environmental status of all Boston Public Schools. As part of the inspections, data regarding leaks and visible water stains, visible mold growth, overt pest signs, improper chemical storage, repairs needed, and other environmental issues are tracked.

Source: Healthy People 2020, https://www.healthypeople.gov/ (accessed April 12, 2017)

Healthy People 2020 (HP 2020) is a national program designed by the U.S. Department of Health and Human Services and effective December 2010. The program consists of 10-year goals and objectives to improve the health of U.S. residents. HP 2020 tracks over 1,000 objectives and 42 topic areas which address general health status, social determinants of health, and disparities. Most of the objectives include established targets pertaining to, for example, selected causes of death, health behaviors, injury and violence, environment health, and access to health care services.

Source: Office of Data and Accountability, Boston Public Schools

Provides data about Boston children enrolled in public and non-public schools, e.g., school-age children attending Boston Public Schools (BPS) and non-BPS by race/ethnicity and BPS four-year graduation rates.

Source: Residential Foreclosures Petitions, Warren Group

The Boston Department of Neighborhood Development uses data collected and compiled by the Warren Group on real estate sales and ownership throughout New England. Such data includes Boston residential foreclosure petitions. An ordinance relating to the maintenance of vacant, foreclosing residential properties requires all owners of abandoned and/or foreclosing residential properties to register them with Boston's Inspectional Services Department (ISD). If the property is abandoned, the registration must state the name and address of the person or company responsible for its

security and maintenance. The registration must be received within seven days once foreclosure process has begun or 14 days after the first violation (which occurs when ISD finds a property vacant and a foreclosure process is initiated).

Source: Supplemental Nutrition Assistance Program (SNAP)

Supplemental Nutrition Assistance Program or SNAP (formerly the Food Stamps Program) is a federal government program administered by the Massachusetts Department of Transitional Assistance that offers nutrition assistance to qualified, low-income individuals and families to purchase food at participating retail food stores and farmer markets.

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