Health of Boston
2014-2015
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Introduction

Welcome to *Health of Boston 2014-2015*!

This report provides a broad picture of the overall health experience of our city, describes many of the contextual factors that influence the health of Boston residents, and identifies groups of individuals and communities at greatest risk for poor health outcomes. *Health of Boston 2014-2015* provides information to help build knowledge and stimulate discussion among individuals that live in our communities. Data sources include the U.S. census, birth and death registries, emergency department and inpatient discharge databases, sexually transmitted and infectious disease surveillance data, and surveys that describe individual behaviors or community demographics and assets. Data from this report provide a foundation for discussion and further planning. This year’s report focuses attention on determinants that influence the health of Boston residents and communities. Determinants of health are the realities of one’s life that make a person healthy or not. They include the social and economic environment, the physical environment, and personal behaviors related to health and wellness. Determinants impact an individual’s health and the collective health experience of a population in both direct and indirect ways.

Understanding the social and economic makeup of a person’s life is critical to understanding an individual’s health experiences and, collectively, the differences in health experiences and outcomes experienced by population groups. Examples of social and economic determinants include perceived safety, level of educational attainment, and the availability/accessibility of resources necessary to meet daily needs. In addition to these social and economic determinants, lifelong exposure to varying forms of racism and discrimination may cause prolonged stress which can also adversely impact health outcomes. Data in this report demonstrate that Boston’s Black and Latino residents collectively experience higher levels of poor health outcomes, chronic disease, and mortality, than Boston’s White residents overall. Similar racial/ethnic differences in income, education and employment status are observed as well.

The physical or *built* environment in which people live is widely recognized as a determinant that influences mental and physical health. Access to green spaces for exercise or relaxation, grocery stores and restaurants with affordable healthy foods, and safe housing, are all important for maintaining good
Neighborhoods serve as the physical and social environments of our daily lives. For this reason we often present data stratified by neighborhood to show that health experiences vary dramatically by location. In other words, place matters.

Individual characteristics and behaviors also play an important role in health outcomes. Positive changes in individual behavior related to diet and exercise can reduce the risk of developing a chronic disease. It is important, however, to acknowledge that individual behaviors are inextricably linked to the social and economic context of an individual’s life.

In order to present a comprehensive picture of the health of Boston residents, Health of Boston 2014-2015 begins with the demographic and socioeconomic characteristics of the diverse populations living in Boston. Next, the report focuses on leading health indicators, using a wide variety of health conditions, disease burdens, and risk behaviors to describe health status. Trends in disease status over time are highlighted, with a focus on differences in disease burdens present between racial and ethnic groups.

We hope you enjoy the report and find the information presented here useful to your own efforts to dialogue, educate, inspire, advocate, and intervene in the interest of optimal health for all Boston residents.

Executive Summary

*Health of Boston 2014-2015* broadly outlines the current state of health experienced by residents of Boston. We use a public health framework for understanding health as a whole-person experience that is shaped by individual and environmental influences.

**Boston: Demographic Profile**

From 2000 to 2010, the population in Boston increased almost five percent from 589,141 in 2000 to 617,591 in 2010. During this time, Boston experienced a shift in the composition of races, ethnicities, and languages spoken. From 2000 to 2012, the largest population increase was among Latino residents, who made up 14.4% of the population in 2000 but 18.6% of the population in 2012. During the same time period, the percentage of Asian residents rose from 7.5% to 9.1%. From 2000 to 2012, the percentage of White residents decreased from 49.5% to 46.0% while the percentage of Black residents was relatively stable. In 2012, 63.4% of residents spoke English exclusively, while 15.9% of residents reported speaking Spanish or Spanish Creole. Among other commonly spoken languages, French Creole, Chinese, and Vietnamese figured prominently.

**Health Equity**

Using a variety of health indicators, *Health of Boston 2014-2015* tracks progress made towards the goal of achieving health equity among all Boston residents, where no one is disadvantaged from achieving their health potential because of socially determined circumstances. Historically, we've seen consistently lower life expectancy and poorer health outcomes for individuals of color as compared to White residents of Boston. Although some gains to bridge the gap have been made over time, there remains much to accomplish. Reconciling these differences necessitates that all individuals have the necessary individual, social, and environmental resources to successfully live healthy lives.

**Racial/Ethnic Group Comparisons**

This year’s report depicts persistently different health outcomes between racial and ethnic groups. The Health Inequities table (page 25) allows readers to assess how Asian, Black, Latino, and White population groups compare across a variety of health outcomes.

- Black residents experience a disproportionate burden of morbidity and mortality from common conditions. Black residents experience higher rates of preterm births, asthma emergency room
visits, obesity, hypertension, hepatitis B, tuberculosis, influenza, HIV infection, diabetes hospitalizations and deaths, heart disease hospitalizations, nonfatal gunshot/stabbing emergency department visits, and cancer deaths compared to White residents.

- Latino residents experience higher rates of the following conditions compared to White residents: heart disease hospitalizations, HIV infection, influenza, asthma emergency department visits, diabetes hospitalizations, and nonfatal gunshot/stabbing emergency department visits.
- Asian residents experience higher rates of tuberculosis and Hepatitis B compared to White residents.

**Boston: Social Determinants of Health**

Opportunities to access the financial and community resources necessary to meet basic needs, make positive health choices, and avoid the adverse health impacts of chronic stress are not equally available to all Boston residents.

**Educational Attainment and Health:**

- In 2012, a higher percentage of Boston residents (15.2%) had less than a high school education than Massachusetts residents overall (10.3%).
- The median income for Boston residents with less than a high school education was approximately $26,800 to $33,800 lower than the median income of those with Bachelor’s degree.
- In 2012, 32% of those with a less than a high school education lived below the poverty level.
- After adjusting for age, race/ethnicity and gender, those who received less than a high school education were more likely to report diabetes, persistent sadness, hypertension and persistent anxiety compared to those who received at least some college level education.

**Employment and Health:**

- For the years 2010-2012 combined, the unemployment rate in Boston was 11%. Black, Latino, and Asian residents had higher unemployment rates compared to White residents during the same time period.
- After adjusting for age, gender, and race/ethnicity, adults who were out of work were more likely to report diabetes, persistent anxiety and persistent sadness and were more likely to be obese than their employed counterparts.
Income/Poverty and Health:

- During 2010 to 2012, White residents had a poverty rate of 15.2% while the poverty rate for Asian, Black, and Latino residents was higher (30.3%, 25.1%, and 34.4% respectively).
- After adjusting for differences in age, race/ethnicity and gender, adults who had a household income of <$25,000 were more likely to report asthma, diabetes, hypertension, persistent anxiety and persistent sadness and were more likely to be obese compared to those with a household income $50,000+.

Housing and Health:

- Sixty-seven percent of Boston residents lived in renter-occupied units during 2010-2012. Compared to Whites (57.9%), a higher percentage of Asian (75.6%), Black (72.4%) and Latino (84.6%) residents lived in renter-occupied units during the same time period.
- For 51% of Boston residents, their rent was 30% or more than their household income.
- After adjusting for differences in age, race/ethnicity and gender, renters were more likely to report asthma, diabetes, hypertension, persistent anxiety and persistent sadness and were more likely to be obese compared to those who own homes.

Health of Boston: Summary and Trends

Long-term data allow us insight into the progress of public health efforts over time, reflecting both areas of improvement and areas where progress continues to be needed. Here are just a few highlighted trends representing public health successes in this report:

- The percentage of insured Boston residents increased significantly from 2005 to 2013.
- From 2008 to 2012, infant deaths among Black infants declined significantly from 14.6 per 1,000 births to 6.6 per 1,000 births.
- Smoking among Boston public high school students is on the decline: from 2005 to 2013, the percentage of students who reported smoking decreased from 15.3% to 7.9%.
- In 2013, 16.8% of Boston public high school students reported drinking one or more sodas per day, a decrease from 24.0% in 2011.
- From 2008 to 2012, Boston experienced a 34% decrease in the incidence rate of the infectious disease tuberculosis.
• From 2008 to 2012, there was a significant decrease in heart disease deaths among Boston residents. This decline in death rates was driven by a decrease among Black and White residents.

**Health Indicators**

This report uses standard domains in population health to define well-being, disease, and death in context of both personal characteristics and social environments. As health is multi-dimensional, each health trend and association should be considered in light of the environments and circumstances that set the stage for exposures and opportunities.

**Health-Related Behaviors**

Personal health behaviors contribute to a person’s risk for disease and to one’s overall quality of life and well-being. Behaviors such as smoking, excessive alcohol use, and intake of excess calories including sugar sweetened beverages, contribute to cancers, obesity, cardiovascular disease, hypertension, diabetes, and premature death. Conversely, physical activity and fruit and vegetable consumption are protective against each one of those poor health outcomes (1,2). Data for these trends is taken from the BBRFSS and YRBSS surveys.

• In 2013, approximately 19.1% of Black and 21.8% of Latino high school students reported consuming less than one serving of fruits and vegetables per day, compared to 11.1% of White and 5.9% of Asian students.

• In 2013, a higher percentage of adults with at least some college education met the CDC guidelines for aerobic physical activity compared to those with less than a high school diploma and those with a high school diploma or GED.

• For the years 2011 and 2013 combined, 22.9% of White Boston public high school students reported smoking, compared to 3.8% of Asian students, 5.2% of Black students and 10.0% of Latino students.
Access to Care

In measuring access to medical care and resources, the report considers insurance coverage, access to a regular place of care, and the frequency with which individuals actually utilize medical care on a preventative and emergency basis. Preventative care at every stage of life helps all Americans stay healthy, avoid or delay the onset of disease, keep diseases they already have from becoming worse or debilitating, lead productive lives, and reduce costs (3).

- In 2013, 94% of Boston residents had health insurance coverage. Between 2005 and 2013, the percentage of residents with health insurance increased significantly.
- Trends in insurance coverage varied across race/ethnicity from 2005 to 2013. Insurance coverage for White residents increased significantly but not for Black or Latino residents.
- In 2013, 89.4% of adults surveyed had seen a doctor within the past two years, with no significant increase from 2010.

Maternal and Child Health

Birth rates, infant mortality rates (IMR), and infant characteristics of birth weight and gestational age provide important measures for the well-being of infants and pregnant women, and are often viewed as a reflection of the health status of a community.

- Of the Boston females ages 15-19 who gave birth in 2012, 13% had given birth previously. There was no significant change in the percentage of teens with repeat births from 2008 to 2012.
- The birth rate among Boston female adolescents ages 15 to 17 years decreased from 19.7 births per 1,000 females 15-17 years of age in 2008 to 10.1 in 2012. A decrease in the birth rate from 2008 to 2012 was also observed among Black, Latino, and White adolescents.
- From 2008-2012, there was a significant decrease in the rate of neonatal infant deaths from 5.1 to 2.9 neonatal deaths per 1000 births.

Chronic Disease

Chronic diseases, such as asthma, diabetes, heart disease, and hypertension, significantly impact an individual's quality of life. The burden of these diseases falls heavily on communities of color.

- While there was no significant difference in the prevalence of asthma among racial/ethnic groups, asthma hospitalization rates, for all ages, were significantly higher for Black and Latino
residents, 4.6 and 3.4 per 1,000 residents respectively, compared with White residents (1.2 per 1,000 residents).

- In 2012, Boston residents had 5,572 asthma ED visits; 85% (4,746) of these were anonymously linked to 3,274 unique individuals. Of these individuals, 77% had 1 asthma ED visit, 14% had 2 asthma ED visits, and 8% had 3 or more asthma ED visits.
- The rate of asthma hospitalizations was highest among those 3-5 years of age in 2012.
- In 2013, 8.6% of Boston adults reported having diabetes. Higher percentages of Black (14.1%) and Latino (12.6%) adults reported having diabetes compared to White (5.1%) adults.
- While they remain persistently higher than the diabetes hospitalization rates of White residents, the rates for Black and Latino residents has also decreased from 2008-2012. However, there was no significant change over time for Asian and White residents.
- In 2013, 24.0% of Boston adults reported they had hypertension (high blood pressure).
- In 2012, there were 131.1 deaths per 100,000 Boston residents due to heart disease; a significant decrease since 2008. The rate of Black and White resident heart disease deaths also decreased over time. There were no significant changes over time for Asian and Latino residents.
- In 2013, 14% of Boston public school students were obese while 22% of Boston adults were obese.

**Sexual Health**

Sexual health is an integral part of personal and relational well-being. Every Boston resident deserves to live free of risk of sexually transmitted infections (STIs) and enjoy safe, health-promoting relationships. Many STIs can be asymptomatic, making this an area where prevention efforts directed towards high-risk groups is especially important...

- Between 2005 and 2013, the percentage of Boston public high school students who had ever had sex significantly decreased over time from 54.4% to 46.6%. However, during the same time period, the percentage of high school students who report using a condom when they last had sex decreased from 76.3% to 66.5%.
- In 2013, a higher percentage of Latino (57.4%) students engaged in sexual activity compared to White students (35.0%).
- Rates for chlamydia were highest among adolescent females ages 15-19.
- In Boston, there was no significant change in the incidence rate for newly diagnosed HIV/AIDS cases over time from 2007 to 2011. In 2011, the incidence rate for both Black residents (66.9
per 100,000 residents) and Latino residents (34.6 per 100,000 residents) was higher than it was for White residents (18.2 per 100,000 residents).

**Infectious Disease**

Infectious diseases present a unique health threat to Boston residents as new microbes emerge and spread, and many pathogens become drug-resistant. Prevention of infection through targeted vaccination and prevention among high-risk groups is essential, while combating antibiotic resistance was one of 2014’s national public health priorities (4). This report presents trend data for tuberculosis, Hepatitis B and C, Salmonella, and influenza (the flu).

- The rate of tuberculosis infection has dropped dramatically, decreasing 34% from 2008 to 2012.
- In 2012, rates of hepatitis B were highest among Boston's Asian population, whose rate of infection was 325.4 new cases per 100,000 residents, as compared to 16.8 among White residents.
- The 2012-2013 influenza season was significantly worse than recent years: 256.8 new cases per 100,000 residents, compared to just 10.6 new cases per 100,000 residents in the 2011-2012 season.

**Mental Health**

Mental health is an essential element of well-being, which allows individuals to participate in their relationships and lives to the fullest extent. A lack of mental health, which spans from slight disruptions in mood to full-blown incapacity, impairs an individual’s ability to rationalize, make important decisions about their health habits, and develop steady relationships and employment opportunities, while also making them more susceptible to unhealthy coping mechanisms.

- In 2013, 30% of Boston public high school students reported persistent sadness.
- From 2005 to 2013, the percentage of adults reporting persistent sadness increased from 8.4% to 12.2%.
- From 2008 to 2012, mental health hospitalizations decreased for Boston overall, however, there were no significant changes over time for any racial/ethnic groups. In 2012, Asian, Black, and Latino residents experienced lower rates of mental health hospitalizations compared to White residents.
From 2005 to 2013, the percentage of adults reporting persistent anxiety increased from 13.4% to 20.2%. In 2013, the rate of persistent anxiety was lowest among Asian residents at 10.7%, significantly lower than for White residents at 23.1%.

**Substance Abuse**

Substance abuse involves the excessive use of alcohol or the use of drugs in a non-prescribed manner to achieve an altered physiological state. Misuse of alcohol or other drugs over time can lead to physical and/or psychological dependence on these substances and increased risk of morbidity and death.

- From 2005 to 2013, there was an increase in the percentage of Boston public high school students who reported using marijuana within the past 30 days.
- Unintentional overdose/poisoning hospital patient encounters increased from 2008 to 2012.
- In 2012, unintentional overdose hospital patient encounters for cocaine were significantly higher for Black residents compared to White residents. Conversely, unintentional overdoses patient encounters for all opioids (including heroin) were significantly lower for Black and Latino residents compared to White residents.

**Violence**

Violence is damaging to all of those who encounter it, whether individuals are directly victimized or indirectly exposed. The impact of violence in communities has far reaching economic and health consequences, negative impacts which are multiplied by the economic vulnerability of communities. The impact of bullying has emotional, physical, and academic ramifications for many of our youngest residents (5).

- In 2013, 17.0% of Boston public high school students reported being bullied either in person or electronically.
- The rate of emergency department visits from nonfatal assault-related gunshots and stabbings decreased for Boston overall from 2008 to 2012, as well as for Black and Latino residents.
- Homicide rates, the highest rates of which occur among Black residents, did not change significantly from 2008 to 2012.
Cancer

Cancer is currently the leading cause of death for Boston residents above the age of 45, and ranks behind injuries as the second leading cause of death for those ages 25-44. Prevention efforts and targeted screening remain vitally important for preventing many unnecessarily premature deaths.

- In 2013, 90% of females ages 50-74 had a mammogram within the past two years. A significantly higher percentage of Latino females (96.3%) reported having a mammogram within the past 2 years when compared to White females (88.2%).
- From 2008-2012, Asian and Latino residents had lower cancer death rates compared with White residents, although Latino residents experienced an increase in cancer deaths from 2008 to 2012.
- Lung cancer, the most preventable cancer, claimed more lives than any other cancer across the racial/ethnic groups in Boston from 2010 to 2012.

Deaths

Death is inevitable and occurs across all demographic groups within Boston. Our concern is primarily with those factors that contribute to or cause premature death, which robs our city of the contributions of many individuals before their time.

- The average life expectancy in Boston is 80 years of age, and is higher for female residents than male residents.
- The 2008 to 2012 life expectancy data show that Asian and Latino residents, on average, experience higher life expectancies than both Black and White residents.
- The age adjusted all-cause mortality rate for Asian residents (380.5 deaths per 100,000) and Latino residents (496.1 deaths per 100,000) was lower than that of White residents (749.3 deaths per 100,000). There was no statistical difference in the all-cause mortality rate between Black and White residents.
- Cancer was the leading cause of death for Boston residents from 2008 to 2012. Diseases of the heart was the second leading cause of death during these 5 years.
- Cancer and heart disease remained the top two leading causes of death for both males and females, and all racial/ethnic groups from 2008 to 2012.
Life Course and Healthy People 2020 Indicators

This report provides a table of Life Course Indicators (LCI) which are used to identify and track influences and experiences that widely impact health opportunities of Boston residents. While 23 indicators are presented, for only 18 indicators can U.S. data be directly compared to Boston data. There are 5 indicators for which Boston’s population fares better than the US population. These include the prevalence of bullying and the rates of preterm births, teen births, repeat teen births, and suicide. For the remaining 13 indicators, Boston rates are similar to or worse than national averages.

Healthy People 2020 (HP 2020) leading health indicators measure progress toward national goals for improving the health of Americans. This report provides a comparison of Healthy People 2020 targets to results for Boston residents. Of the 74 HP 2020 indicators presented, Boston’s population has achieved 30 recommended targets. Targets achieved are in the domains of maternal and child health, heart disease and stroke, diabetes, sexually transmitted diseases, injury and violence prevention, cancer, mental health and mental disorders, environmental health, nutrition and weight status, oral health, respiratory diseases and family planning.
References


Notes to Readers

1) Who analyzed the data in this report?

Unless otherwise indicated by a note underneath a graphic, all data in this report was analyzed by the Research and Evaluation Office of the Boston Public Health Commission.

2) What is survey data?

In this report, data from several surveys are presented. These include the American Community Survey, Boston Behavioral Risk Factor Survey, Youth Risk Behavioral Survey, and Boston Survey of Children’s Health. Data are collected from a randomly selected subset (or sample) of the Boston population. These results are then adjusted statistically (or weighted) to make estimates for the entire Boston population which reflect how Boston residents might have responded to the same survey questions if every single person had been interviewed.

3) What is non-survey data?

Data shown in this report that do not come from a survey are considered non-survey data. Non-survey data are usually presented as rates, and are considered to be true values based on a full population count, not estimates. Unless otherwise noted, data are presented as crude rates which is the number of events divided by the population at risk.

4) When describing survey data, how do we determine if one percentage is higher or lower than another?

As introduced in question 2, survey data drawn from a randomly selected sample of the population is used to generate point estimates (i.e. percentages), that represent the entire population if every single person were accounted for. Projecting these statistical estimates onto the entire population introduces a degree of uncertainty about how well the sample data reflects the true frequency of events in the entire population. This degree of uncertainty is often referred to as standard error. For this report, the standard error is used to generate 95% confidence intervals for the estimates presented. Except where noted, the confidence intervals are then used to make determinations about statistically significant differences between estimates. If the confidence intervals have overlapping values, then we cannot say with 95% certainty that the two estimates differ significantly. If the confidence intervals do not have overlapping values, then we can say with 95% certainty that one estimate is higher or lower than the other.
In the case of the American Community Survey, the Z-test is used instead of comparing 95% confidence intervals. A test value is calculated using the estimates and associated standard errors. If the test value is greater than the critical value of 1.96, then we can say with 95% certainty the two estimates are significantly different. If the test value is less than or equal to the critical value, then we cannot say with 95% certainty that the two estimates differ significantly.

This determination is often referred to as statistical significance. In this report, when the text refers to an estimate as higher or lower than another, it means that these estimates are different in a statistically significant way with 95% certainty.

5) When describing non-survey data, how do we determine if one rate is higher or lower than another?

In previous versions of this report, non-survey data did not routinely undergo statistical testing. In this year’s report, statistical tests were used to determine whether one rate is different from another. An exception to this are leading causes of mortality and leading causes of cancer mortality. These data are ranked based on counts, a method used by the National Center for Health Statistics. Statistical tests were also not performed on various program data including data from Women, Infants and Children (WIC) and the Boston Public Health Commission’s Emergency Shelter Commission.

Although non-survey data are not estimates based on a sample of the population (i.e., survey data), they are still subject to error. The error, known as random error, may be substantial when a rate is based on a small number of events or cases of disease. Hypothetically speaking, an observed rate for a single year is considered an estimate of the true underlying rate for the population. As the numerator of the observed rate increases, its ability to estimate the true underlying rate also increases.

In Boston, rates are often based on a small number of events or cases. Random error may inherently be higher in these situations, therefore we utilize statistical testing to assess significant differences in rates over time and between sub-populations.

Statistical significance does not necessarily mean that observed differences are important or meaningful. In making such a determination, one must interpret the social context in which these data were collected in any given year, changes in how data were categorized or reported, and city-wide programs that may have affected event occurrence.
6) When describing both survey and non-survey data, how do we determine if rates or percentages are changing over time?

For this report, regression analysis was used to assess whether health data rates and point estimates changed over time. These tests did not involve the comparison of confidence intervals, which is often done when comparing data from the same time frame or two data points from two separate time frames. As a result, trends were identified in cases with overlapping confidence intervals across the specified data years. Trend analysis was performed on survey and non-survey data if 5 years worth of data were available for presentation. For additional analytical information please contact the BPHC Research and Evaluation Office.

7) What do the terms insufficient sample size, $n<5$ and $n<11$ mean?

In the notes under charts, the phrase insufficient sample size is used to describe data points that are not presented. This occurs when the stratification of survey data by population groups results in a sample that is too small to calculate reliable point estimates. In addition, to protect the confidentiality of respondents, data are not presented when the sample size is too small.

The notation, $n<5$, is used when there are fewer than five occurrences of an event (e.g., births, deaths, or new cases of a disease) and thus a rate cannot be presented in order to protect the confidentiality of these individuals. The notation, $n<11$, is used when there are fewer than eleven occurrences of an event such as emergency department visits or hospitalizations. In some instances, combining several years of data increases the sample size enough for data to be reported.

8) Why are some rates written in gray text instead of black text?

Rates written in gray indicate a rate that is based on fewer than 20 events. The National Center for Health Statistics does not publish rates based on fewer than 20 observations because these data do not meet their requirement for a minimum degree of accuracy. In Health of Boston 2014-2015, rates are presented regardless of the 20 count rule, but are flagged as being unreliable so that the reader knows to interpret them with caution.
9) Why do we sometimes combine several years of data?

In certain instances, when there are too few cases or an insufficient sample size in a given year, we combine data from two or more years in order to permit the calculation and presentation of a rate or point estimate. In this report, the title of a chart or table, indicates whether two or more years of data have been combined.

10) How do we define neighborhood boundaries in this report?

Neighborhoods can be defined in a number of ways. In this report, zip codes are used to identify neighborhood boundaries since this information is often collected with Boston health data. For more information, please refer to the Technical Notes.

11) Why are some of the data older than other data?

The most recent data available are presented in this report: some are older than others, and the availability varies by source. Several factors determine when data are available including the frequency of data collection, the post-collection cleaning and verification process, and resources available to manage and analyze the data.

12) Why do some charts have data tables?

Charts with data tables underneath or on the side are seen throughout this report when the data source is a survey. Data are set up in this way so that both point estimates and 95% confidence intervals are available to readers. Confidence intervals speak to the reliability of estimates based on survey data. See question 4 for a better understanding of why confidence intervals are important.
Health Equity

The concept of health equity, or equal opportunity for optimal health, captures the idea that no one should be hindered from achieving his or her full health potential due to social position or socially determined circumstances (1). Good health, the attainment of physical, mental, and social well-being and the absence of disease, is vital for individuals to fully engage in society, overcome personal adversities, and realize their full potential as human beings (2). The opportunity for every person to achieve his or her full health potential is widely recognized as a fundamental human right (2,3).

Health Disparities and Health Inequities

The terms “health disparities” and “health inequities” are often used interchangeably, but in fact represent two distinct concepts, which at times overlap. Health disparities are differences in the rate of disease incidence, prevalence, morbidity, mortality, or survival rates in certain populations compared to others (4). Disparities can be attributed to variations in individual biology and genetics, such as when health changes occur due to the normal course of aging, or if a genetic variation causes the onset of disease (5). For instance, we would expect a higher incidence of heart disease among older adults than younger adults.

When the underlying cause of health differences is socially produced and avoidable however, those differences gain the distinction of “lacking fairness or justice” and are termed health inequities (6). Inequities occur when unfair social policies and practices have denied certain individuals the opportunity for health, either through a lack of health promoting resources or increased exposure to risk factors for disease (7). Building waste plants in low-income areas, for instance, could potentially expose residents who live there to toxic environmental exposures. This difference in health risk exposure is socially produced, modifiable, and unjust. Resulting poorer health outcomes related to this increased risk for these low-income residents, therefore, are considered health inequities. The concept of health disparities, on the other hand, does not imply that differences are associated with unjust societal influences (8).

Although individual-level choices and genetics do play a role in the health outcomes individuals experience, inequities refer to underlying structural influences which exist prior to individual choice or which may influence individual choice. These underlying factors consistently create intra-community
variability in health status, and are often referred to as social determinants of health. They include the presence or absence of safe environments; opportunities for high-quality education; access to nutritious and affordable foods; convenient spaces for physical activity; social support; employment opportunities; health-supporting community norms; resources for disease prevention and management; and access to quality healthcare (9). The unequal distribution of these social determinants of health can contribute to the disparate health outcomes among populations that have less access to these health-promoting resources (10).

**Influence of Racism and Discrimination**

The influence of racism and other exclusionary practices can contribute to an unequal distribution of critical health-promoting resources among particular racial/ethnic groups. Social inequities, such as poverty and a lack of educational and employment opportunities, often have origins in discriminatory laws, policies, and practices that have historically denied people of color the right to earn income, own property, and accumulate wealth.

For example, while practices promoting housing segregation existed for centuries, one example of the formalization of these practices within federal law occurred with the establishment of the Federal Housing Administration (FHA) in 1934. The FHA was originally founded to provide affordable, long-term loans to eligible buyers to purchase property during the Great Depression. FHA’s initial zoning policies reflected prevailing attitudes of racial discrimination at the time, utilizing a discriminatory rating system called redlining to guarantee that any residential areas housing non-White individuals would be rated “red” to designate low property worth and unstable community investments (11). According to the FHA’s first Underwriter’s property manual, property ratings were automatically diminished by a number of “adverse factors” including the “ingress of undesirable racial or nationality groups” (11). FHA’s financing support, approved only for property in highly-rated (“non-red”) areas, was selectively allocated to White individuals who were considered “worthy” investments for properties. These exclusively White, highly-rated, and well-invested areas often happened to be those built away from smoke, fog, commercial development, railroads, and high-traffic noise pollution, guaranteeing White residents benefited from improved environmental conditions in their new communities (12).

Simultaneously, the FHA refused to underwrite loans for individuals or communities of color whom they considered “second-class”, propagating widespread institutional racism through property owners, real estate boards, and community associations (12,13). Redlining simultaneously denied Black Americans the opportunity to sell or purchase property through racially restricted covenants and
stripped market value from their formerly valuable properties. Designation with low value ratings caused the economic worth of their property, and, in turn, their communities, to sharply decline. Property devaluation due to institutional racism became a barrier to the accumulation of wealth from home ownership for people of color living in urban areas. Thus, these policies had multi-generational effects reducing the socio-economic status of future generations of Black Americans.

After decades of legalized discriminatory housing practices, the Fair Housing Act of 1968 was enacted to prohibit discrimination in housing rental or acquisition based on race, color, or national origin (15). However, the lasting consequences of these discriminatory practices on, among other things, homeownership, the accumulation of wealth, housing safety and stability, and, subsequently, health, among communities of color remain evident today (13,14).

**Approaches to Achieving Health Equity**

Health inequities will persist as long as social, economic, and environmental resources are distributed unfairly and unequally. Approaches to reducing health inequity should be built on the understanding that social, economic, and environmental inequities are root causes of health inequities. Strategies need to address inequities in education, employment, income, housing, neighborhood safety, recreational opportunities, environmental hazards, healthcare, and healthy food access in order to ultimately improve the health and well-being of people of color. Strategies for change in policy, systems, and the environment should prioritize values of justice, equity, inclusion, transformation, sustainability, and integrity.

Addressing the root causes of health inequities requires a long-term commitment to comprehensive multi-level and multi-sector strategies. Broad coalitions of public, private, nonprofit, and community stakeholders are required to change community structures (15). In order to do this work effectively, resident voices are essential. Residents should help to define the assets and challenges of their communities, help to identify the possible solutions, and participate in the implementation of those solutions (16). It is this model of building partnerships with community residents, community-based organizations, policy makers, and large institutions that is essential to promoting system and policy level change to promote health in all of Boston’s communities.

The table on the following page highlights some of the racial and ethnic health inequities experienced by Boston residents.
## Health Indicators by Race/Ethnicity

### Maternal and Child Health

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year(s)</th>
<th>Asian</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Deaths (per 1,000 live births)</td>
<td>2012</td>
<td>n&lt;5</td>
<td>6.6</td>
<td>6.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Low Birth Weight (Percent of Births)</td>
<td>2012</td>
<td>6.3%</td>
<td>10.5%</td>
<td>9.1%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Preterm Births (Percent of Births)</td>
<td>2012</td>
<td>5.6%</td>
<td>10.5%</td>
<td>10.7%</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

### Chronic Disease

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year(s)</th>
<th>Asian (Percent of Adults)</th>
<th>Black (Percent of Adults)</th>
<th>Latino (Percent of Adults)</th>
<th>White (Percent of Adults)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>2013</td>
<td>2.8% (0.2-5.3)</td>
<td>11.9% (9.4-14.4)</td>
<td>11.9% (8.8-15.1)</td>
<td>11.8% (9.5-14.2)</td>
</tr>
<tr>
<td>Asthma Emergency Department Visits (per 1,000 residents)</td>
<td>2012</td>
<td>2.8</td>
<td>21.8</td>
<td>12.7</td>
<td>4.1</td>
</tr>
<tr>
<td>Diabetes Hospitalizations (per 1,000 residents)</td>
<td>2012</td>
<td>0.6</td>
<td>3.9</td>
<td>2.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Diabetes Deaths (per 100,000 residents)</td>
<td>2012</td>
<td>n&lt;5</td>
<td>39.5</td>
<td>23.9</td>
<td>14.3</td>
</tr>
<tr>
<td>Heart Disease Hospitalizations (per 1,000 residents)</td>
<td>2012</td>
<td>4.1</td>
<td>13.6</td>
<td>9.9</td>
<td>9.0</td>
</tr>
<tr>
<td>Heart Disease Deaths (per 100,000 residents)</td>
<td>2012</td>
<td>44.6</td>
<td>155.9</td>
<td>80.2</td>
<td>144.9</td>
</tr>
<tr>
<td>Hypertension (Percent of adults)</td>
<td>2013</td>
<td>16.2% (9.9-22.4)</td>
<td>36.7% (33.0-40.5)</td>
<td>26.2% (22.0-30.3)</td>
<td>18.6% (16.7-20.6)</td>
</tr>
<tr>
<td>Obesity (Percent of adults)</td>
<td>2013</td>
<td>15.3% (8.9-21.6)</td>
<td>33.0% (29.3-36.8)</td>
<td>27.3% (23.1-31.6)</td>
<td>16.2% (13.9-18.4)</td>
</tr>
</tbody>
</table>

### Sexual Health

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year(s)</th>
<th>Percent of High School Students</th>
<th>Percent of High School Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever Sex</td>
<td>2013</td>
<td>22.0 (12.8-31.2)</td>
<td>50.4 (43.3-57.4)</td>
</tr>
<tr>
<td>Newly Diagnosed Cases of HIV (per 100,000 residents)</td>
<td>2011</td>
<td>n&lt;5</td>
<td>66.9</td>
</tr>
<tr>
<td>People Living with HIV (per 100,000 residents)</td>
<td>2011</td>
<td>140.7</td>
<td>1541.3</td>
</tr>
</tbody>
</table>

### Infectious Disease

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year(s)</th>
<th>Per 100,000 residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>2012-2013</td>
<td>125.6</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>2012</td>
<td>325.4</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>2012</td>
<td>46.0</td>
</tr>
<tr>
<td>Salmonella</td>
<td>2012</td>
<td>24.8</td>
</tr>
<tr>
<td>Tuberculosis (per 100,000 residents)</td>
<td>2012</td>
<td>17.7</td>
</tr>
</tbody>
</table>
## 2014-2015 Health of Boston

### Indicator | Year(s) | Race/Ethnicity
--- | --- | ---
| **Mental Health** | | **Asian** | **Black** | **Latino** | **White** |
| Mental Health Hospitalizations† (per 100,000 residents) | 2012 | 1.7 | 8.3 | 5.3 | 9.9 |
| Persistent Sadness (Percent of Public High School Students) | 2013 | 19.8% (11.4-28.3) | 29.6% (24.1-35.1) | 32.9% (27.3-38.4) | 30.3% (20.9-39.7) |
| Persistent Sadness (Percent of Adults) | 2013 | 9.1% (4.6-13.7) | 13.1% (10.3-16.0) | 16.7% (12.8-20.6) | 10.8% (8.5-13.0) |
| Persistent Anxiety (Percent of Public High School Students) | 2013 | 10.1% (0.7-19.6) | 14.9% (11.5-18.4) | 16.9% (12.2-21.6) | 18.9% (16.5-21.2) |
| Persistent Anxiety (Percent of Adults) | 2013 | 10.7% (5.7-15.7) | 19.2% (16.0-22.5) | 17.7% (13.6-21.8) | 23.1% (20.0-26.1) |
| Suicide (per 100,000 residents)† | 2012 | n<5 | 3.1 | n<5 | 7.6 |
| **Substance Abuse** | | **Asian** | **Black** | **Latino** | **White** |
| Unique-Person Treatment† Admissions (per 1,000 residents) | 2013 | 1.2 | 14.2 | 13.3 | 15.9 |
| Unintentional Overdose Deaths† (per 100,000 residents) | 2012 | n<5 | 6.6 | 9.9 | 22.3 |
| **Violence** | | **Asian** | **Black** | **Latino** | **White** |
| Bullied in the Past 12 Months (Percent of Public High School Students) | 2013 | 6.8% (3.1-10.6) | 12.4% (8.1-16.7) | 12.2% (8.9-15.5) | 18.4% (10.2-27.5) |
| Nonfatal Gunshot/Stabbing Emergency Department Visits† (per 1,000 residents) | 2012 | n<5 | 2.3 | 0.7 | 0.3 |
| Homicide† (per 100,000 residents) | 2012 | n<5 | 19.9 | 7.7 | 2.0 |
| **Cancer** | | **Asian** | **Black** | **Latino** | **White** |
| Mammograms within the Past 2 Years (Percent of Females Ages 50-74) | 2013 | * | 90.8% (86.7-95.0) | 96.3% (92.7-99.9) | 88.2% (84.8-91.5) |
| Pap Test within the Past 3 Year (Percent of Females Ages 21-65) | 2013 | 61.8% (49.2-74.3) | 85.8% (81.6-90.1) | 84.4% (78.8-90.1) | 92.3% (89.7-94.8) |
| Overall Cancer Deaths† (per 100,000 residents) | 2012 | 131.9 | 209.5 | 132.6 | 200.0 |
| **Death** | | **Asian** | **Black** | **Latino** | **White** |
| Life Expectancy | 2012 | 87.2 | 77.0 | 86.4 | 79.5 |
| All-Cause Mortality† (per 100,000 residents) | 2012 | 380.5 | 772.8 | 496.1 | 749.3 |

*Insufficient sample size
†Age-adjusted rate

**NOTES:** Gray text in tables represents rates based on counts less than 20 and should be interpreted with caution. Black text in tables represents rates based on counts of at least 20.
Shaded in red are rates or percentages that are higher or less favorable than the corresponding rate for White residents.
References


Life Course Theory & Indicators

Accumulative responses to biological and social influences over time shape the direction in which individual potential for health will be realized or diminished (1). The Life Course Theory, an all-inclusive response to understanding differences in a social and longitudinal context, recognizes that the ongoing interaction of disease risk, protective influences, and exposure to social and environmental stressors over time accumulate to either prevent or incite disease and to optimize or diminish well-being (2,3). Overarching differences in health outcomes between individuals and population groups overshadow the effect of isolated personal behaviors to reflect unique ways in which varying life experiences related to health exert their influence.

Preventing disease and optimizing health begins during the prenatal period and first years of life, with formation of the brain, immune system, and endocrine system, and continues throughout life (4). Genetic “programming” in response to maternal behaviors and exposures is thought to begin in the womb, while subsequent developmental periods are critical windows for the benefits of crucial health-promoting influences—such as appropriate nutrition, social stimulation, and safe, non-toxic environments—to take root (1). As different stages of life bring a shift in the opportunities and daily stressors we are exposed to, we are also surrounded by varying levels of resources such as positive relationships and economic security, to protect health and buffer risk. Simultaneously, damaging exposures can threaten to undermine our health experience, such as environmental pollution, food insecurity, and/or a lack of medical care (2). The extent to which protective and adverse features of our physical environment, culture, social institutions, communities, and families interact with our individual biological, psychological, and spiritual selves defines the direction of our health trajectory during different periods of our lives (5).

To measure the prevalence of instrumental life experiences that are recognized to determine critical aspects of physical and mental health, the Association of Maternal & Child Health Programs (AMCHP) guided the creation of Life Course Indicators (LCI) (6). These standardized indicators are designed to measure behaviors, experiences, and exposures that influence health outcomes, as well as community capacity to support positive health outcomes. The indicators span from the neonatal period onward, with tools for measuring childhood experiences, family well-being, economic experiences, health care access and quality, mental health, discrimination and segregation, reproductive life experiences and early life services, as well as the presence of community health policy, organizational capacity, and social capital. By capturing social and environmental aspects of a person’s lifelong health experience, life course indicators provide an understanding of the influences encountered over a lifetime, versus an isolated point in time. In short, life course indicators are used as a holistic, evidence-based framework
to measure progress being made toward better health in communities.

We’ve included a number of life course indicators in this report in order to outline the extent of both health opportunity and disadvantage woven into the life experiences of Boston residents. Below is a table depicting Life Course Indicators presented in *Health of Boston 2014-2015*:

<table>
<thead>
<tr>
<th>Life Course Indicator</th>
<th>Definition</th>
<th>Year</th>
<th>Percent (95% Confidence Interval When Available) or Rate</th>
<th>Percent (95% Confidence Interval When Available) or Rate by Race/Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adolescent Smoking</strong></td>
<td>Percent of high school students who smoked cigarettes in past 30 days (≥ 1 day in past 30 days)</td>
<td>2013</td>
<td>7.9% (5.8-10.0)</td>
<td>Asian: Insufficient sample</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Black: 5.5% (2.9-8.2)</td>
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<td>Latino: 9.9% (6.2-13.6)</td>
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<td></td>
<td>White: 15.6% (6.8-24.4)</td>
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<tr>
<td><strong>United States, Data Source: Youth Risk Behavior Surveillance System</strong></td>
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<td></td>
<td>Asian: Not reported</td>
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<td>Black: 1.7% (1.0-2.8)</td>
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<td>Latino: 1.9% (1.4-2.5)</td>
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<td></td>
<td>White: 5.6% (4.2-7.4)</td>
</tr>
<tr>
<td><strong>Adverse Childhood Experiences Among Children</strong></td>
<td>Percent of children whose parents responded to the Boston Survey of Children's Health that their children were exposed to adverse childhood experiences</td>
<td>2012</td>
<td>1 ACE: 25.9% (22.8-29.0)</td>
<td>Asian: 1 ACE: Insufficient sample</td>
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<tr>
<td></td>
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<td></td>
<td>2+ ACE: 21.6% (18.6-24.5)</td>
<td>Black: 2 ACE: 23.1% (17.9-28.4)</td>
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<td>Latino: 2 ACE: 28.6% (22.2-35.0)</td>
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<td></td>
<td>White: 2 ACE: 14.2% (11.0-17.4)</td>
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<td></td>
<td></td>
<td>2+ ACE: 10.4% (7.7-13.1)</td>
</tr>
<tr>
<td><strong>United States, Data Source: National Survey of Children's Health</strong></td>
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<td></td>
<td>Asian: Not Reported</td>
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<td></td>
<td>Black: 1 ACE: 29.3% (27.6-31.1)</td>
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<td>2+ ACE: 31.1% (29.2-32.9)</td>
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<td>Latino: 1 ACE: 29.1% (27.4-30.9)</td>
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<td>2+ ACE: 21.8% (20.1-23.4)</td>
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<td>White: 1 ACE: 23.3% (22.6-24.0)</td>
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<td>2+ ACE: 21.0% (20.3-21.7)</td>
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<tr>
<td></td>
<td>Boston, Data Source: Youth Risk Behavior Survey</td>
<td>United States, Data Source: Youth Risk Behavior Surveillance System</td>
<td>Boston, Data Source: Boston Behavioral Risk Factor Survey</td>
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<td>--------------------------------</td>
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</tr>
<tr>
<td><strong>Bullying</strong></td>
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<tr>
<td>Percent of high school students who reported being bullied on school property or electronically bullied during the past 12 months</td>
<td>2013</td>
<td></td>
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</tr>
<tr>
<td>Bullied on School Property: 13.9% (11.5-16.3)</td>
<td>Asian</td>
<td>School: 15.6% (5.0-26.3)</td>
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<tr>
<td></td>
<td></td>
<td>Electronically: 9.3% (3.1-15.6)</td>
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<tr>
<td>Bullied Electronically: 9.2% (7.0-11.3)</td>
<td>Black</td>
<td>School: 12.2% (8.2-16.2)</td>
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<td></td>
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<td>Electronically: 8.3% (5.4-11.2)</td>
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<tr>
<td>Bullied Electronically: 9.2% (7.0-11.3)</td>
<td>Latino</td>
<td>School: 14.5% (10.8-18.5)</td>
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<td>Electronically: 8.7% (5.2-12.2)</td>
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<tr>
<td>Bullied Electronically: 9.2% (7.0-11.3)</td>
<td>White</td>
<td>School: 11.4% (10.9-22.1)</td>
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<td>Electronically: 13.1% (8.0-18.2)</td>
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<tr>
<td><strong>Depression Among Youth</strong></td>
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<tr>
<td>Percent of high school students who felt sad or hopeless almost every day for two weeks or more in a row during the previous 12 months</td>
<td>2013</td>
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<td>Asian</td>
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<tr>
<td><strong>Diabetes</strong></td>
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<tr>
<td>Percent of adults ever told that they have diabetes</td>
<td>2013</td>
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<td>Asian</td>
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</tbody>
</table>
### Health of Boston

#### Percent of adults ever told that they have diabetes

<table>
<thead>
<tr>
<th>Year</th>
<th>Asian</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9.7%</td>
<td>13.6%*</td>
<td>9.5%*</td>
<td>9.4%*</td>
</tr>
</tbody>
</table>

#### Percent of adults who reported in the past 12 months being often or sometimes hungry but not eating because they could not afford enough food

<table>
<thead>
<tr>
<th>Year</th>
<th>Asian</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Hungry; could not afford food: 12.4% (10.9-13.9)</td>
<td>Hungry; could not afford food: 18.2% (14.9-21.5)</td>
<td>Hungry; could not afford food: 27.7% (22.8-32.5)</td>
<td>Hungry; could not afford food: 6.0% (4.2-7.8)</td>
</tr>
<tr>
<td></td>
<td>Food did not last; no $ to get more: 26.9% (24.9-28.9)</td>
<td>Food did not last; no $ to get more: 42.0% (37.9-46.1)</td>
<td>Food did not last; no $ to get more: 49.8% (44.6-54.9)</td>
<td>Food did not last; no $ to get more: 14.4% (11.8-17.0)</td>
</tr>
</tbody>
</table>

#### Percent of households that were food insecure at least some time during the past 12 months

<table>
<thead>
<tr>
<th>Year</th>
<th>Asian</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>14.3%</td>
<td>26.1%</td>
<td>23.7%</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

#### High school graduation rate (4-year cohort) for Boston Public Schools

<table>
<thead>
<tr>
<th>Year</th>
<th>Asian</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>65.9%</td>
<td>83.7%</td>
<td>63.6%</td>
<td>75.0%</td>
</tr>
</tbody>
</table>

#### High school graduation rate (4-year cohort) as measured by the Adjusted Cohort Graduation Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Asian/PI†</th>
<th>Black</th>
<th>Latino</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>93%</td>
<td>68%</td>
<td>76%</td>
<td>85%</td>
</tr>
<tr>
<td>Category</td>
<td>Source</td>
<td>Year</td>
<td>Measure</td>
<td>Race</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>------</td>
<td>--------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Homelessness</td>
<td>Boston, Data Source: Emergency Shelter Commission, Boston Public Health Commission</td>
<td>2013</td>
<td>Homeless Rate: 115.4 per 10,000</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>Based on the number of sheltered and unsheltered homeless people on one night in December 2013</td>
<td></td>
<td></td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>United States, Data Source: U.S. Department of Housing and Urban Development,</td>
<td>2013</td>
<td>Homeless Rate: 20.0 per 10,000</td>
<td>Not Reported</td>
</tr>
<tr>
<td></td>
<td>Annual Homeless Assessment Report to Congress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Based on the number of sheltered and unsheltered homeless people on one night in January 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homicide Rate</td>
<td>Boston, Data Source: Boston Resident Deaths, Massachusetts Department of Public Health</td>
<td>2012</td>
<td>Homicide rate (per 100,000 people)</td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>Based on the number of deaths in Boston, Massachusetts Department of Public Health</td>
<td></td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States, Data Source: National Vital Statistics System Records</td>
<td>2011</td>
<td>Homicide rate (per 100,000 people)</td>
<td>Asian/PI†</td>
</tr>
<tr>
<td></td>
<td>Based on the number of deaths in the United States, National Vital Statistics System Records</td>
<td></td>
<td>5.2</td>
<td>2.0</td>
</tr>
<tr>
<td>HIV Prevalence</td>
<td>Boston, Data Source: HIV/AIDS Surveillance Program, Massachusetts Department of Public Health</td>
<td>2011</td>
<td>HIV rate (per 100,000 people)</td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>Based on the number of people with HIV in the United States, Massachusetts Department of Public Health</td>
<td></td>
<td>858.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States, Data Source: CDC National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Atlas</td>
<td>2010</td>
<td>HIV rate (per 100,000 people)</td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>Based on the number of people with HIV in the United States, CDC National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Atlas</td>
<td></td>
<td>339.4</td>
<td></td>
</tr>
<tr>
<td>Hypertension*</td>
<td>Boston, Data Source: Boston Behavioral Risk Factor Survey</td>
<td>2013</td>
<td>Percent of adults ever told that they have hypertension</td>
<td>Asian</td>
</tr>
<tr>
<td></td>
<td>Based on the number of adults ever told that they have hypertension in Boston, Massachusetts Behavioral Risk Factor Survey</td>
<td></td>
<td>24.0% (22.3-25.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States, Data Source: Behavioral Risk Factor Surveillance System</td>
<td>2011</td>
<td>Percent of adults ever told that they have hypertension</td>
<td>Asian</td>
</tr>
<tr>
<td>Medical Insurance for Adults</td>
<td>Boston, Data Source: Boston Behavioral Risk Factor Survey</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of adults 18 years and older with medical insurance</td>
<td>2013</td>
<td>94.0% (92.8-95.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>94.8% (91.2-98.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>93.6% (91.3-95.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>87.0% (83.0-91.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>96.4% (94.8-98.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>United States, Data Source: Kaiser State Health Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of adults 18 years and older with medical insurance</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overweight and Obesity (Adults)*</th>
<th>Boston, Data Source: Boston Behavioral Risk Factor Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of adults who are overweight or obese with self-reported height and weight data</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>Overweight: 23.6% (16.4-30.9)</td>
</tr>
<tr>
<td></td>
<td>Obese: 15.3% (8.9-21.6)</td>
</tr>
<tr>
<td>Black</td>
<td>Overweight: 35.4% (31.5-39.3)</td>
</tr>
<tr>
<td></td>
<td>Obese: 33.0% (29.3-36.8)</td>
</tr>
<tr>
<td>Latino</td>
<td>Overweight: 37.6% (32.6-42.7)</td>
</tr>
<tr>
<td></td>
<td>Obese: 27.3% (23.1-31.6)</td>
</tr>
<tr>
<td>White</td>
<td>Overweight: 33.7% (30.6-36.7)</td>
</tr>
<tr>
<td></td>
<td>Obese: 16.2% (13.9-18.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>United States, Data Source: Behavioral Risk Factor Surveillance System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of adults who are overweight or obese with self-reported height and weight data</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Latino</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overweight and Obesity (Children)</th>
<th>Boston, Data Source: Boston Survey of Children’s Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of children (10-17 yrs) who are currently overweight or obese</td>
<td>2012</td>
</tr>
<tr>
<td>Asian</td>
<td>Insufficient sample</td>
</tr>
<tr>
<td>Black</td>
<td>40.2% (31.0-49.4)</td>
</tr>
<tr>
<td>Latino</td>
<td>51.6% (40.0-63.2)</td>
</tr>
<tr>
<td>White</td>
<td>20.0% (14.5-25.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>United States, Data Source: National Survey of Children’s Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of children (10-17 yrs) who are currently overweight or obese</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>
### Oral Health Preventative Visit for Children

<table>
<thead>
<tr>
<th></th>
<th>Boston, Data Source: Boston Survey of Children's Health</th>
<th>United States, Data Source: National Survey of Children's Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of children ages 1-17 who received at least one preventative dental visit in the past 12 months</td>
<td>2012 78.0% (75.1-81.0)</td>
<td>2011-2012 77.2% (76.5-77.8)</td>
</tr>
<tr>
<td>Asian</td>
<td>74.9% (59.7-90.1)</td>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
<td>81.1% (75.8-86.3)</td>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
<td>80.0% (74.3-85.7)</td>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
<td>72.8% (67.5-78.0)</td>
<td>White</td>
</tr>
</tbody>
</table>

### Physical Activity Among High School Students

<table>
<thead>
<tr>
<th></th>
<th>Boston, Data Source: Youth Risk Behavior Survey</th>
<th>United States, Data Source: Youth Risk Behavior Surveillance System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of high school students who are physically active for at least 60 minutes per day on five or more of the past seven days</td>
<td>2013 29.1% (24.0-34.1)</td>
<td>2013 47.3% (45.3-49.2)</td>
</tr>
<tr>
<td>Asian</td>
<td>26.6% (19.0-34.3)</td>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
<td>27.7% (20.7-34.7)</td>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
<td>27.9% (21.5-34.3)</td>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
<td>38.2% (25.4-51.1)</td>
<td>White</td>
</tr>
</tbody>
</table>

### Poverty

<table>
<thead>
<tr>
<th></th>
<th>Boston, Data Source: American Community Survey</th>
<th>United States, Data Source: American Community Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of population living under the Federal Poverty Level</td>
<td>2012 21.6%</td>
<td>2012 15.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>29.2%</td>
<td>Asian</td>
</tr>
<tr>
<td>Black</td>
<td>24.6%</td>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
<td>33.5%</td>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
<td>14.0%</td>
<td>White</td>
</tr>
</tbody>
</table>

### Preterm Births

<table>
<thead>
<tr>
<th></th>
<th>Boston, Data Source: Boston Resident Live Births, Massachusetts Department of Public Health</th>
<th>United States, Data Source: National Vital Statistics System Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of live births born &lt; 37 weeks gestation</td>
<td>2012 9.6%</td>
<td>Asian 5.7%</td>
</tr>
<tr>
<td>Asian</td>
<td>7.2%</td>
<td>Asian/PI†</td>
</tr>
<tr>
<td>Black</td>
<td>10.5%</td>
<td>Black</td>
</tr>
<tr>
<td>Latino</td>
<td>10.7%</td>
<td>Latino</td>
</tr>
<tr>
<td>White</td>
<td>9.3%</td>
<td>White</td>
</tr>
<tr>
<td>Asian/PI†</td>
<td>10.2%</td>
<td>White</td>
</tr>
<tr>
<td>Black</td>
<td>16.2%</td>
<td>White</td>
</tr>
<tr>
<td>Latino</td>
<td>5.0%</td>
<td>White</td>
</tr>
<tr>
<td>White</td>
<td>10.7%</td>
<td>White</td>
</tr>
</tbody>
</table>
### Health of Boston

<table>
<thead>
<tr>
<th><strong>Repeat Teen Birth</strong></th>
<th><strong>Boston, Data Source: Boston Resident Live Births, Massachusetts Department of Public Health</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent of teen births that are repeat teen births (ages 15-19)</td>
</tr>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **United States, Data Source: National Vital Statistics System Records** |
|--------------------------|------------------------------------------|
| Percent of teen births that are repeat teen births (ages 15-19) | 2010 | 18.3% | Asian/PI† | 17.6% |
|                        |                      |       | Black | 20.4% |
|                        |                      |       | Latino | 20.9% |
|                        |                      |       | White | 14.8% |

<table>
<thead>
<tr>
<th><strong>Suicide</strong></th>
<th><strong>Boston, Data Source: Boston Resident Deaths, Massachusetts Department of Public Health</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suicides (per 100,000 people)</td>
</tr>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **United States, Data Source: National Vital Statistics System Records** |
|--------------------------|------------------------------------------|
| Suicides (per 100,000 people) | 2011 | 12.7 | Asian/PI† | 6 |
|                        |                      |       | Black | 5.3 |
|                        |                      |       | Latino | 5.2 |
|                        |                      |       | White | 14.5 |

<table>
<thead>
<tr>
<th><strong>Teen Births</strong></th>
<th><strong>Boston, Data Source: Boston Resident Live Births, Massachusetts Department of Public Health</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of live births born to women ages 15-19 years per 1,000 women ages 15-19 years</td>
</tr>
<tr>
<td></td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **United States, Data Source: National Vital Statistics System Records** |
|--------------------------|------------------------------------------|
| Number of live births born to women ages 15-19 years per 1,000 women ages 15-19 years | 2012 | 29.4 | Asian/PI† | 9.7 |
|                        |                      |       | Black | 43.9 |
|                        |                      |       | Latino | 46.3 |
|                        |                      |       | White | 20.5 |

<table>
<thead>
<tr>
<th><strong>Unemployment Rate</strong></th>
<th><strong>Boston, Data Source: American Community Survey</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of persons age 16 and older in the labor force who were unemployed</td>
<td>2012</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>United States, Data Source: American Community Survey</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of persons age 16 and older in the labor force who were unemployed</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Usual Place of Healthcare for Children</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Percent of families who report their child 0-17 yrs received services at a usual place of healthcare</td>
</tr>
<tr>
<td><strong>Asian</strong></td>
</tr>
<tr>
<td><strong>Black</strong></td>
</tr>
<tr>
<td><strong>Latino</strong></td>
</tr>
<tr>
<td><strong>White</strong></td>
</tr>
</tbody>
</table>

* Data from the Behavioral Risk Factor Surveillance Systems represents the median for 50 states and the District of Columbia and are not directly comparable to data from the Boston Behavioral Risk Factor Survey.

** Data for one or more states and the District of Columbia may be excluded from race/ethnicity stratifications due to insufficient sample size.

† Asian or Pacific Islander
References


Healthy People 2020

Healthy People 2020 was implemented on December 2, 2010 by the U.S. Department of Health and Human Services (1). It consists of “a comprehensive set of 10-year national goals and objectives for improving the health of all Americans” (2). Healthy People 2020 (HP 2020) is the result of collaboration and feedback from a variety of public health professionals, governmental officials, organizations, as well as the public, and is a continuation of a process that began 30 years ago (3). The framework of HP 2020 contains 42 public health topic areas with more than 1,200 objectives and includes a small set of objectives, called HP 2020 Leading Health Indicators. The HP 2020 Leading Health Indicators have been designated as high-priority (2).

HP 2020 Leading Health Indicators address ways in which the health of Americans can be improved by reducing factors that contribute to a number of preventable diseases and conditions such as overweight/obesity, infant mortality, teen pregnancy, chronic diseases like heart disease, stroke, diabetes, and cancer, infectious disease, substance abuse, injury/violence, tobacco use, and others (2). In addition, HP 2020 Leading Health Indicators call for improvement in health by actions such as increasing access to health care, increasing physical activity, increasing use of preventive dental services, and increasing the proportion of high school seniors who never use illicit drugs.

In the table that follows, the measures associated with the HP 2020 objectives and leading HP 2020 Leading Health Indicators are compared to results for Boston residents.
## Access to Health Services

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the proportion of persons with medical insurance</td>
<td>100 %</td>
<td>93.3% (91.9-94.6)</td>
<td>2013</td>
<td>BBRFSS</td>
</tr>
<tr>
<td>Increase the proportion of children and youth ages 17 years and under who have a specific source of ongoing care</td>
<td>100 %</td>
<td>98.7% (97.8-99.6)</td>
<td>2012</td>
<td>BSCH</td>
</tr>
</tbody>
</table>

## Maternal, Infant & Child Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year(s)</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce total preterm births</td>
<td>11.4 %</td>
<td>9.6%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce very preterm or live births at less than 32 weeks of gestation</td>
<td>1.8 %</td>
<td>1.7%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce live births at 32 to 33 weeks of gestation</td>
<td>1.4 %</td>
<td>1.2%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce late preterm or live births at 34-36 weeks of gestation</td>
<td>8.1 %</td>
<td>6.6%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce low birth weight (LBW)</td>
<td>7.8 %</td>
<td>8.4%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce very low birth weight (VLBW)</td>
<td>1.4 %</td>
<td>1.5%</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce the rate of all infant deaths (within 1 year)</td>
<td>6.0</td>
<td>4.7</td>
<td>2012</td>
<td>Birth File/Death File</td>
</tr>
<tr>
<td>Reduce the rate of neonatal deaths (within the first 28 days of life)</td>
<td>4.1</td>
<td>2.9</td>
<td>2012</td>
<td>Birth File/Death File</td>
</tr>
<tr>
<td>Reduce the rate of postneonatal deaths (between 28 days and 1 year)</td>
<td>2.0</td>
<td>1.9</td>
<td>2012</td>
<td>Birth File/Death File</td>
</tr>
<tr>
<td>Objective</td>
<td>Target</td>
<td>Boston</td>
<td>Year</td>
<td>BPHC Data Source</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>------------------</td>
</tr>
<tr>
<td>Reduce the rate of deaths among children ages 1 to 4 years</td>
<td>26.5</td>
<td>47.6</td>
<td>2010-2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the rate of deaths among children ages 5 to 9 years</td>
<td>12.4</td>
<td>49.7</td>
<td>2010-2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the rate of deaths among adolescents ages 10-14 years</td>
<td>14.8</td>
<td>42.4</td>
<td>2010-2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the rate of deaths among adolescents ages 15-19</td>
<td>54.3</td>
<td>91.1</td>
<td>2010-2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the rate of deaths among young adults ages 20-24 years</td>
<td>88.3</td>
<td>137.8</td>
<td>2010-2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the rate of infant deaths from sudden infant death syndrome (SIDS)</td>
<td>0.50</td>
<td>0.20</td>
<td>2010-2012</td>
<td>Birth File/Death File</td>
</tr>
<tr>
<td>Reduce the rate of infant deaths related to birth defects (congenital heart defects)</td>
<td>0.34</td>
<td>0.80</td>
<td>2010-2012</td>
<td>Birth File/Death File</td>
</tr>
</tbody>
</table>

### Heart Disease and Stroke

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce coronary heart disease deaths*</td>
<td>103.4</td>
<td>73.7</td>
<td>2012</td>
<td>Death File</td>
</tr>
<tr>
<td>Reduce stroke deaths*</td>
<td>34.8</td>
<td>34.0</td>
<td>2012</td>
<td>Death File</td>
</tr>
<tr>
<td>Reduce the proportion of adults with hypertension</td>
<td>26.9% of adults ages 18 yrs and older</td>
<td>24% (22.3-25.6)</td>
<td>2013</td>
<td>BBRFSS</td>
</tr>
</tbody>
</table>

### Diabetes

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the diabetes death rate*</td>
<td>66.6</td>
<td>19.6</td>
<td>2012</td>
<td>Death File</td>
</tr>
</tbody>
</table>

### Sexually Transmitted Diseases

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce gonorrhea rates among females ages 15 to 44 years</td>
<td>251.9 new cases</td>
<td>161.5</td>
<td>2012</td>
<td>STI File/Census File</td>
</tr>
</tbody>
</table>
### Immunization and Infectious Diseases

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target (rates per 100,000)</th>
<th>Boston (rates per 100,000)</th>
<th>Year(s)</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce new Hepatitis B infections in adults ages 19 and older</td>
<td>1.5</td>
<td>57.9 (new cases all ages)</td>
<td>2012</td>
<td>Communicable Disease Control Division, BPHC</td>
</tr>
<tr>
<td>Reduce new Hepatitis C infections</td>
<td>0.25</td>
<td>170.2 new cases</td>
<td>2012</td>
<td>Communicable Disease Control Division, BPHC</td>
</tr>
<tr>
<td>Reduce tuberculosis (TB)</td>
<td>1.0</td>
<td>6.6 new cases</td>
<td>2012</td>
<td>Communicable Disease Control Division, BPHC</td>
</tr>
</tbody>
</table>

### Substance Abuse

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target (rates per 100,000)</th>
<th>Boston (rates per 100,000)</th>
<th>Year(s)</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the proportion of adolescents reporting use of marijuana during the past 30 days</td>
<td>6.0%</td>
<td>24.1% (21.3-27.0) (Ages less than 18)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Reduce drug-induced deaths*</td>
<td>11.3</td>
<td>16.7</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the proportion of persons engaging in binge drinking during the past month—adolescents aged 12-17 years</td>
<td>8.6%</td>
<td>13.8% (11.0-16.6)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Reduce the proportion of persons engaging in binge drinking during the past 30 days—adults aged 18 years and older</td>
<td>24.4 %</td>
<td>25.4% (23.2-27.5)</td>
<td>2013</td>
<td>BBRFSS</td>
</tr>
</tbody>
</table>
### Injury and Violence Prevention

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target (rates per 100,000)</th>
<th>Boston (rates per 100,000)</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce homicides*</td>
<td>5.5</td>
<td>6.6</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce bullying among adolescents</td>
<td>17.9%</td>
<td>12.8% (10.1-15.4)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Reduce nonfatal firearm-related injuries*</td>
<td>18.6</td>
<td>16.3</td>
<td>2012</td>
<td>ED File/Census File</td>
</tr>
<tr>
<td>Reduce hospitalizations for nonfatal injuries*</td>
<td>555.8</td>
<td>627.5</td>
<td>2012</td>
<td>Hospitalization File/Census File</td>
</tr>
<tr>
<td>Reduce firearm-related deaths*</td>
<td>9.3</td>
<td>4.4</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
</tbody>
</table>

### Cancer

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target (rates per 100,000)</th>
<th>Boston (rates per 100,000)</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the overall cancer death rate*</td>
<td>161.4</td>
<td>186.3</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Increase the proportion of women who receive a breast cancer screening based on the most recent guidelines</td>
<td>81.1%</td>
<td>89.5% (86.8-92.2)</td>
<td>2013</td>
<td>BBRFS</td>
</tr>
<tr>
<td>Increase the proportion of women who receive a cervical cancer screening based on the most recent guidelines</td>
<td>93.0%</td>
<td>86.1% (83.7-88.5)</td>
<td>2013</td>
<td>BBRFS</td>
</tr>
<tr>
<td>Reduce the lung cancer death rate*</td>
<td>45.5</td>
<td>45.2</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the female breast cancer death rate*</td>
<td>20.7</td>
<td>17.7</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the colorectal cancer death rate*</td>
<td>14.5</td>
<td>16.8</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
<tr>
<td>Reduce the prostate cancer death rate*</td>
<td>21.8</td>
<td>27.4</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
</tbody>
</table>
### Mental Health and Mental Disorders

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year(s)</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the suicide rate*</td>
<td>10.2 per 100,000 population</td>
<td>5.4 per 100,000 residents</td>
<td>2012</td>
<td>Death File/Census File</td>
</tr>
</tbody>
</table>

### Adolescent Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the proportion of students who graduate with a regular diploma 4 years after starting 9th grade</td>
<td>82.4%</td>
<td>65.9%</td>
<td>2013</td>
<td>Office of Data and Accountability, Boston Public Schools</td>
</tr>
</tbody>
</table>

### Environmental Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase trips to work made by bicycling</td>
<td>0.6%</td>
<td>2.0%</td>
<td>2012</td>
<td>American Community Survey</td>
</tr>
<tr>
<td>Increase trips to work made by walking</td>
<td>3.1%</td>
<td>15.5%</td>
<td>2012</td>
<td>American Community Survey</td>
</tr>
<tr>
<td>Increase trips to work made by mass transit</td>
<td>5.5%</td>
<td>34.6%</td>
<td>2012</td>
<td>American Community Survey</td>
</tr>
</tbody>
</table>

### Food Safety

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce infections caused by Salmonella species transmitted commonly through food</td>
<td>11.4 cases per 100,000</td>
<td>17.1 per 100,000</td>
<td>2012</td>
<td>Communicable Disease Control Division, BPHC</td>
</tr>
</tbody>
</table>

### Nutrition and Weight Status

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce the proportion of children ages 2 to 5 years who are considered obese</td>
<td>9.6%</td>
<td>Insufficient Data †</td>
<td>2012</td>
<td>BSCH</td>
</tr>
<tr>
<td>Reduce the proportion of adolescents ages 12 to 19 years who are considered obese</td>
<td>16.1%</td>
<td>21.2% (15.9-26.6)</td>
<td>2012</td>
<td>BSCH</td>
</tr>
<tr>
<td>Increase the proportion of adults who are at a healthy weight</td>
<td>33.9%</td>
<td>40.7% (38.4-42.9)</td>
<td>2013</td>
<td>BBRFSS</td>
</tr>
<tr>
<td>Oral Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td><strong>Target</strong></td>
<td><strong>Boston</strong></td>
<td><strong>Year</strong></td>
<td><strong>BPHC Data Source</strong></td>
</tr>
<tr>
<td>Increase the proportion of low-income (&lt;=200% of poverty line) children and adolescents who received any preventive dental service during the past year</td>
<td>33.2%</td>
<td>79.0% (74.3-83.7)</td>
<td>2012</td>
<td>BSCH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
</tr>
<tr>
<td>Reduce hospitalizations for asthma among children under age 5 years</td>
</tr>
<tr>
<td>Reduce hospitalizations for asthma among children and adults ages 5 to 64 years</td>
</tr>
<tr>
<td>Reduce hospitalizations for asthma among adults ages 65 years and older</td>
</tr>
<tr>
<td>Reduce emergency department (ED) visits for asthma among children under age 5 years</td>
</tr>
<tr>
<td>Reduce emergency department (ED) visits for asthma among children and adults ages 5 to 64 years</td>
</tr>
<tr>
<td>Reduce emergency department (ED) visits for asthma among adults ages 65 years and older</td>
</tr>
<tr>
<td>Reduce deaths from chronic obstructive pulmonary disease (COPD) among adults*</td>
</tr>
</tbody>
</table>
## Family Planning

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target (rates per 1,000)</th>
<th>Boston (rates per 1,000)</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce pregnancies among adolescent females ages 15 to 17 years</td>
<td>36.2</td>
<td>11.2</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Reduce pregnancies among adolescent females ages 18 to 19 years</td>
<td>105.9</td>
<td>34.7</td>
<td>2012</td>
<td>Birth File</td>
</tr>
<tr>
<td>Increase the proportion of female adolescents ages 15 to 17 years who have never had sexual intercourse</td>
<td>80.2 %</td>
<td>61.7% (55.7-67.6)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Increase the proportion of male adolescents ages 15 to 17 years who have never had sexual intercourse</td>
<td>79.2 %</td>
<td>52.3% (44.7-60.0)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Increase the proportion of female adolescents ages 15 years and under who had never had sexual intercourse</td>
<td>93.9 %</td>
<td>77.2% (70.1-84.2)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
<tr>
<td>Increase the proportion of male adolescents ages 15 years and under who had never had sexual intercourse</td>
<td>92.7 %</td>
<td>70.7% (61.8-79.5)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
</tbody>
</table>

## Physical Activity

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the proportion of adolescents who meet current Federal physical activity guidelines for aerobic physical activity</td>
<td>20.2 %</td>
<td>15.3% (12.2-18.4)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
</tbody>
</table>

## Tobacco Use

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce cigarette smoking by adults</td>
<td>12.0%</td>
<td>18.4% (16.6-20.2)</td>
<td>2013</td>
<td>BBRFSS</td>
</tr>
<tr>
<td>Reduce use of cigarettes by adolescents (past month)</td>
<td>16.0%</td>
<td>7.9% (5.8-10.0)</td>
<td>2013</td>
<td>YRBS</td>
</tr>
</tbody>
</table>
## HIV

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Boston</th>
<th>Year</th>
<th>BPHC Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce new AIDS cases among adolescents and adults</td>
<td>12.4 new cases per 100,000</td>
<td>31.0 (Ages 18 and older)</td>
<td>2011</td>
<td>HIV/AIDS Surveillance Program, MA Department of Public Health</td>
</tr>
</tbody>
</table>

*Rates are age-adjusted at the national and Boston levels

†>20% missing data
References

1. About Healthy People. [Online] [Cited: August 28, 2014.]
   http://www.healthypeople.gov/2020/about/default.aspx

2. Healthy People 2020 Leading Health Indicators: Progress Update. [Online] [Cited: August 28, 2014.]