

Introduction: Health Behaviors

Personal health behaviors have a substantial influence on overall health outcomes. Tobacco use, poor diet, physical inactivity, and alcohol consumption are major contributing causes of death in the U.S. in almost 40% of deaths for cancer, heart disease, diabetes, and other chronic diseases (1).

Influencing individuals to adopt more positive personal health behaviors can be one of the most cost-effective tools for helping them to achieve and maintain good health (1,2). However, personal health behaviors exist in the context of complex interpersonal, cultural, organizational, political, and societal environments that strongly influence individual choices and behavior (3). These environments may include both positive and negative factors that influence behavior and must be considered in the design of interventions intended to bring about behavior change.

This section provides a detailed description of the health behaviors of Boston residents. The information includes self-reported data on physical activity, consumption of fruits and vegetables, excessive alcohol use, and cigarette smoking. Data on sexual behaviors can be found in the Sexual Health section of this report.

Healthy People 2010 Targets (3):

Increase the proportion of adults who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week or vigorous physical activity for at least 20 minutes per day 3 or more days per week to 50 percent

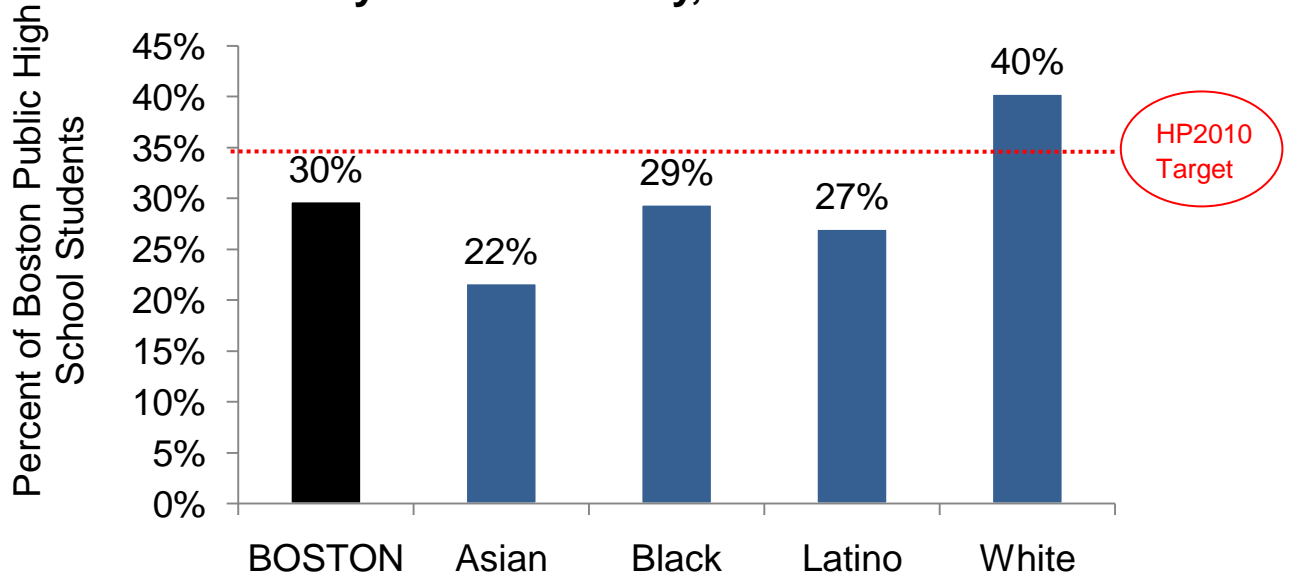
Reduction in adolescents aged 12 to 17 years engaging in binge drinking during past month to 3.1 percent

Reduction in adults 18 years and older engaging in binge drinking during past month to 13.4 percent

Reduce cigarette smoking in the past month by students in grades 9 through 12 to 16 percent

Reduce cigarette smoking by adults aged 18 years and older to 12 percent

Figure 6.1 High School Students who Engage in Regular Physical Activity by Race/ Ethnicity, 2007



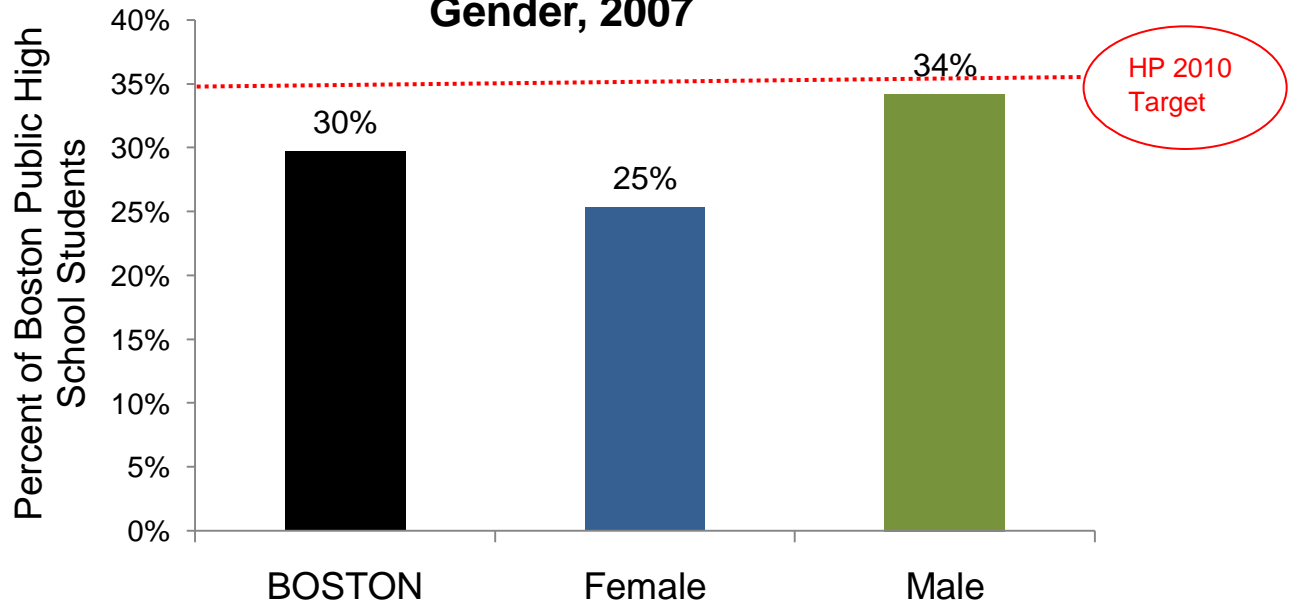
NOTES: Survey question reads: “During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time)” Regular activity for adolescents is defined as engaging in physical activity for at least one hour per day on five or more days during the past week
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (4):

Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week to 35 percent

- Regular physical activity is defined as engaging in physical activity for at least one hour per day in five or more days per week
- Among Boston Public high school students, a higher percentage of White students reported participating in regular physical activity compared to other racial/ethnic groups
- There were no statistical differences among Asian, Black and Latino students in terms of the percent reporting regular physical activity.

Figure 6.2 High School Students who Engage in Regular Physical Activity by Gender, 2007



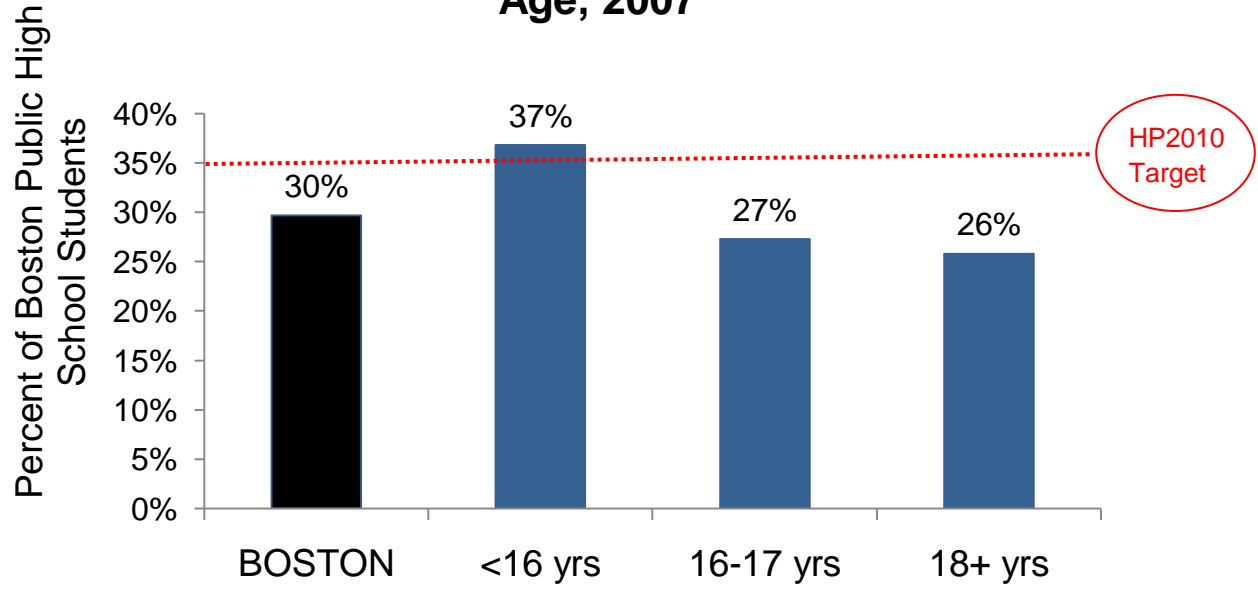
NOTES: Survey question reads: “During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time)” Regular activity for adolescents is defined as engaging in physical activity for at least one hour per day on five or more days during the past week
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (4):

Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week to 35 percent

- Approximately one-third of male students compared to only a quarter of female students reported engaging in regular physical activity

Figure 6.3 High School Students who Engage in Regular Physical Activity by Age, 2007



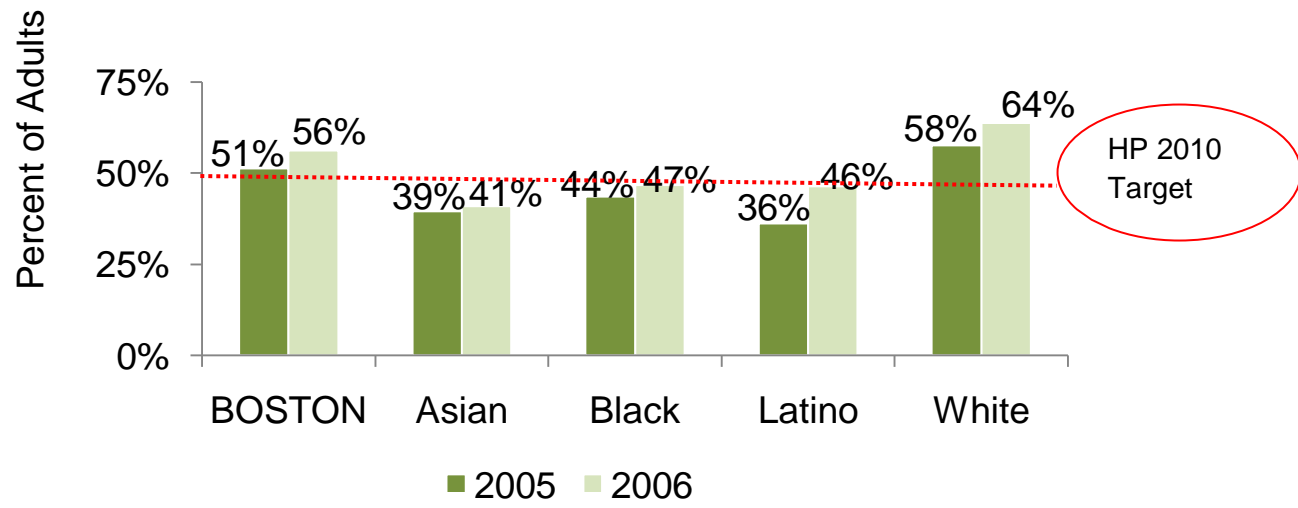
NOTES: Survey question reads: “During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time)” Regular activity for adolescents is defined as engaging in physical activity for at least one hour per day on five or more days during the past week
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (4):

Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week to 35 percent

- A higher percentage of students under the age of 16 reported participating in regular physical activity than students ages 16-17

Figure 6.4 Adults Who Engage in Regular Physical Exercise by Race/ Ethnicity, 2005 and 2006

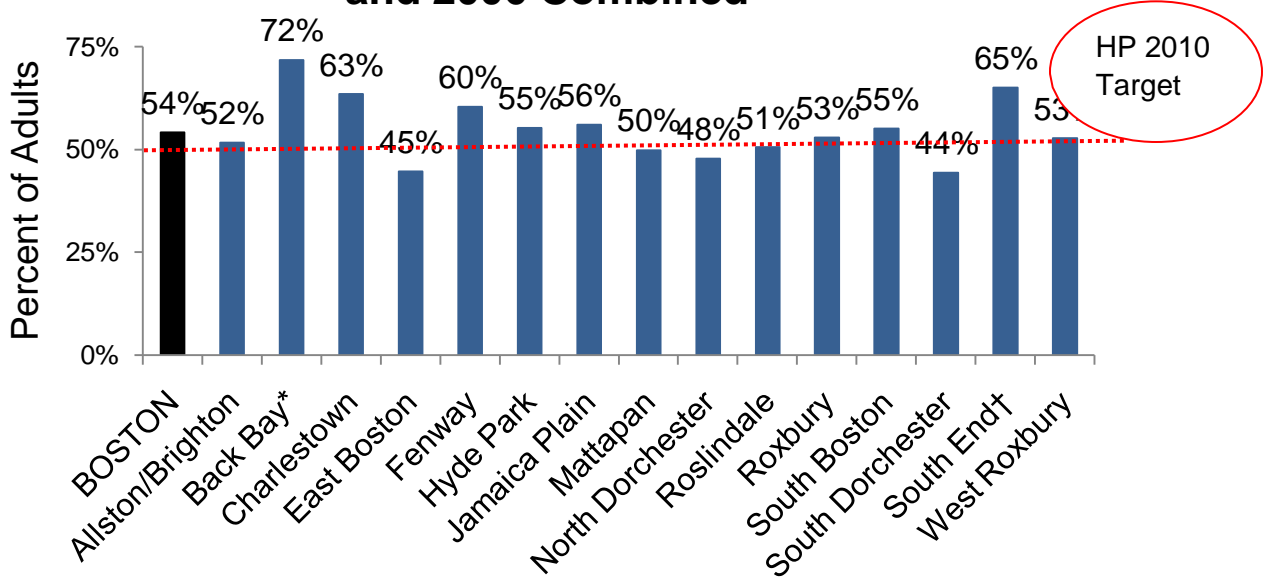


NOTES: For adults, regular physical exercise is calculated as vigorous activity for 20 minutes per day on 3+days and/or moderate activity for 30 minutes per day on 5+days of the past week. (Vigorous activities cause large increases in breathing or heart rate while moderate activities cause small increases in breathing or heart rate.)
 DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission
 DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

Healthy People 2010 Target (4): Increase the proportion of adults who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week or vigorous physical activity for at least 20 minutes per day 3 or more days per week to 50 percent.

- For adults, regular physical activity is defined as vigorous activity for 3+ days a week and/or moderate physical activity for 5+ days a week. Approximately 40% of Boston adults engaged in regular physical activity in both 2005 and 2006.
- A higher percentage of White adults reported engaging in regular physical activity than Black, Latino or Asian adults in 2005 and 2006
- There was no difference in the percentages of males and females who reported participating in regular physical activity (data not shown).

Figure 6.5 Adults Who Engage in Regular Physical Exercise by Neighborhood, 2005 and 2006 Combined



*Includes Beacon Hill, Downtown, North End and the West End

†Includes Chinatown

NOTE: For adults, regular physical activity is calculated as vigorous activity for 20 minutes per day on 3+days and/or moderate activity for 30 minutes on 5+days of the past week. (Vigorous activities cause large increases in breathing or heart rate while moderate activities cause small increases in breathing or heart rate.)

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

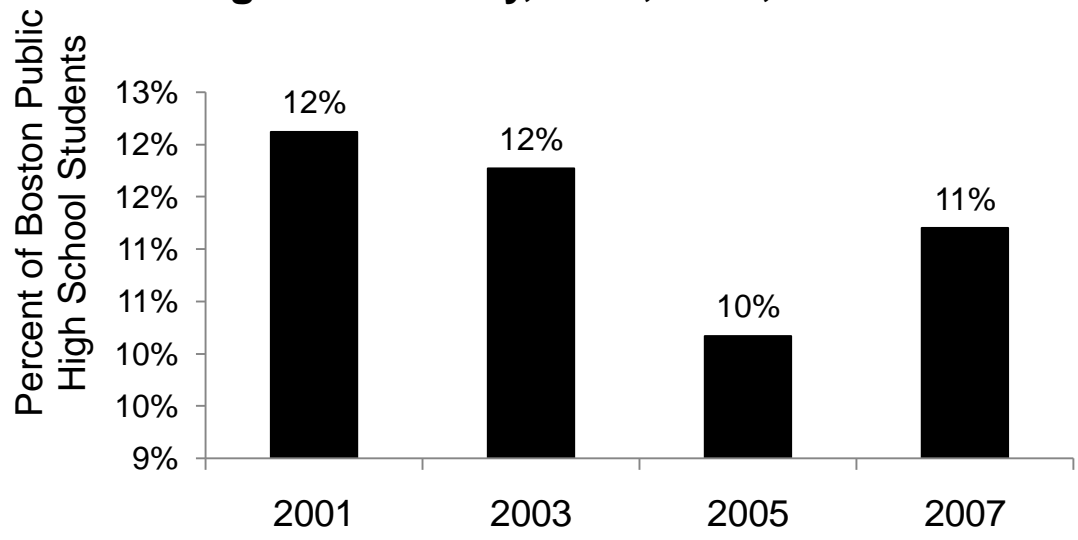
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

Healthy People 2010 Indicator (4):

Increase the proportion of adults who engage in moderate physical activity for at least 30 minutes per day 5 or more days per week or vigorous physical activity for at least 20 minutes per day 3 or more days per week to 50 percent.

- In 2005 and 2006, four Boston neighborhoods reported physical activity levels that meet the Healthy People 2010 target.
- Compared to Boston adults overall, a lower percentage of adults in Roslindale and South Dorchester reported engaging in regular physical activity
- A higher percentage of Back Bay adults reported engaging in regular physical activity compared to Boston adults overall.

Figure 6.6 High School Students who Consume Recommended Daily Fruits and Vegetables a Day, 2001, 2003, 2005 and 2007



NOTES: Percentage calculated based on responses to multiple questions. Calculated variable description: ate fruits and vegetables (100% fruit juices, fruit, green salad, potatoes [excluding French fries, fried potatoes, or potato chips], carrots, or other vegetables) five or more times per day during the 7 days prior to the survey.

DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)

DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

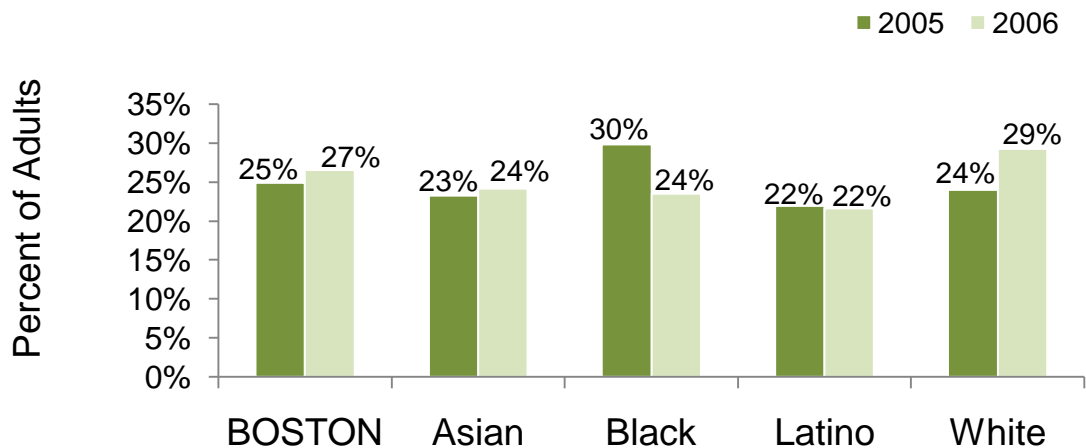
Healthy People 2010 Indicator (5):

Increase the proportion of persons aged 2 years and older who consume at least two daily servings of fruit to 75 percent

Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables to 50 percent

- Approximately one in ten Boston high school students reported eating five or more servings of fruits and vegetables daily. This low rate has remained consistent over the years shown.

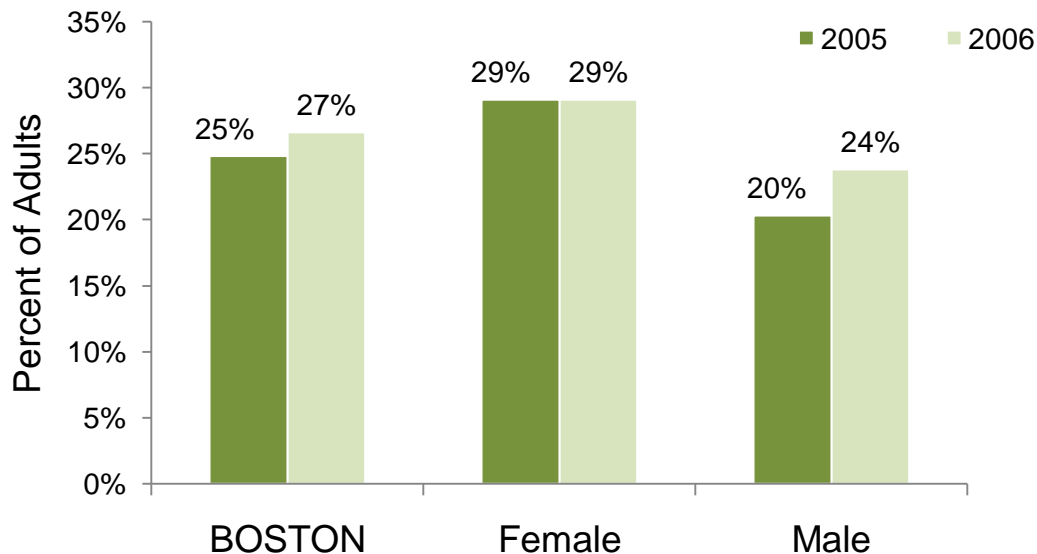
Figure 6.7 Adults who Consume Recommended Daily Fruits and Vegetables by Race/ Ethnicity, 2005 and 2006



NOTES: Calculated as adults who report eating fruits and vegetables five times or more times per day. These data do not include persons of other or unknown race/ethnicity.
 DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission
 DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- About one in four adults in Boston reported consuming five or more servings of fruits and vegetables per day
- Across racial/ethnic groups the percentage of adults who reported consuming five or more servings of fruits and vegetables per day was similar.

Figure 6.8 Adults who Consume Recommended Daily Fruits and Vegetables by Gender, 2005 and 2006



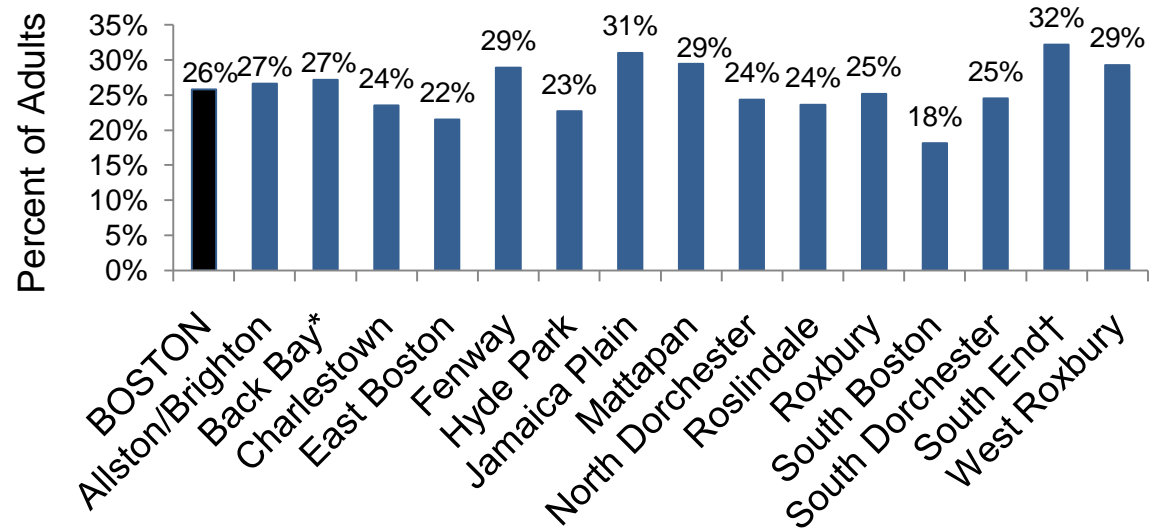
NOTE: Calculated as adults who report eating fruits and vegetables five times or more times per day for at least five days prior to the survey.

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- About one in four adults in Boston reported consuming fruits and vegetables an average of five or more times per day.
- In 2005, a higher percentage of women consumed five or more servings of fruits and vegetables per day than males

Figure 6.9 Adults who Consume Recommended Daily Fruits and Vegetables by Neighborhood, 2005 and 2006 Combined



*Includes Beacon Hill, Downtown, North End and the West End

†Includes Chinatown

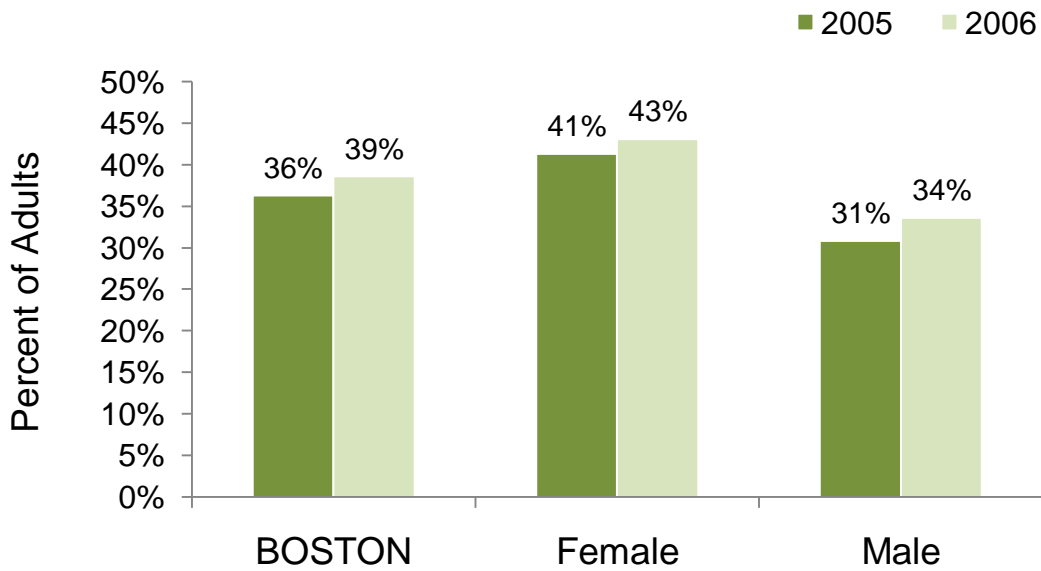
NOTES: Calculated as adults who report eating fruits and vegetables five times or more times per day prior to the survey

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- Across neighborhoods, the percentage of Boston adults who reported consuming five or more servings of fruits and vegetables daily was similar to Boston overall, with the exception of South Boston where a lower percentage of adults reported adequate fruit and vegetable consumption.

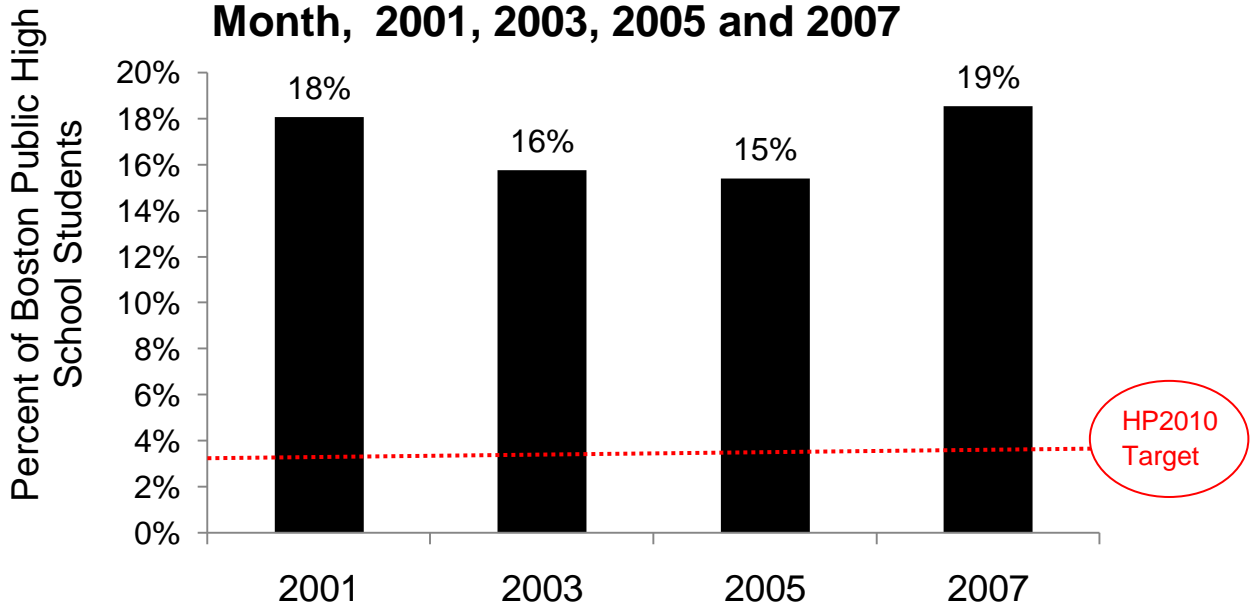
Figure 6.10 Adults Currently Trying to Lose Weight by Gender, 2005 and 2006



NOTE: Survey question reads, “Are you now trying to lose weight?”
DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- In 2005 and 2006, more than one-third of adult Bostonians reported trying to lose weight. A higher percentage of females reported trying to lose weight compared to males in both 2005 and 2006

Figure. 6.11 High School Students with Excessive Alcohol Consumption in Past Month, 2001, 2003, 2005 and 2007



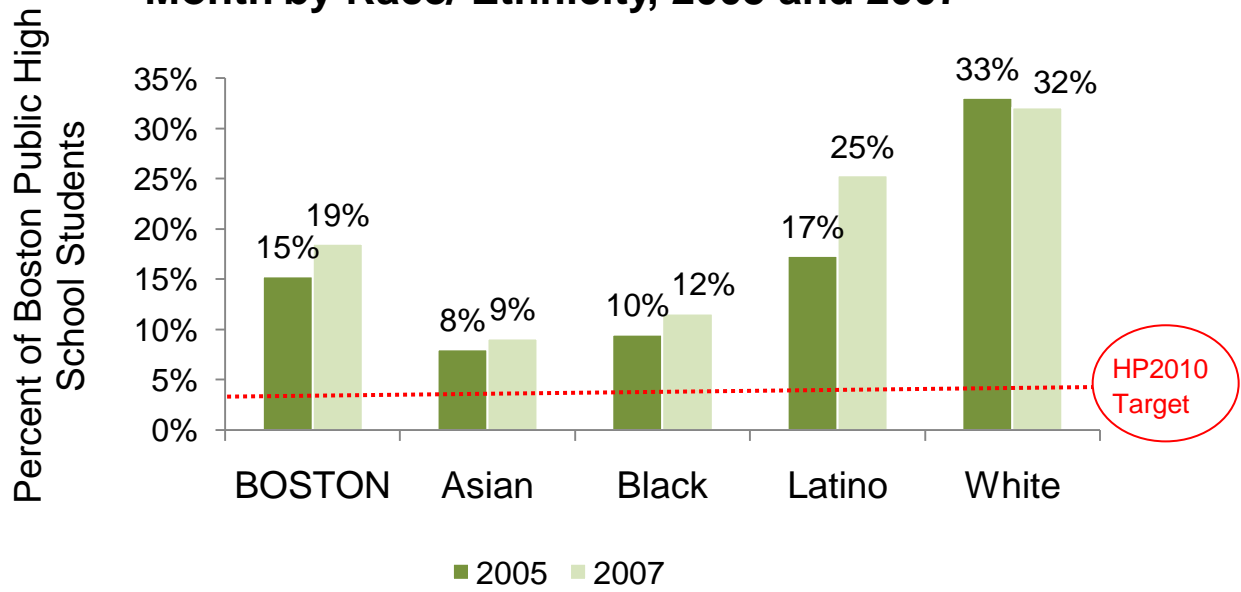
NOTE: Survey question reads: “During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?”
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (5):

Reduction in adults and adolescents engaging in binge drinking during past month: adults aged 18 years and older to 13.4 percent and adolescents aged 12 to 17 years to 3.1 percent

- Binge drinking among adolescents is defined as having five or more drinks on one or more occasions during the previous 30 days.
- In 2007, approximately one in five high school students reported binge drinking alcohol (5 or more alcoholic drinks on one occasion in the past month)
- The percentage of students who reported binge drinking alcohol was similar in 2001, 2003, 2005 and 2007

Figure. 6.12 High School Students with Excessive Alcohol Consumption in Past Month by Race/ Ethnicity, 2005 and 2007



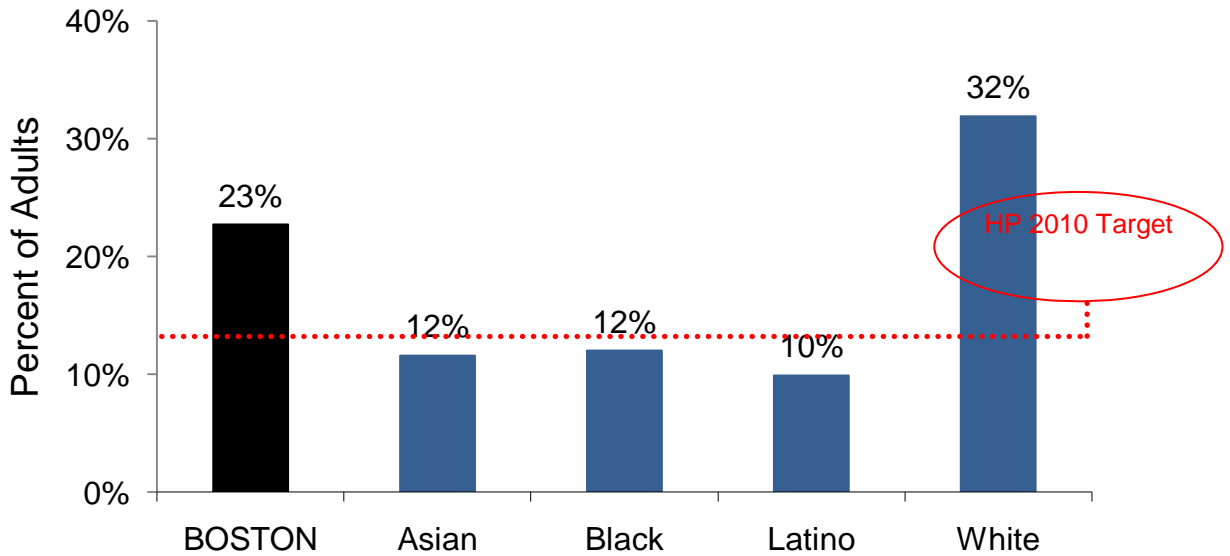
NOTES: Survey question reads: “During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?”
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (5):

Reduction in adults and adolescents engaging in binge drinking during past month: adults aged 18 years and older to 13.4 percent and adolescents aged 12 to 17 years to 3.1 percent

- A higher percentage of white students reported binge drinking than Black or Asian students in 2005 and 2007
- A lower percentage of less than 16 year old students reported binge drinking than 16-17 and 18 and older (data not shown)

Figure 6.13 Adults with Excessive Alcohol Consumption in Past Month by Race/Ethnicity, 2006



*Insufficient sample size for Asian respondents.

NOTES: survey question reads, “Considering all types of alcoholic beverages, how many times during the past 30 days did you have X [X=5 for men, X=4 for women] or more drinks on an occasion?” These data do not include persons of other or unknown race/ethnicity.

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

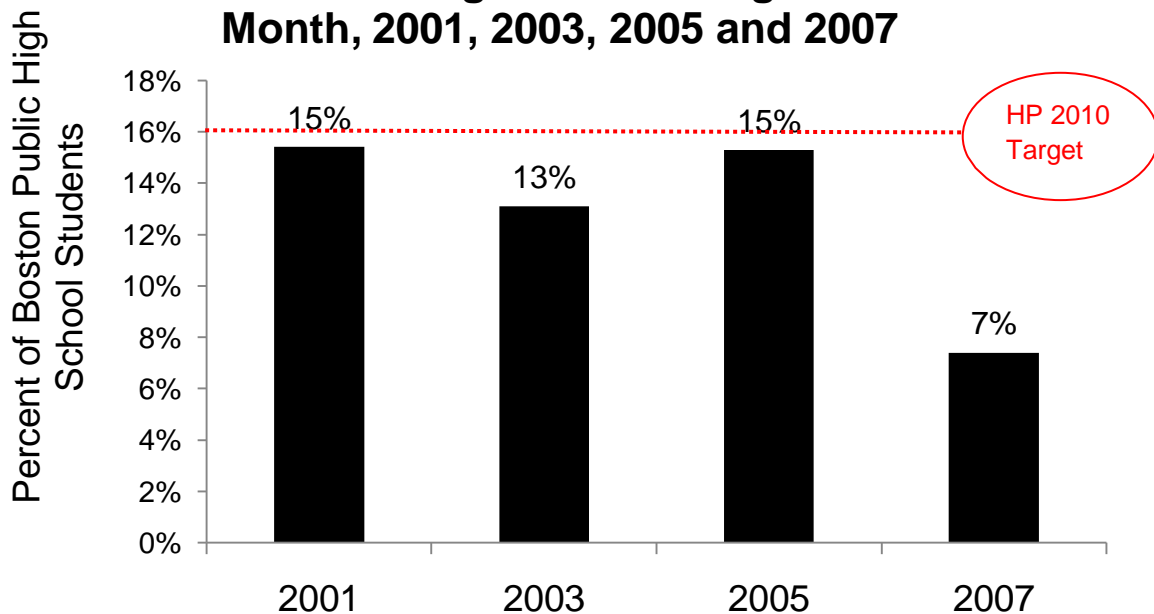
DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

Healthy People 2010 Indicator (5):

Reduction in adults and adolescents engaging in binge drinking during past month: adults aged 18 years and older to 13.4 percent and adolescents aged 12 to 17 years to 3.1 percent

- Excessive alcohol consumption or binge drinking is defined for adults as the consumption of five or more drinks for men or four or more drinks for women on one occasion
- More than one third of the adult Boston residents reported engaging in binge drinking during the previous 30 days.
- A higher percent of White adults compared to Black reported engaging in binge drinking during the previous 30 days

Figure. 6.14 High School Students who Smoked Cigarettes During Past Month, 2001, 2003, 2005 and 2007



NOTE: Survey question reads: “During the past 30 days, on how many days did you smoke cigarettes?”

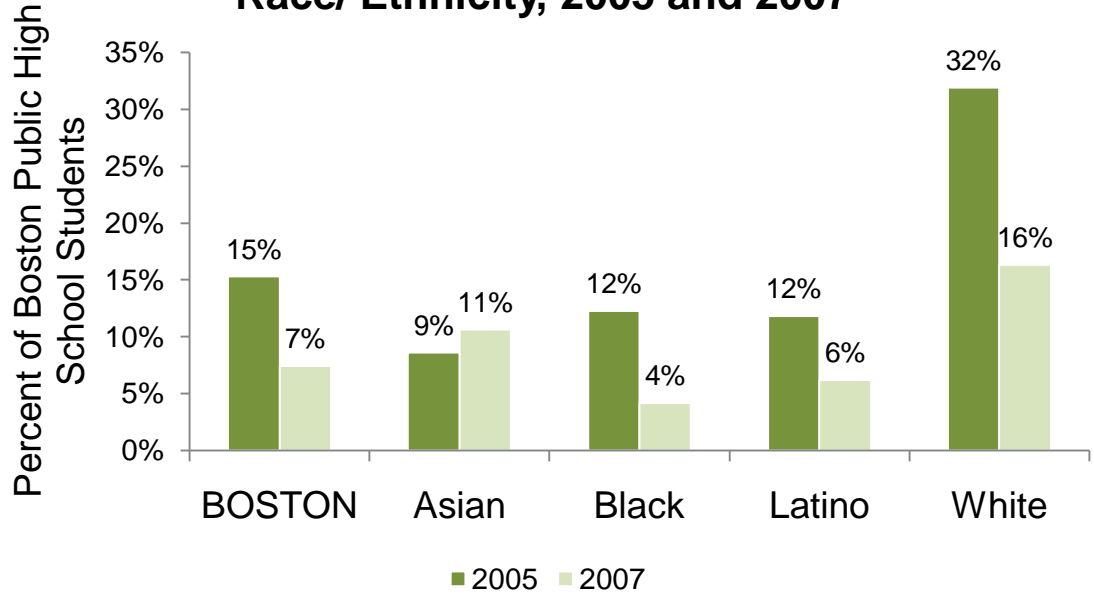
DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)

DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

Healthy People 2010 Indicator (6): Reduce cigarette smoking in the past month by students in grades 9 through 12 to 16 percent

- There was a decrease in the proportion of high school students who reported smoking from 2001 to 2007.

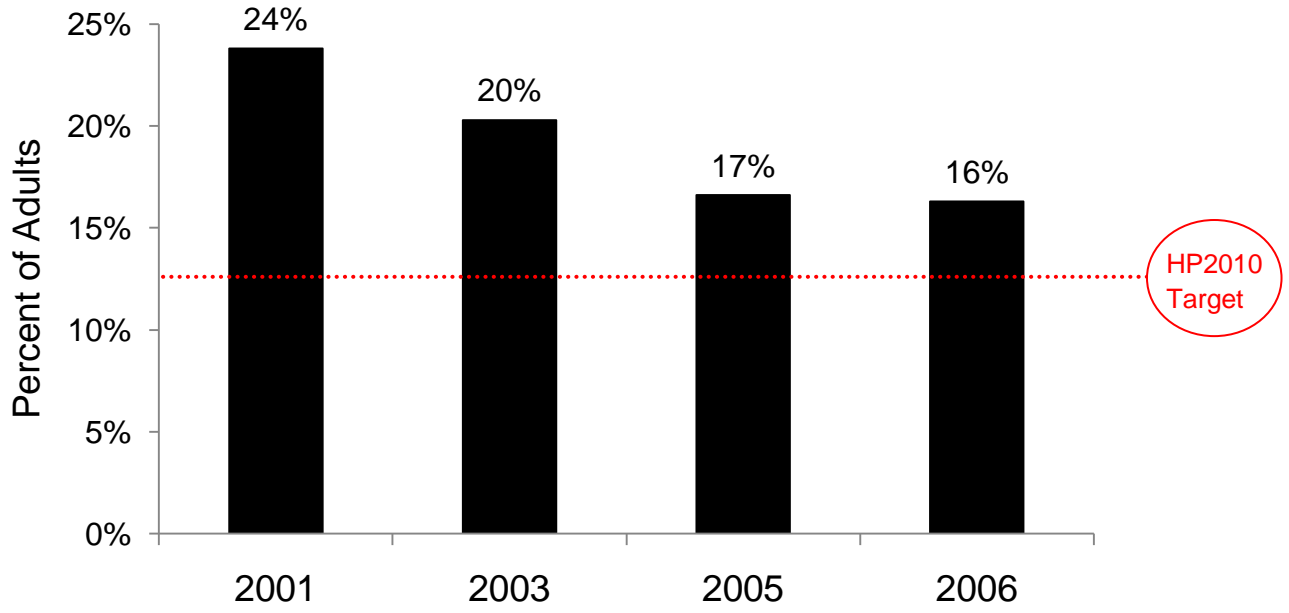
Figure 6.15 High School Students who Smoked Cigarettes During Past Month by Race/ Ethnicity, 2005 and 2007



NOTE: Survey question reads: “During the past 30 days, on how many days did you smoke cigarettes?”
 DATA SOURCES: Youth Risk Behavior Survey 2007, Youth Risk Behavioral Surveillance System (YRBSS), Centers for Disease Control and Prevention (CDC)
 DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office

- A higher percentage of White students reported smoking cigarettes during the past month than Black or Latino students in 2005 and 2007
- The percentage of students who reported smoking decreased among Blacks, Latinos, and Whites from 2005 to 2007

Figure. 6.16 Adults who Currently Smoke Cigarettes, 2001, 2003, 2005 and 2006



NOTE: Calculated as adults who have smoked at least 100 cigarettes in their life and report smoking every day or some days.

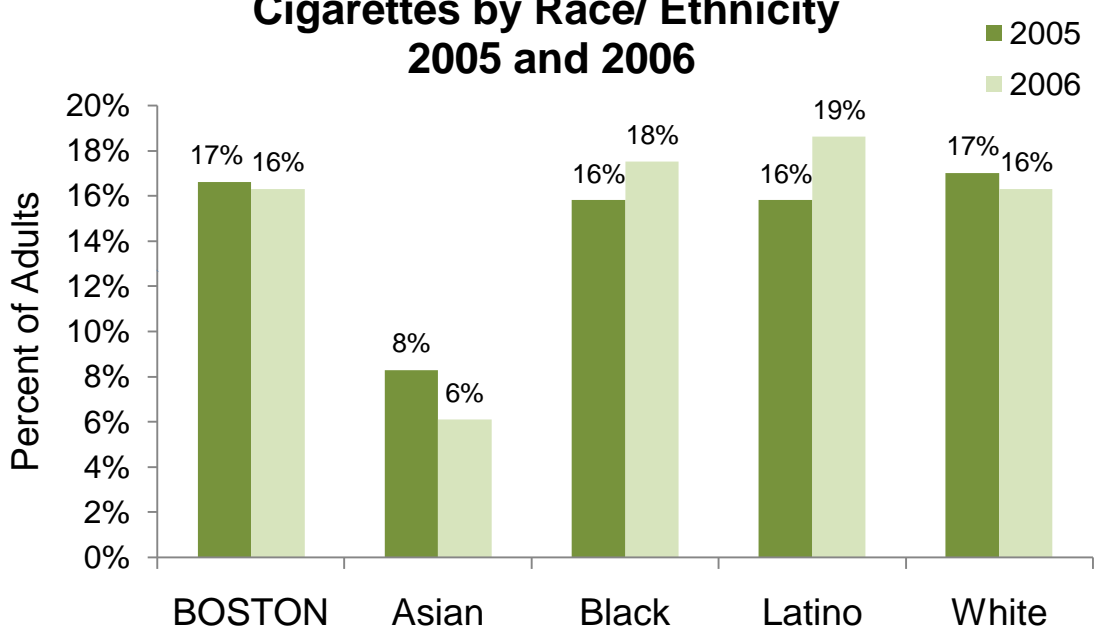
DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

Healthy People 2010 Indicators (6): Reduce cigarette smoking by adults aged 18 years and older to 12 percent

- Smokers were defined as adults who reported having smoked at least 100 cigarettes in their lifetime, and smoked daily or some days at the time of the survey.
- There was a decline in the percentage of adults who smoked cigarettes from 2001-2006
- In 2006, 15% of females and 18% of males reported smoking cigarettes (Data not shown)

Figure 6.17 Adults who Currently Smoke Cigarettes by Race/ Ethnicity 2005 and 2006



NOTE: Calculated as adults who have smoked at least 100 cigarettes in their life and report smoking every day or some days.

DATA SOURCE: Boston Behavioral Risk Factor Survey, Boston Behavioral Risk Factor Surveillance System (BBRFSS), Boston Public Health Commission

DATA ANALYSIS: Boston Public Health Commission, Research and Evaluation Office

- Approximately one in six Boston adults reported being a current cigarette smoker in 2005 and 2006
- In 2005 and 2006, a lower percentage of Asian adults reported being smokers than White adults
- Asian Bostonians were less likely to report being smokers than all other racial/ethnic groups shown.

Summary: Health Behaviors

Personal health behaviors are essential components of disease prevention and overall good health. In Boston, engaging in positive health behaviors varied among genders, racial and ethnic groups and age groups.

Regular physical activity for adults is defined as moderate physical activity for at least 30 minutes for five or more days per week, or vigorous physical activity for at least 20 minutes for three or more days per week. A higher percentage of White adults reported engaging in regular physical activity than Blacks, Latinos and Asians. For adolescents, regular activity is defined as engaging in physical activity for at least one hour per day on five or more days during the past week. A higher percentage of White high school students reported getting regular physical activity than students of other race/ethnicities.

Approximately 25% of adults and 10% of high school students reported consumption of five or more servings of fruits and vegetables daily. There were no significant differences across age groups, genders or race/ethnicities.

Excessive alcohol drinking or binge drinking is defined for adults as the consumption of five or more alcoholic drinks for men, or four or more drinks for women, on one occasion. In the most recent survey, over 30% of Boston adult residents reported binge drinking during the past month.

For adolescents the definition of excessive alcohol drinking or binge drinking is the same for both genders: five or more alcoholic drinks on a single occasion. One in five high school students reported past month binge drinking. A higher percentage of White adults and high school students reported binge drinking than black adults and high school students.

From 2001 to 2006, there was a significant decrease in the percentage of adults who reported smoking. From 2001 to 2007, there was also a significant decrease in the percentage of students who reported smoking. Decreases in the percentage of students who reported smoking occurred across all race/ethnicities except for Asians.

References

1. **Mokdad AH, Marks JS, Stroup DF, Gerberding JL.** Actual Causes of Death. JAMA. 2004 Mar 10;291(10):1238-45.
2. **Kilmer G, Roberts H, Hughes E et al.** Surveillance of Certain Health Behaviors and Conditions Among States and Selected Local Areas - Behavioral Risk Factor Surveillance System (BRFSS), United States, 2006. MMWR. 2008 Aug; **57(SS07):1-188**.
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4. **U.S. Department of Health and Human Services.** Healthy People 2010 Midcourse Review: Focus 22 Physical Fitness and Activity. <http://www.healthypeople.gov/data/midcourse/html/focusareas/FA22Objectives.htm>.
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6. **U.S. Department of Health and Human Services.** Healthy People 2010 Midcourse Review: Focus 27 Tobacco Use. <http://www.healthypeople.gov/data/midcourse/html/focusareas/FA27TOC.htm>.