

A Profile of Health Among Massachusetts Adults, 2010

Results from the Behavioral Risk Factor Surveillance
System

HEALTH SURVEY PROGRAM
DIVISION OF RESEARCH AND EPIDEMIOLOGY
BUREAU FOR HEALTH INFORMATION,
STATISTICS, RESEARCH, AND EVALUATION
MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH



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Massachusetts Department of Public Health

Health Survey Program

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NEW IN THIS REPORT

The overall presentation style of the report has not changed since 2008.

Many of the differences in health indicators between population subgroups remain the same as in the previous year's report; therefore we include only selected results in the summary section of this report. Detailed information on all indicators may be obtained from the tables and charts in the body of the report.

Several new topics have been added to this year's report:

- Data on smokeless tobacco use has been added (Section 3.1)
- Data on immunization has been expanded to include Human Papilloma Virus, Hepatitis B, Tetanus and Shingles vaccines (Sections 3.8 – 3.11)
- Data on cancer survivors has been added (Section 4.4)
- Data on sexual orientation has been expanded to include all ages (Section 6.1)
- Data on patient reported experiences with health care (Section 7)
 - Beginning in 2009, four questions aimed at assessing perceived quality of care and some principles of Patient-Centered Medical Homes (PCMH) were added to one split of the survey. As there has been increasing interest in the role that PCMH may play in health care reform, an expanded analysis of this topic is included in Section 7. Data from 2009 and 2010 are combined to provide sufficient sample size for more in-depth analysis. Data are presented by demographic and socioeconomic characteristics, as well as by insurance type, chronic disease status and presence of selected risk factors (smoking status and obesity status).

Since 2008, the Massachusetts BRFSS has conducted a multimode survey in order to improve the coverage of the state's population including wireless-only users. In the same year, the Centers for Disease Control began applying a new weighting methodology to the BRFSS in order to account for socio-demographic differences in the population. The data presented in this report are based on data collected from the landline survey only as well as the traditional weighting methodology used in previous annual reports. CDC anticipates the release of the 2010 combined cell and landline sample, including the new weighting methodology, later this year. At that time, a supplement to this annual report (along with a supplement to the 2009 report) will be released to include the new estimates of main health indicators based on the addition of the wireless-only sample as well as the new weighting methodology.

INTRODUCTION

The Behavioral Risk Factor Surveillance System (BRFSS) is a continuous multimode survey of adults ages 18 and older and is conducted in all states as a collaboration between the federal Centers for Disease Control and Prevention (CDC) and state departments of health. The landline telephone portion of the survey has been conducted in Massachusetts since 1986. The BRFSS collects data on a variety of health risk factors, preventive behaviors, chronic conditions, and emerging public health issues. The information obtained in this survey assists in identifying the need for health interventions, monitoring the effectiveness of existing interventions and prevention programs, developing health policy and legislation, and measuring progress toward attaining state and national health objectives.

Each year, the BRFSS includes a core set of questions developed by the CDC. In 2010, these questions addressed health status, health care access and utilization, overweight and obesity status, asthma, diabetes, immunizations, tobacco use, alcohol consumption, HIV/AIDS testing and other selected public health topics.

In addition to the core CDC questions, the Massachusetts Health Survey Program, in collaboration with Massachusetts Department of Public Health programs, added a number of topics to the surveillance instrument including environmental tobacco exposure, disability and quality of life, cancer survivorship, sexual violence, and other selected topics.

Interviews were administered in the respondents' preferred language, with a choice of English, Spanish, or Portuguese. In 2010, 16,311 interviews were completed among Massachusetts adults. To increase the number of respondents who belong to racial and/or ethnic minority groups, the cities of Boston, Worcester, Springfield, Lawrence, Lowell, Fall River, and New Bedford were oversampled, as in previous years.

ABOUT THIS REPORT

This report summarizes selected results from the landline telephone portion of the 2010 Massachusetts BRFSS. Some of the key findings are discussed in the Summary of Results. In each section of the report, a description of survey questions used to obtain estimates for key variables is provided along with an explanation of the importance of each indicator for public health. Tables detailing the overall estimates and estimates by demographic and socioeconomic characteristics (gender, age, race-ethnicity, disability status, education, annual household income, and Massachusetts health service regions) are provided in the main body of the report in the form of crude percentages.

In the Section 7 of the report, a more detailed analysis of self-perceived health care quality and principles of patient-centered medical homes is presented. Also presented are tables detailing age-adjusted percentages for 2010 indicators and their 95% confidence intervals. United States (US) median data for all participating states and territories for variables with comparable national data are presented for 2010 in a separate table. The *Healthy People 2020* objectives are presented separately as a new challenging goal for public health.

All percentages in this report are weighted (see definition in next section) to the total Massachusetts population in 2010.

TERMS, DEFINITIONS, AND STATISTICAL METHODOLOGY USED IN THIS REPORT

The BRFSS data are **weighted** to take into account differences in probabilities of selection due to the telephone number, the number of telephones in a household, and the number of adults in a household. Adjustments are also made to account for non-response, non-coverage of households without landline telephones and differential participation by sex, age and race/ethnicity. All the weighting factors are multiplied together to get the final weight for each respondent so that the weighted BRFSS data represents the adult population of Massachusetts. This final overall weight is appropriate to use for analysis of the questions asked on all three versions of the questionnaire. Massachusetts sample design includes three questionnaires (versions or “splits”), to allow for an increase in the number of questions asked without an increase in the length of the survey. Beginning in 2008, additional weights have been calculated for use with questions that are asked on only one version (“split”) of the questionnaire. The intent of these “split weights” is to obtain a more accurate estimate of prevalence for health indicators that are asked of only a portion of the survey respondents.

The data presented here are univariate, descriptive percentages that are either crude or age-adjusted. No multivariate analysis was performed on this data. In addition, all data presented here is cross-sectional and thus this report contains no inferences about causality.

The **crude percentage** is the weighted proportion of respondents in a particular category. When percentages are reported in the text of this report, they are referring to crude percentages. The crude percentage of respondents used in this report reflects the burden of a certain health status indicator in a specific group of the population e.g. age group, gender etc.

Although the overall sample size for 2010 was 16,311, the underlying size of the sample used to produce particular estimates varies depending on whether the data come from the core of the BRFSS or one of the sample splits through which optional modules and Massachusetts-added questions are administered. The 2010 BRFSS contained three splits: split 1 contained 5,421 respondents, split 2 contained 5,438 respondents, and split 3 contained 5,452 respondents.

The underlying **sample size (N)** in each cell of the presented tables is the number of people who answered “yes” or “no” to the corresponding question. The crude proportion is a weighted ratio of those who answered “yes” to the corresponding question versus all who responded to the question. Those who responded “don’t know” or refused to respond to a question were excluded from the analysis of that question.

The **age-adjusted percentage** is a weighted average of the age-specific proportions. The projected 2000 US population was used as a standard for the calculation. These estimates are presented in tables in the Appendix of this report. The age-adjusted percentage is a single, calculated number. Age-adjustment is done in order to be able to compare population subgroups with potentially different age structures (e.g., Hispanic vs. White non-Hispanic). The reader should exercise caution when using age-adjusted percentages for the comparison of survey data subgroups. While the estimates have been adjusted by age, other factors like gender, income, or education and their possible correlation may also have an impact on the results of subgroup comparisons (see Appendix). The percentages were not age-adjusted for health indicators obtained for restricted age groups such as cancer screening.

The US median is calculated for the estimates from all participating states, the District of Columbia, and territories for each respective indicator when available. The values are ordered from lowest to highest and the middle value is then chosen (if the number of values is odd) or calculated as the average of the two middle values (if the number of values is even). The median then represents a value for which half of the states have higher estimates and half of the states have lower estimates.

The 95% confidence interval (95% CI) is a range of values determined by the degree of variability of the data within which the true value is likely to lie. The confidence interval indicates the precision of a calculation; the wider the interval the less precision in the estimate. The 95% confidence intervals used in this report for crude and age-adjusted percentages are the indicators of reliability (or stability) of the estimate. Smaller population subgroups or smaller numbers of respondents yield less precise estimates.

Suppression of the presented estimates:

- a) Estimates and their 95% confidence intervals are not presented in the tables if the underlying sample size is less than 50 respondents.
- b) Following recommendations of the National Center for Health Statistics, data are not presented in the tables if a ratio of standard error to the estimate itself exceeds 30% (relative standard error of greater than 30%). Standard error of the estimate is a measure of its variability. Bigger standard errors yield wider confidence intervals and less reliable estimates.^[1]

Statistical significance (at the 95% probability level) was considered as a basis when we used the terms “more likely”, “less likely”, “about the same”, “increase” or “decrease.” Differences between percentages for respective subgroups are presented when a difference is statistically significant.

We considered the difference between two percentages to be statistically significant (with 95% probability) if the 95% confidence intervals surrounding the two percentages do not overlap, which is a conservative estimation for determining statistical significance.^[2] We use the terms “**more likely**” or “**less likely**” when comparing percentages that met the criteria for statistical significance.

Disability was defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Race-ethnicity categories in this report include White, Black, Hispanic, and Asian. When referring to White, Black, or Asian, these categories include only non-Hispanic respondents. All respondents reporting Hispanic ethnicity are included in the Hispanic category regardless of race.

Healthy People 2020 Objectives: *Healthy People 2020: National Health Promotion and Disease Prevention Objectives* is a national agenda that aims to significantly improve the health of Americans in the decade preceding the year 2020. Developed through an extensive governmental, professional, and public national process, Healthy People 2020 defined four overarching national goals to: attain high-quality, longer lives free of preventable disease, disability, injury, and premature death; achieve health equity, eliminate disparities, and improve the health of all groups; create social and physical environments that promote good health for all; and promote quality of life, healthy development, and healthy behaviors across all life stages. These goals are organized into 41 Objective Topic Areas, and each area contains specific numeric national targets for the year 2020.^[3] For each health status indicator in this report that has a corresponding Healthy People 2020 Objective, the year 2020 target is shown in the summary table at the end of the document.

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010

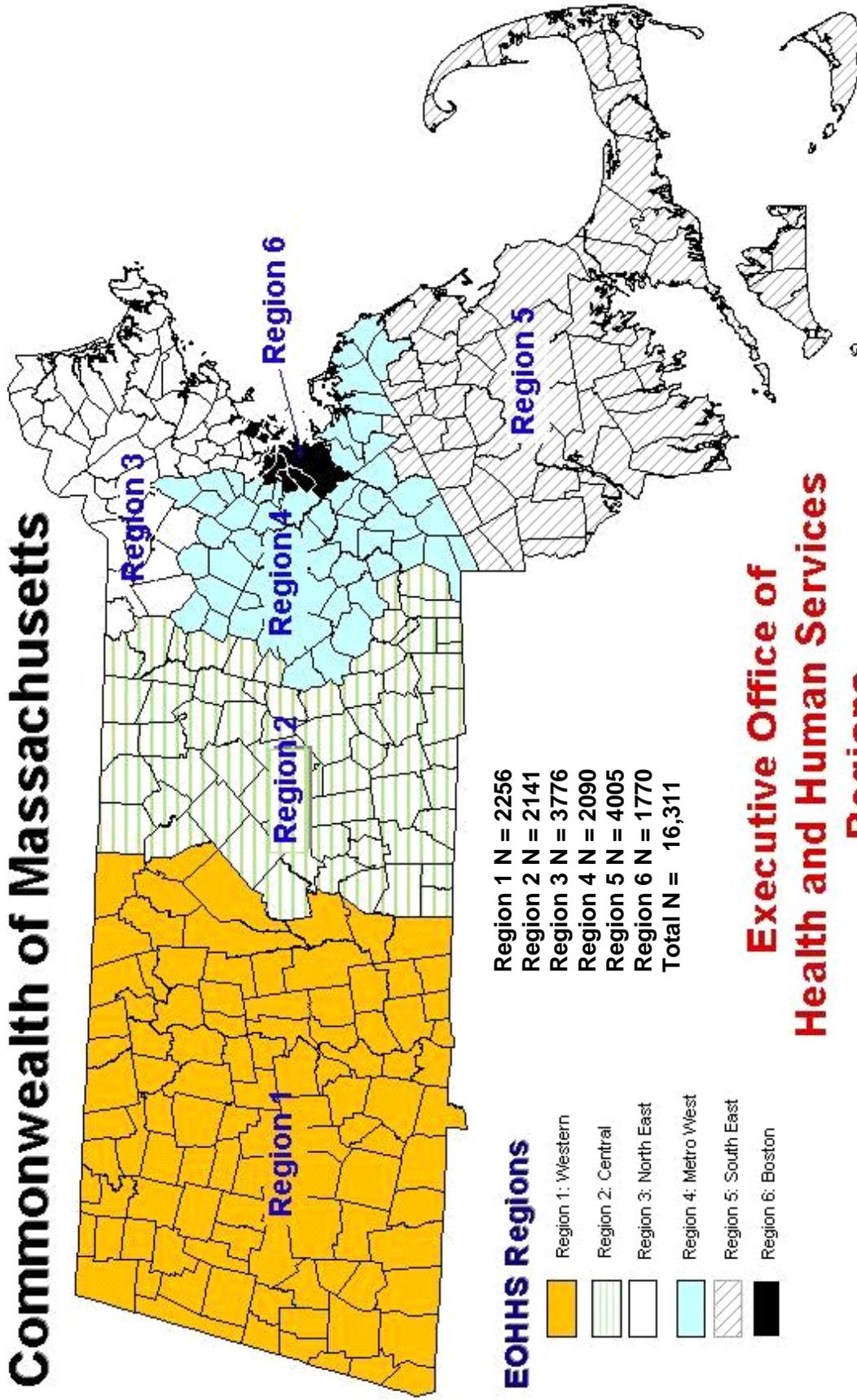
	UNWEIGHTED SAMPLE SIZE	WEIGHTED PERCENT
	N	%†
OVERALL	16,311	100.0
GENDER		
MALE	6129	47.8
FEMALE	10182	52.2
AGE GROUP		
18–24	365	5.1
25–34	1362	14.1
35–44	2500	28.6
45–54	3431	19.7
55–64	3591	14.7
65–74	2516	9.1
75 AND OLDER	2269	8.8
RACE-ETHNICITY*		
WHITE	13352	82.6
BLACK	795	5.1
HISPANIC	1256	8.2
ASIAN	279	4.1
DISABILITY¶		
DISABILITY	3747	18.7
NO DISABILITY	11511	81.3
EDUCATION		
< HIGH SCHOOL	1542	6.2
HIGH SCHOOL	4060	21.6
COLLEGE 1–3 YRS	3724	22.0
COLLEGE 4+ YRS	6860	50.2
HOUSEHOLD INCOME		
<\$25,000	3761	17.9
\$25,000–34,999	1421	8.1
\$35,000–49,999	1741	11.0
\$50,000–74,999	1967	14.9
\$75,000+	4818	48.1
REGION		
I–WESTERN	2256	14.6
II–CENTRAL	2141	15.6
III–NORTH EAST	3776	17.8
IV–METRO WEST	2090	24.1
V–SOUTH EAST	4005	19.6
VI–BOSTON	1770	8.3

* White, Black, and Asian race categories refer to non-Hispanic

† See BRFSS methodology in “Terms, Definitions and Methodology Used in this Report”

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Commonwealth of Massachusetts



Region 1 N = 2256
Region 2 N = 2141
Region 3 N = 3776
Region 4 N = 2090
Region 5 N = 4005
Region 6 N = 1770
Total N = 16,311

EOHHS Regions

- Region 1: Western
- Region 2: Central
- Region 3: North East
- Region 4: Metro West
- Region 5: South East
- Region 6: Boston

Executive Office of Health and Human Services Regions

MAIN FINDINGS

OVERALL HEALTH MEASURES

- Hispanic adults (27%) and Black adults (15%) were more likely to report fair or poor overall health than were White adults (9%).

HEALTH CARE ACCESS AND UTILIZATION

- There was no significant change from 2009 in the percent of Massachusetts adults who reported not having health insurance (3%). Similar to previous years, Hispanic adults (8%) were more likely than White adults (3%) to report not having health insurance. These results are consistent with those found in surveys conducted by the Division of Health Care Finance and Policy.
- The percent of adults who had a routine check-up in the past year increased significantly from 2009 (80% vs. 76%). Females were more likely (84%) than males (76%) to report that they had had a routine checkup in the past year.
- Overall the percent of adults who had visited a dentist in the past year increased from 2008 (81% vs. 78%). Adults with a household income less than \$25,000 a year were less likely to report visiting a dentist in the past year (67%) than adults with a household income of \$75,000 or higher (89%).

RISK FACTORS AND PREVENTIVE BEHAVIORS

- In 2010, 33% of adults reported being exposed to environmental tobacco smoke. This is a decrease from 38% in 2009
- White adults were more likely to report binge drinking (22%) than either Hispanic adults (15%) or Asian adults (12%).
- 60% of adults were overweight or obese (BMI \geq 25.0) and 24% were obese (BMI \geq 30.0). Prevalence was higher among males and among Black and Hispanic adults. There was no significant change in percent of adults who were overweight or obese compared to 2009.
- Since 2000, the percent of adults who are overweight or obese has been increasing. This increase had peaked in 2007 reaching 58.9% for overweight and 21.7% for obese and appeared to be leveling off; however the 2010 estimates show slight increases over previous years. Additional years of data are needed to determine whether this increase represents a return to the former increasing trend.
- 8% of females aged 18-49 reported that they have ever received Human Papilloma Virus (HPV) vaccine. The percent is highest among 18-24 year olds (61%) and decreases with increasing age. 76% of those who received the vaccine reported that they completed the series of three shots.
- Asian adults (60%) were more likely than White (43%) or Hispanic (45%) adults to have ever received Hepatitis B vaccine.
- 75% of adults reported receiving a tetanus vaccine in the past ten years. Hispanic adults were less likely than White adults to report having an up-to-date tetanus vaccine (66% vs. 71%).

CHRONIC HEALTH CONDITIONS

- In 2010, 9% of Massachusetts adults reported that they had ever been diagnosed with cancer. Among those 65 years of age and older, the prevalence of cancer survivors comprises 25% of all residents.

OTHER TOPICS

- While the percent of adults aged 18-64 reporting that they were ever tested for HIV has not changed, the percent who were tested in the past year decreased from 2009 (8% vs. 11%). Adults 18-64 years of age with a disability were more likely to report ever having been tested for HIV (54%) than those without a disability (43%). Black adults (64%) and Hispanic adults (57%) were more likely than White adults (41%) or Asian adults (34%) to report ever having had an HIV test.
- 17% of female adults and 5% of male adults reported that they had experienced sexual violence in their lifetime. This showed no significant change from 2009. Adults with a disability (males and females combined) were more than twice as likely to report experiencing sexual violence (20%) as adults without a disability (9%).
- In 2010, 83% of adults reported that they always wear a seatbelt when driving or riding in a car; this is an increase from 80% in 2008. Females were more likely (88%) than males (77%) to report always wearing a seatbelt when driving or riding in a car.

PATIENT REPORTED EXPERIENCES WITH HEALTH CARE

- Hispanic respondents were more likely (11.4%) than White respondents (5.3%) to say they 'Never' or 'Almost never' received an appointment when they thought they needed it.
- Adults with public insurance other than Medicare (6.5%) were more likely to report that their doctor 'Never' or 'Almost never' knew their medical history than those with private insurance (2.3%).
- Adults who perceived fair or poor health (6.1%) were more likely to report that their doctor 'Never' or 'Almost never' knew their medical history than those who perceived good, very good or excellent health (2.6%).

SUMMARY OF RESULTS

The 2010 Massachusetts BRFSS contained questions pertaining to social and demographic information including gender, race and ethnicity, income level, education level, disability status, and region of the state in which the respondent lived on order to examine potential disparities in health status and access to health care among these groups. A selected list of statistically significant results for these groups is presented below.

GENDER

Description of overall health:

- Females were more likely than males to report ever having experienced sexual violence (17% vs. 5%).

See table 6.3

Health care access and utilization:

- Females were more likely (94%) than males (89%) to report having a personal health care provider, and were more likely (84%) than males (76%) to report that they had had a routine checkup in the past year.

See table 2.2

Health risk factors:

- Females were less likely (0.6%) than males (2.4%) to report using smokeless tobacco, were less likely (29%) than males (37%) to report that they were exposed to environmental tobacco smoke, were less likely than males to report engaging in binge drinking (13% vs. 23%), and were less likely to report being overweight (49% vs. 71%) or obese (21% vs. 26%).

See tables 3.1, 3.3, 3.4, and 3.5

Chronic health conditions:

- Females were more likely (13%) than males (8%) to report that they currently have asthma, had ever been diagnosed with asthma (18% vs. 13%), or to report ever having been diagnosed with cancer (10% vs. 8%), but were less likely than males to report that they had ever been diagnosed with a heart attack (4% vs. 7%), or angina or coronary heart disease (4% vs. 6%).

See tables 4.2, 4.3, and 4.4

Prevention measures:

- Of those 50-64 years of age, females were more likely than males to have received a flu shot in the past year (56% vs. 49%).
- Females were less likely (77%) than males (82%) to report engaging in any physical activity outside of work.
- Females were more likely than males to report having received Hepatitis B vaccination (42% vs. 37%).
- Females were more likely (88%) than males (77%) to report always wearing a seatbelt when driving or riding in a car.

See tables 3.6, 3.7, 3.9 and 6.6

AGE

Discussed below are selected statistically significant differences in physical and behavioral health indicators observed in three broad age groups: young (18-34), middle-aged (35-64) and older (65+) respondents. Some preventive health measures are recommended for people ages 50 and over, and therefore the variables dealing with these activities address only prevalence among the adult population in those age groups. Questions about certain health indicators were not asked of respondents 65 years and older; in these cases, comparisons were made between the two younger age groups.

ADULTS AGES 18-34:

Description of overall health:

Adults ages 18-34 were:

- less likely (6%) to report that their health was fair or poor than adults ages 35-64 (10%) or adults ages 65 and older (22%) and less likely to experience 15 or more days of poor physical health in the past month (4%) than adults ages 35-64 (8%) or adults ages 65 and older (14%)

See tables 1.1, and 1.2

Health care access and utilization:

Adults ages 18-34 were:

- more likely to report not having health insurance (5%) than adults ages 35-64 (2%).
- less likely to report having a personal health care provider (82%) than adults ages 35-64 (92%) or adults ages 65 and older (97%).

See tables 2.1 and 2.2

Health risk factors:

Adults ages 18-34 were:

- more likely to report current smoking (19%) than adults ages 35-64 (15%) or adults ages 65 or older (8%) and more likely to report exposure to environmental tobacco smoke (46%) than adults ages 35-64 (32%) or adults ages 65 and older (21%).
- more likely to engage in binge drinking (30%) than adults ages 35-64 (18%) or adults ages 65 and older (5%)
- less likely to be overweight (52%) than were adults ages 35-64 (63%) or adults ages 65 and older (60%).
- more likely to report driving after having too much to drink (5%) than were adults ages 35-64 (3%) or adults ages 65 and older (1%).

See tables 3.1, 3.3, 3.4, 3.5 and 6.4

Chronic health conditions:

- Adults ages 18-34 were less likely to report that they had ever been diagnosed with diabetes (2%) than were adults ages 35-64 (6%) or adults ages 65 or older (18%) but were more likely to report ever being diagnosed with asthma (21%) than were adults ages 35-64 (14%) or adults ages 65 and older (13%).

See tables 4.1 and 4.2

Prevention measures:

Adults ages 18-34 were:

- more likely to report that they had ever been tested for HIV (50%) than adults ages 35-64 (43%) and more than twice as likely as adults ages 35-64 to have been tested in the past year (14% vs. 6%)

See table 6.2

ADULTS AGES 65 AND OVER

Description of overall health:

Adults ages 65 and older were:

- less likely to report 15 or more days of poor mental health in the past month (5%) than adults in other age groups.
- more likely to report a disability (29%) or a disability for which they needed help with activities (11%) than were adults ages 18-34 (14% for disabled, 3% for needed help) or adults ages 35-64 (17% for disabled, 5% for needed help).

See tables 1.2, and 1.3

Health care access and utilization:

- Adults ages 65 and older were less likely than any other age group to report not being able to see a doctor at some point in the past year due to cost (3%) and more likely than any other age group to have had a routine checkup in the past year (93%).

See table 2.2

Health risk factors:

Adults ages 65 and older were

- less likely to report binge drinking (5%) than were adults ages 18-34 (30%) or ages 35-64 (18%).

See table 3.4

Chronic health conditions:

Adults ages 65 and older were:

- more likely (12% for adults 65-74; 17% for adults 75 and over) than adults ages 55-64 (6%) to report that they had ever experienced a heart attack and more likely (4% for adults ages 65-74; 9% for adults ages 75 and older) than adults ages 55-64 (3%) to report that they had experienced a stroke.
- much more likely to report having been diagnosed with cancer (25%) than adults ages 18-34 (1%) or adults ages 35-64 (7%).

See tables 4.3, and 4.4

Prevention measures:

Adults ages 65 and older were:

- less likely to report any physical activity outside of work (70%) than any other age group.
- less likely to report ever having had a pneumonia vaccine (64%) than were adults ages 75 and older (79%).
- more likely to report receiving a flu shot in the past year (73%) than adults ages 50-64 (53%).
- Males ages 65 and older were more likely than males ages 50-64 to report having a PSA test in the past year (69% vs. 54%).

See tables 3.6, 3.7 and 5.2

RACE/ETHNICITY

All percentages concerning race/ethnicity disparities presented below refer to age-adjusted proportions in order to reduce the confounding effect of different age composition of population subgroups. Age-adjusted percentages will differ from those found in Sections 1-5 of this report and are presented in the Appendix (pp 103-110) (See p.6 for more details about the age adjustment). This does not include some preventive measure indicators where the age ranges were restricted.

Description of overall health:

- Hispanic adults (27%) and Black adults (15%) were more likely to report fair or poor health than were White adults (9%).
- Hispanic adults were more likely than White adults to report 15 or more days of poor physical health in the past month (13% vs. 8%).

See appendix for age-adjusted tables

Health care access and utilization:

- Hispanic adults (8%) were more likely than White adults (3%) to report not having health insurance.
- Hispanic adults (81%) were less likely to have a personal health care provider than were White adults (91%).
- Hispanic adults (16%) were more likely to report not being able to see a doctor at some point in the past year due to cost than were White adults (6%).

See appendix for age-adjusted tables

Health risk factors:

- White adults were more likely to report binge drinking (22%) than either Hispanic adults (15%) or Asian adults (12%).
- Black (66%) and Hispanic (67%) adults were more likely to report being overweight than White (57%) adults.
- Black (31%) and Hispanic (31%) adults were more likely to report being obese than White (22%) adults. Asian adults were the least likely to report being obese (12%)

See appendix for age-adjusted tables

Chronic health conditions:

- Black adults (12%) and Hispanic adults (13%) were more likely than White adults (6%) to report that they had ever been diagnosed with diabetes.

See appendix for age-adjusted tables

Prevention measures:

- Black adults (73%) and Hispanic adults (67%) were less likely to report any physical activity outside of work in the past month than White adults (82%).
- Hispanic (58%) adults over age 65 were less likely to report ever having had a pneumonia vaccination as compared to White adults in the same age group (72%).
- Hispanic adults were less likely than White adults to report having a tetanus vaccine in the past ten years (66% vs. 71%)
- Asian adults (60%) were more likely than White (43%) or Hispanic (45%) adults to have ever received Hepatitis B vaccine.
- White adults (41%) and Asian adults (34%) were less likely than Black adults (64%) and Hispanic adults (57%) to report ever having had an HIV test and White adults were also less likely (8%) than Black adults (15%) or Hispanic adults (20%) to report that they had been tested for HIV in the past year.

See appendix and table 3.7

DISABILITY

Presented below are statistically significant differences in health and behavioral indicators by disability status. Disability was defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) a reported disability of any kind.

Description of overall health:

- Adults with a disability were six times as likely to report fair or poor health (36%) as adults without a disability (6%) and were more than four times as likely to report 15 or more days of poor mental health in the past month (24%) as adults without a disability (5%).
- Adults with a disability (males and females combined) were more than twice as likely to report experiencing sexual violence (20%) as adults without a disability (9%).
- Adults ages 45 and older with a disability were more likely to report falling in the past three months (25%) than were adults in the same age group without a disability (11%).

See tables 1.1, 1.2, 6.3, and 6.5

Health care access and utilization:

- Adults with a disability were more likely to report having a routine checkup in the past year (84%) than adults without a disability (79%); however, adults with a disability were more than twice as likely as adults without a disability to report not being able to see a doctor at some point in the past year due to cost (12% vs. 5%).
- Adults with a disability were less likely to have visited a dentist in the past year (72%) than adults without a disability (83%).

See tables 2.2 and 2.3

Health risk factors:

Adults with a disability were:

- more likely (23%) to report being current smokers than adults without a disability (12%); less likely to report living in a household where smoking is not allowed (75%) than adults without a disability (86%) and more likely to be exposed to environmental tobacco smoke (40%) than those without a disability (31%).
- more likely to be overweight (68%) or obese (34%) than adults without a disability (58% overweight, 21% obese)
- less likely to report binge drinking (13%) than adults without a disability (19%)

See tables 3.1, 3.3, 3.4 and 3.5

Chronic health conditions:

Adults with a disability were:

- more than twice as likely to report ever being diagnosed with cancer (17%) than those without a disability (7%).
- twice as likely (9%) to report being diagnosed with pre-diabetes as adults without a disability (4%) and three times as likely (17%) to report being diagnosed with diabetes as adults without a disability (5%)
- more likely to report ever being diagnosed with asthma (25%) as adults without a disability (13%) and more than twice as likely (20%) as adults without a disability (8%) to report that they currently have asthma
- four times as likely to report that they had ever experienced a heart attack (12%) as people without a disability (3%) and much more likely (8%) than adults without a disability (1%) to report that they had ever experienced a stroke.

See tables 4.1, 4.2, 4.3 and 4.4

Prevention measures:

- Adults with a disability were less likely to report any physical activity outside of work (65%) than adults without a disability (83%).
- Adults with a disability were less likely to report always wearing a seatbelt when driving or riding in a car (78%) than adults without a disability (84%).
- Adults 18-64 years of age with a disability were more likely to report ever having been tested for HIV (54%) than those without a disability (43%).
- Among adults 50-64 years of age, those with a disability were more likely to report receiving a flu shot in the past year (61%) than those without a disability (51%). Among those 65 years of age and older, those with a disability were more likely to report ever having received a pneumonia vaccination (78%) than those without a disability (68%).

See tables 3.6, 3.7, 6.2 and 6.6

EDUCATION

Below we present differences between groups based on educational attainment. For this summary of findings, we compare the lowest level of educational attainment (“less than high school”) to the highest level of educational attainment (“four years of college or more”).

Description of overall health:

- Adults with less than a high school education reported the highest percentage (41%) of fair or poor health among adults at any educational level.
- Adults with less than a high school education were nearly four times as likely (19%) to report poor physical health as those with four or more years of college education (5%) and were more likely (15%) than adults with four or more years of college education (6%) to report 15 or more days of poor mental health in the past month.
- Adults with less than a high school education were more than twice as likely to report having a disability (35%) as adults with four or more years of college education (13%).

See tables 1.1, 1.2 and 1.3

Health care access and utilization:

Adults with less than a high school education were:

- more likely to report not having health insurance (8%) than adults with four or more years of college education (2%)
- less likely to report having a personal health care provider (82%) than adults with four or more years of college education (93%)
- four times more likely to report not being able to see a doctor at some point in the past year due to cost (16%) than adults with four or more years of college education (4%).
- less likely to report visiting a dentist in the past year (60%) than adults with four or more years of college education (88%)

See tables 2.1, 2.2 and 2.3

Health risk factors:

Adults with less than a high school education were:

- more likely than adults with four or more years of college education to report current smoking (27% vs. 7%), less likely to live in a household where smoking is not allowed (72% vs. 90%), and more likely than adults with four or more years of college education to report being exposed to environmental tobacco smoke (45% vs. 27%).
- more likely to report being obese (31%) than adults with four or more years of college education (19%)
- less likely than adults with four or more years of college education to report binge drinking (11% vs. 17%).

See tables 3.1, 3.3, 3.4 and 3.5

Chronic health conditions:

Adults with less than a high school education were:

- more likely to report current asthma (18%) and diabetes (16%) than those with 4 or more years of college education (9% for asthma, 5% for diabetes)
- more likely to report having experienced a heart attack (13%) or having had a stroke (4%) than those with 4 or more years of college education (3% for heart attack, 1% for stroke).

See tables 4.1, 4.2 and 4.3

Prevention measures:

Adults with less than a high school education were:

- more likely (19%) to report having been tested for HIV in the past year than were adults with 4 or more years of college education (6%).
- less likely than adults with four or more years of college education to report any physical activity outside of work in the past month (57% vs. 88%).
- less likely to report always wearing a seatbelt when driving or riding in a car (72%) than adults with four or more years of college education (88%).
- less likely to report ever receiving a shingles vaccine (ages 50 and older) than adults with four or more years of college education (5% vs. 12%).
- Females ages 40 and older with less than a high school education were less likely to report having a clinical breast exam in the past two years (74%) than females in the same age group with four or more years of college education (91%)
- Males age 50 and older with less than a high school education were less likely to report having a digital rectal exam in the past year than males in the same age group with four or more years of college education (49% vs. 69%)

See tables 3.6, 3.11, 5.2, 5.3, 6.2 and 6.6

HOUSEHOLD INCOME

Household income is a sensitive topic among survey respondents; approximately **16%** of respondents to the 2010 survey refused to answer questions about their household income levels. Thus, caution should be exercised when interpreting results based on income level. Results for the lowest level of household income (“less than \$25,000”) and the highest level of household income (“\$75,000 or higher”) are presented below; more detailed figures are contained in the tables in the report.

Description of overall health:

- Adults with a household income less than \$25,000 a year were seven times more likely to report fair or poor health status (31%) than adults with a household income of \$75,000 or higher (4%), more likely to report 15 or more days of poor physical health in the past month (20% vs. 4%), and more likely to report 15 or more days of poor mental health in the past month (20% vs. 5%).
- Adults with a household income less than \$25,000 a year were more likely to report having a disability (40%) and were more likely to report needing help with activities (17%) than adults with a household income of \$75,000 or higher (10% for disability, 1% for need help).

See tables 1.1, 1.2, and 1.3

Health care access and utilization:

- Adults with a household income less than \$25,000 a year were less likely to have a personal health care provider (87%) than adults with a household income of \$75,000 or higher (94%), were more likely than adults with a household income of \$75,000 or higher to report not being able to see a doctor at some point in the past year due to cost (16% vs. 3%) and were less likely to report visiting a dentist in the past year (67%) than adults with a household income of \$75,000 or higher (89%).

See tables 2.2 and 2.3

Health risk factors:

Adults with a household income less than \$25,000 per year were:

- more likely to report being current smokers (26%) and exposure to environmental tobacco smoke (42%) than adults with a household income of \$75,000 or higher (9% for current smoking, 27% for environmental tobacco smoke)
- less likely to report living in a household where smoking is not allowed (71%) than adults with a household income of \$75,000 or higher (90%).
- more likely to be obese (28%) than those with an annual household income of more than \$75,000 (22%)
- less likely to report engaging in binge drinking (11%) and heavy drinking (4%) than adults with a household income of \$75,000 or higher (22% for binge drinking, 8% for heavy drinking).

See tables 3.1, 3.3, 3.4, and 3.5

Chronic health conditions:

Adults with a household income less than \$25,000 per year were:

- more likely to report ever having been diagnosed with cancer (12%) than adults with a household income of \$75,000 or higher (7%).
- four times more likely to report having been diagnosed with diabetes (16%) than adults with a household income of \$75,000 or higher (4%).
- more likely to report having current asthma (17%) than adults with a household income of \$75,000 or higher (9%)
- much more likely to report that they had experienced a heart attack (11%) or angina (11%) as adults with an income of \$75,000 or above (2% for both heart attack and angina)
- more likely to report having a stroke (6%) than adults in higher income groups.

See tables 4.1, 4.2, 4.3, and 4.4

Prevention measures:

Adults with a household income less than \$25,000 per year were:

- more likely to report ever having been tested for HIV (55%) and being tested for HIV within the past year (17%) than adults with a household income of \$75,000 or higher (44% for ever tested, 6% for tested in past year)
- less likely than adults with a household income of \$75,000 or higher to report any physical activity outside of work in the past month (64% vs. 89%).
- less likely than adults with a household income of \$75,000 or higher to report always wearing a seatbelt when driving or riding in a car (77% vs. 86%).
- Adults ages 50 and older with a household income less than \$25,000 per year were less likely to report having a colonoscopy or sigmoidoscopy in the past five years (57%) than adults in the same age group with a household income of \$75,000 or higher (68%)

See tables 3.6, 5.1, 6.2 and 6.6

REGION

There were some regional differences in response to questions asked on the 2010 BRFSS. Below are some of the statistically significant differences among EOHHHS regions.

Description of overall health:

- Metro West residents were the least likely to report fair or poor health (7%) as compared to residents in any other region of the state.

See table 1.1

Health risk factors:

- Those living in the Metro West region (9%) were less likely to report being a current smoker than residents in any other region of the state.

See table 3.1

Prevention measures:

- Adults living in Boston were more likely to report ever having been tested for HIV (61%) than adults living in any other region in the state.

See table 6.2

SECTION 1: OVERALL HEALTH MEASURES

SECTION 1: OVERALL HEALTH MEASURES

Section 1.1: Overall Health Status

General health status is a self-rated assessment of one's perceived health, which may be influenced by all aspects of life, including behaviors, the physical environment, and social factors. Self-assessed health status is a predictor of mortality and morbidity.^[4] General health status is useful in determining unmet health needs, identifying disparities among subpopulations, and characterizing the burden of chronic diseases within a population.^[5]

Respondents were asked to describe their overall health as excellent, very good, good, fair, or poor. Presented here are the percentages of adults who reported that their overall health was fair or poor.

TABLE 1.1 – OVERALL HEALTH STATUS AMONG MASSACHUSETTS ADULTS, 2010

	FAIR OR POOR HEALTH		
	N	%	95% CI
OVERALL	16262	11.6	10.8 - 12.3
GENDER			
MALE	6106	10.8	9.7 - 11.9
FEMALE	10156	12.3	11.3 - 13.2
AGE GROUP			
18–24	365	4.9	2.2 - 7.5
25–34	1361	6.5	4.7 - 8.4
35–44	2495	8.0	6.5 - 9.5
45–54	3423	9.9	8.6 - 11.3
55–64	3583	15.2	13.4 - 17.0
65–74	2507	18.6	16.5 - 20.7
75 AND OLDER	2252	25.5	23.0 - 28.0
RACE-ETHNICITY*			
WHITE	13314	10.4	9.7 - 11.1
BLACK	792	13.3	10.1 - 16.4
HISPANIC	1253	23.4	19.4 - 27.3
ASIAN	†		
DISABILITY¶			
DISABILITY	3727	35.5	33.0 - 38.0
NO DISABILITY	11493	5.8	5.2 - 6.5
EDUCATION			
< HIGH SCHOOL	1529	40.7	35.8 - 45.6
HIGH SCHOOL	4049	18.5	16.6 - 20.3
COLLEGE 1–3 YRS	3714	12.0	10.6 - 13.5
COLLEGE 4+ YRS	6847	4.9	4.2 - 5.5
HOUSEHOLD INCOME			
<\$25,000	3751	31.4	28.9 - 34.0
\$25,000–34,999	1418	20.0	16.4 - 23.7
\$35,000–49,999	1739	10.6	8.6 - 12.6
\$50,000–74,999	1962	6.9	5.3 - 8.5
\$75,000+	4813	3.5	2.8 - 4.1
REGION			
I–WESTERN	2253	14.0	12.1 - 15.9
II–CENTRAL	2137	11.9	10.0 - 13.9
III–NORTH EAST	3765	11.7	10.0 - 13.3
IV–METRO WEST	2082	7.3	6.0 - 8.5
V–SOUTH EAST	3988	12.9	11.3 - 14.5
VI–BOSTON	1764	16.2	13.5 - 18.8

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 1.2: Quality of Life

A person's perceived physical and mental health is used to measure the effects of numerous disorders, short- and long-term disabilities, and diseases. An overarching goal of *Healthy People 2020* is to promote quality of life, healthy development, and healthy behaviors across all life stages.^[3] Perceived quality of life can help guide public health policies and interventions to improve health and fulfill unmet health needs.^[6]

All respondents were asked to report: (1) the number of days during the past month that their physical health, which includes physical illness and injury, had not been good; and (2) the number of days during the past month they would describe their mental health, which includes stress, depression, and problems with emotions, as not good. Presented here are the percentages of adults who reported that (1) they had experienced at least 15 days of poor physical health in the previous month; and (2) their mental health was not good for at least 15 days during the past month.

TABLE 1.2 – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2010

	15+ DAYS OF POOR PHYSICAL HEALTH				15+ DAYS OF POOR MENTAL HEALTH			
	N	%	95% CI		N	%	95% CI	
OVERALL	15909	8.4	7.7	- 9.0	15965	8.8	8.1	- 9.5
GENDER								
MALE	6015	7.7	6.8	- 8.7	6011	7.7	6.7	- 8.8
FEMALE	9894	8.9	8.2	- 9.7	9954	9.7	8.8	- 10.6
AGE GROUP								
18–24	†				355	8.2	3.9	- 12.5
25–34	1344	4.5	2.8	- 6.2	1351	9.7	7.5	- 12.0
35–44	2461	5.5	4.3	- 6.6	2466	9.8	8.2	- 11.3
45–54	3376	8.6	7.3	- 9.9	3366	9.6	8.3	- 11.0
55–64	3515	11.7	10.2	- 13.2	3508	9.1	7.8	- 10.5
65–74	2454	12.8	11.0	- 14.6	2464	5.7	4.5	- 7.0
75 AND OLDER	2127	16.2	14.1	- 18.3	2191	5.3	4.0	- 6.6
RACE-ETHNICITY*								
WHITE	13050	8.5	7.8	- 9.2	13100	8.5	7.7	- 9.2
BLACK	773	6.2	4.7	- 7.8	778	9.8	6.9	- 12.7
HISPANIC	1208	11.0	8.3	- 13.7	1217	12.7	9.5	- 16.0
ASIAN	†				†			
DISABILITY [¶]								
DISABILITY	3602	28.7	26.3	- 31.1	3625	23.5	21.2	- 25.9
NO DISABILITY	11335	3.7	3.2	- 4.2	11349	5.1	4.5	- 5.8
EDUCATION								
< HIGH SCHOOL	1438	19.3	16.0	- 22.6	1453	15.4	12.2	- 18.7
HIGH SCHOOL	3930	12.1	10.4	- 13.7	3965	11.1	9.4	- 12.8
COLLEGE 1–3 YRS	3646	9.8	8.4	- 11.3	3653	11.6	9.9	- 13.3
COLLEGE 4+ YRS	6781	4.9	4.2	- 5.6	6774	5.7	4.9	- 6.5
HOUSEHOLD INCOME								
<\$25,000	3602	20.0	17.9	- 22.2	3648	19.7	17.3	- 22.1
\$25,000–34,999	1381	10.4	8.1	- 12.7	1391	11.2	8.4	- 13.9
\$35,000–49,999	1718	7.8	5.9	- 9.8	1711	8.9	6.7	- 11.2
\$50,000–74,999	1942	7.8	5.9	- 9.6	1943	6.9	5.0	- 8.9
\$75,000+	4788	3.9	3.2	- 4.7	4780	5.3	4.4	- 6.3
REGION								
I–WESTERN	2196	9.5	7.9	- 11.2	2196	10.1	8.2	- 11.9
II–CENTRAL	2098	10.1	8.2	- 12.1	2096	11.2	8.9	- 13.5
III–NORTH EAST	3684	7.1	6.0	- 8.3	3715	8.2	6.6	- 9.8
IV–METRO WEST	2048	6.5	5.3	- 7.8	2055	6.2	4.9	- 7.5
V–SOUTH EAST	3897	9.1	7.7	- 10.5	3903	8.9	7.5	- 10.3
VI–BOSTON	1730	9.9	7.8	- 11.9	1736	10.4	8.3	- 12.6

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 1.3: Disability

According to the Census Bureau, in 2002, 51.2 million people (18.1% of the population) had some level of disability and 32.5 million (11.5% of the population) had a severe disability.^[7] A major goal for *Healthy People 2020* is to promote the health and well-being of people with disabilities.^[3]

In 2010, respondents to the Massachusetts BRFSS were asked about disabilities and activity limitations. Respondents were classified as having a disability or activity limitation if, for at least one year: (1) they had an impairment or health problem that limited activities or caused cognitive difficulties; (2) they used special equipment or required help from others to get around, or; (3) they reported a disability of any kind. Those who answered yes to one or more of the conditions above but had been limited by their disability for less than one year were not considered to have a disability. Respondents who reported having a disability were also asked if their disability or limitation required them to need help with routine needs or personal care.

TABLE 1.3 – DISABILITY AMONG MASSACHUSETTS ADULTS, 2010

	HAVE DISABILITY				DISABILITY / NEED HELP WITH ACTIVITY			
	N	%	95% CI		N	%	95% CI	
OVERALL	15258	18.7	17.8	- 19.6	15244	5.3	4.8	- 5.7
GENDER								
MALE	5741	18.0	16.6	- 19.5	5736	3.9	3.3	- 4.5
FEMALE	9517	19.3	18.1	- 20.5	9508	6.6	5.9	- 7.2
AGE GROUP								
18–24	335	13.0	7.4	- 18.6	†			
25–34	1315	14.6	11.6	- 17.5	1314	3.2	1.9	- 4.4
35–44	2400	13.1	11.3	- 15.0	2400	3.2	2.3	- 4.0
45–54	3256	17.6	15.9	- 19.4	3251	5.2	4.3	- 6.1
55–64	3376	24.6	22.5	- 26.8	3374	6.8	5.7	- 8.0
65–74	2336	25.0	22.6	- 27.5	2335	7.1	5.8	- 8.5
75 AND OLDER	1986	34.3	31.4	- 37.1	1981	15.0	13.0	- 17.1
RACE-ETHNICITY*								
WHITE	12541	19.1	18.1	- 20.1	12530	5.4	4.8	- 5.9
BLACK	745	17.0	13.3	- 20.8	745	6.3	4.2	- 8.5
HISPANIC	1129	19.1	15.3	- 23.0	1128	5.8	4.3	- 7.2
ASIAN	†				†			
DISABILITY [¶]								
DISABILITY					3733	28.4	26.1	- 30.6
NO DISABILITY								
EDUCATION								
< HIGH SCHOOL	1318	34.8	29.9	- 39.7	1317	14.2	11.5	- 17.0
HIGH SCHOOL	3779	24.1	21.9	- 26.3	3771	8.8	7.4	- 10.1
COLLEGE 1–3 YRS	3507	22.4	20.3	- 24.4	3503	6.6	5.5	- 7.7
COLLEGE 4+ YRS	6533	13.1	11.9	- 14.2	6532	2.3	1.9	- 2.7
HOUSEHOLD								
<\$25,000	3425	40.0	37.0	- 42.9	3421	16.7	14.7	- 18.7
\$25,000–34,999	1325	25.9	22.1	- 29.7	1324	8.6	6.3	- 10.9
\$35,000–49,999	1642	19.4	16.5	- 22.2	1642	4.7	3.4	- 6.1
\$50,000–74,999	1875	15.7	13.3	- 18.2	1874	2.6	1.8	- 3.4
\$75,000+	4651	9.9	8.8	- 11.1	4651	1.4	0.9	- 1.8
REGION								
I–WESTERN	2084	22.1	19.5	- 24.7	2082	6.8	5.5	- 8.2
II–CENTRAL	2002	19.4	16.9	- 22.0	2000	5.9	4.4	- 7.4
III–NORTH EAST	3533	18.2	16.0	- 20.3	3529	4.6	3.7	- 5.5
IV–METRO WEST	1987	15.6	13.6	- 17.6	1987	3.5	2.7	- 4.3
V–SOUTH EAST	3725	19.6	17.5	- 21.6	3720	6.1	4.9	- 7.2
VI–BOSTON	1674	20.0	17.2	- 22.8	1673	6.7	5.2	- 8.1

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

SECTION 2: HEALTH CARE ACCESS AND UTILIZATION

SECTION 2: HEALTH CARE ACCESS AND UTILIZATION

Section 2.1: Health Insurance Status

Health insurance status is a key factor affecting access to health care. Adults who do not have health insurance are more likely to have poor health and are at greater risk for chronic diseases than those with health insurance. Those without health insurance are less likely to access health care services, including preventative care, primary care, and tertiary care, and more likely to delay getting needed medical attention.^[8] ^[9] The Division of Health Care Finance and Policy reported in December 2010 that 2.9% of non-elderly adults age 19-64 remained uninsured.^[10]

All respondents were asked if they had any type of health care coverage at the time of the interview. Those who indicated that they had no coverage were asked a follow-up question to be certain that they had considered all types of health care coverage. This included health care coverage from their employer or someone else's employer, a plan that they had bought on their own, Medicare, MassHealth, and coverage through the military, or the Indian Health Service. CDC estimates of uninsured adults, based solely upon the CDC core health insurance question, may differ from estimates derived from the Massachusetts BRFSS estimates, which were based on the CDC core health insurance question and the Massachusetts follow-up question. Table 2.1 presents the Massachusetts BRFSS data.

**TABLE 2.1 – HEALTH INSURANCE STATUS AMONG MASSACHUSETTS ADULTS,
AGES 18-64, 2010**

	NO HEALTH INSURANCE			
	N	%	95% CI	
OVERALL	11227	3.0	2.4	- 3.6
GENDER				
MALE	4373	3.0	2.2	- 3.8
FEMALE	6854	3.0	2.2	- 3.8
AGE GROUP				
18–24	363	5.8	2.6	- 9.0
25–34	1358	4.3	2.5	- 6.2
35–44	2496	3.1	2.0	- 4.1
45–54	3424	2.1	1.5	- 2.8
55–64	3586	1.8	1.2	- 2.4
RACE-ETHNICITY*				
WHITE	8931	2.2	1.7	- 2.7
BLACK	612	3.4	1.6	- 5.3
HISPANIC	1042	9.2	5.4	- 12.9
ASIAN	†			
DISABILITY¶				
DISABILITY	2348	3.3	1.8	- 4.7
NO DISABILITY	8313	2.9	2.3	- 3.6
EDUCATION				
< HIGH SCHOOL	833	8.2	3.5	- 12.9
HIGH SCHOOL	2434	5.3	3.6	- 7.0
COLLEGE 1–3 YRS	2659	2.8	1.8	- 3.8
COLLEGE 4+ YRS	5233	1.7	1.2	- 2.3
HOUSEHOLD INCOME				
<\$25,000	2149	7.8	5.6	- 10.0
\$25,000–34,999	798	6.5	3.7	- 9.3
\$35,000–49,999	1167	2.9	1.5	- 4.4
\$50,000–74,999	†			
\$75,000+	†			
REGION				
I–WESTERN	1539	4.0	2.3	- 5.7
II–CENTRAL	1522	2.6	1.5	- 3.7
III–NORTH EAST	2668	2.9	1.7	- 4.1
IV–METRO WEST	1431	2.1	0.9	- 3.3
V–SOUTH EAST	2638	3.5	2.0	- 5.0
VI–BOSTON	1247	3.5	1.9	- 5.1

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 2.2: Health Care Access

Access to health care impacts physical, social and mental health status; prevention of disease and disability; detection and treatment of health conditions; quality of life; preventable death; and life expectancy. A goal of *Healthy People 2020* is to improve access to comprehensive, quality health care services.^[3]

All respondents were asked if they had a person that they thought of as their personal doctor or health care provider. All respondents were also asked whether they were unable to see a doctor in the past year due to cost and about how long since they last visited a doctor for a routine checkup. Presented here are the percentages of adults who reported that they did not have a personal health care provider, the percentages of adults who reported that cost had prevented them from seeing a doctor at some point in the past year, and the percentage of adults who had visited a medical provider for a checkup in the past year.

TABLE 2.2 - HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2010

	HAVE PERSONAL HEALTH CARE PROVIDER				COULD NOT SEE DOCTOR DUE TO COST			
	N	%	95% CI		N	%	95% CI	
OVERALL	16282	91.3	90.5	- 92.2	16271	6.7	6.1	- 7.4
GENDER								
MALE	6119	88.6	87.2	- 90.1	6114	6.7	5.6	- 7.7
FEMALE	10163	93.8	92.8	- 94.7	10157	6.8	6.0	- 7.6
AGE GROUP								
18-24	360	72.9	65.5	- 80.4	365	12.8	8.1	- 17.5
25-34	1357	85.2	82.1	- 88.3	1361	7.8	5.6	- 9.9
35-44	2498	90.3	88.6	- 92.1	2494	7.9	6.3	- 9.4
45-54	3428	93.6	92.2	- 94.9	3427	6.2	5.1	- 7.4
55-64	3586	95.0	93.9	- 96.1	3585	6.8	5.4	- 8.1
65-74	2511	97.4	96.5	- 98.3	2508	3.3	2.4	- 4.2
75 AND OLDER	2267	96.5	95.5	- 97.5	2255	2.8	1.9	- 3.8
RACE-ETHNICITY*								
WHITE	13331	93.2	92.4	- 93.9	13323	5.7	5.1	- 6.4
BLACK	792	88.1	83.6	- 92.7	794	9.7	6.4	- 13.0
HISPANIC	1255	79.8	75.1	- 84.5	1251	16.3	12.2	- 20.4
ASIAN	279	86.6	80.3	- 92.9	†			
DISABILITY¶								
DISABILITY	3739	93.8	92.4	- 95.2	3737	12.3	10.4	- 14.3
NO DISABILITY	11495	90.7	89.7	- 91.8	11491	5.2	4.5	- 5.9
EDUCATION								
< HIGH SCHOOL	1536	82.4	77.8	- 87.0	1529	16.4	12.2	- 20.5
HIGH SCHOOL	4049	89.4	87.3	- 91.5	4049	9.2	7.6	- 10.9
COLLEGE 1-3 YRS	3719	92.9	91.5	- 94.3	3719	9.0	7.4	- 10.6
COLLEGE 4+ YRS	6854	92.6	91.5	- 93.8	6850	3.5	2.9	- 4.2
HOUSEHOLD								
<\$25,000	3752	86.8	84.5	- 89.1	3750	15.6	13.3	- 18.0
\$25,000-34,999	1420	90.0	86.6	- 93.4	1418	10.3	7.5	- 13.0
\$35,000-49,999	1740	90.4	87.8	- 93.1	1738	8.2	6.0	- 10.5
\$50,000-74,999	1967	91.8	89.3	- 94.3	1966	5.0	3.5	- 6.6
\$75,000+	4814	94.2	93.1	- 95.3	4816	2.7	2.0	- 3.5
REGION								
I-WESTERN	2249	89.4	86.9	- 92.0	2253	8.3	6.4	- 10.1
II-CENTRAL	2140	91.4	89.1	- 93.7	2135	6.7	4.8	- 8.5
III-NORTH EAST	3773	90.6	88.4	- 92.7	3767	7.5	5.9	- 9.1
IV-METRO WEST	2089	92.0	90.2	- 93.8	2088	4.6	3.3	- 6.0
V-SOUTH EAST	3996	93.2	91.7	- 94.8	3990	6.2	5.0	- 7.4
VI-BOSTON	1764	89.5	87.0	- 92.1	1766	9.2	6.7	- 11.6

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

TABLE 2.2 (CONTINUED) - HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2010

	HAVE HAD A CHECKUP IN THE PAST YEAR		
	N	%	95% CI
OVERALL	16199	80.0	78.9 - 81.0
GENDER			
MALE	6083	76.0	74.3 - 77.8
FEMALE	10116	83.6	82.3 - 84.8
AGE GROUP			
18-24	362	76.3	69.5 - 83.2
25-34	1350	73.4	69.8 - 76.9
35-44	2484	73.3	70.9 - 75.8
45-54	3407	80.1	78.1 - 82.1
55-64	3577	83.7	81.7 - 85.6
65-74	2501	91.4	89.8 - 93.0
75 AND OLDER	2245	95.3	94.2 - 96.4
RACE-ETHNICITY*			
WHITE	13273	79.9	78.8 - 81.1
BLACK	790	85.0	80.5 - 89.4
HISPANIC	1241	80.8	76.5 - 85.2
ASIAN	278	76.2	68.6 - 83.7
DISABILITY†			
DISABILITY	3711	84.0	81.8 - 86.2
NO DISABILITY	11445	78.6	77.4 - 79.9
EDUCATION			
< HIGH SCHOOL	1515	79.1	74.0 - 84.2
HIGH SCHOOL	4037	81.1	78.8 - 83.4
COLLEGE 1-3 YRS	3695	82.4	80.5 - 84.4
COLLEGE 4+ YRS	6835	78.4	76.8 - 79.9
HOUSEHOLD INCOME			
<\$25,000	3724	83.1	80.8 - 85.4
\$25,000-34,999	1413	82.7	79.1 - 86.3
\$35,000-49,999	1734	80.0	76.6 - 83.3
\$50,000-74,999	1964	79.4	76.3 - 82.5
\$75,000+	4806	77.8	76.0 - 79.5
REGION			
I-WESTERN	2235	77.2	74.2 - 80.2
II-CENTRAL	2131	79.7	76.8 - 82.6
III-NORTH EAST	3756	80.2	77.7 - 82.6
IV-METRO WEST	2084	78.8	76.5 - 81.2
V-SOUTH EAST	3967	82.4	80.2 - 84.7
VI-BOSTON	1756	80.9	77.8 - 84.0

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† Insufficient Data

‡ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 2.3: Oral Health

Oral health is an important component of one's general health and well being. Preventive dental services such as teeth cleaning, early diagnosis and treatment of tooth decay and periodontal diseases occur during regular visits to a dental provider. In the United States, one-fourth of adults over age 65 years have lost all of their teeth. The primary cause of tooth loss is tooth decay, affecting more than 90 percent of adults over age 20 years, and advanced gum disease, which affects between 4 to 12 percent of adults.^[11]

All respondents were asked how long it had been since they had last visited a dentist or a dental clinic. Presented here is the percentage reporting that they had been to a dentist or a dental clinic within the past year. The wording of the question did not differentiate between a routine cleaning and other types of dental work. All respondents were also asked how many of their teeth were missing due to decay or gum disease only. The number of teeth missing due to injury or orthodontic purposes is not included. Presented here is the percentage of adults with six or more teeth missing.

TABLE 2.3 - DENTAL HEALTH CARE AMONG MASSACHUSETTS ADULTS, 2010

	DENTAL VISIT IN PAST YEAR					SIX OR MORE TEETH MISSING				
	N	%	95% CI			N	%	95% CI		
OVERALL	16172	80.6	79.6	-	81.6	15838	13.0	12.3	-	13.7
GENDER										
MALE	6080	79.2	77.6	-	80.8	5952	11.9	10.9	-	13.0
FEMALE	10092	81.9	80.7	-	83.1	9886	14.0	13.1	-	14.9
AGE GROUP										
18-24	360	82.9	77.0	-	88.9	†				
25-34	1354	75.9	72.2	-	79.5	1356	2.5	1.5	-	3.6
35-44	2485	82.0	80.0	-	84.1	2479	4.3	3.2	-	5.4
45-54	3415	84.7	83.0	-	86.4	3380	10.0	8.6	-	11.5
55-64	3573	81.6	79.7	-	83.6	3485	19.2	17.4	-	21.1
65-74	2496	76.9	74.6	-	79.2	2419	33.6	30.9	-	36.4
75 AND OLDER	2218	74.7	72.2	-	77.2	2104	43.5	40.5	-	46.4
RACE-ETHNICITY*										
WHITE	13249	82.2	81.2	-	83.2	12962	13.3	12.5	-	14.1
BLACK	785	76.0	71.2	-	80.9	772	17.3	13.6	-	20.9
HISPANIC	1244	74.4	70.1	-	78.7	1232	10.6	8.4	-	12.8
ASIAN	275	73.7	65.7	-	81.7	†				
DISABILITY¶										
DISABILITY	3711	71.8	69.4	-	74.2	3633	26.9	24.7	-	29.1
NO DISABILITY	11428	82.9	81.8	-	84.0	11222	9.2	8.5	-	9.9
EDUCATION										
< HIGH SCHOOL	1511	59.7	54.8	-	64.6	1469	34.6	30.1	-	39.0
HIGH SCHOOL	3999	72.6	70.2	-	75.0	3905	23.1	21.1	-	25.1
COLLEGE 1-3 YRS	3705	78.3	76.2	-	80.3	3619	14.3	12.8	-	15.8
COLLEGE 4+ YRS	6838	87.5	86.2	-	88.7	6731	5.6	5.0	-	6.2
HOUSEHOLD										
<\$25,000	3719	66.9	64.3	-	69.5	3643	29.9	27.5	-	32.4
\$25,000-34,999	1408	72.1	68.0	-	76.1	1379	22.0	18.9	-	25.1
\$35,000-49,999	1732	78.1	74.9	-	81.3	1699	14.4	12.2	-	16.6
\$50,000-74,999	1960	78.3	75.0	-	81.6	1932	9.8	8.0	-	11.6
\$75,000+	4810	89.2	87.9	-	90.5	4763	5.2	4.4	-	6.0
REGION										
I-WESTERN	2236	78.2	75.6	-	80.9	2171	15.3	13.3	-	17.3
II-CENTRAL	2126	78.1	75.3	-	80.8	2090	13.5	11.6	-	15.3
III-NORTH EAST	3750	81.0	78.7	-	83.4	3678	12.0	10.4	-	13.5
IV-METRO WEST	2075	84.6	82.5	-	86.7	2039	9.8	8.5	-	11.1
V-SOUTH EAST	3961	80.4	78.2	-	82.5	3873	15.5	13.8	-	17.3
VI-BOSTON	1754	77.8	74.7	-	80.8	1723	14.3	12.4	-	16.2

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

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SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS

SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS

Section 3.1: Tobacco Use

Tobacco use is the leading preventable cause of death in the United States, resulting in approximately 443,000 deaths each year. More than 8.6 million people in the United States have at least one serious illness caused by smoking. It is a major risk factor for cancer, heart, and lung diseases.^[12] In Massachusetts, more than 9,000 residents die each year from the effects of tobacco. The health and economic burden of tobacco use has resulted in more than 3.9 billion dollars per year in health care costs in Massachusetts. The Massachusetts Tobacco Control Program was established in 1993 to control tobacco use and since the implementation of the program, the number of adults who smoke in Massachusetts has declined.^[13]

A current smoker was defined as someone who has smoked at least 100 cigarettes in his/her lifetime and who currently smokes either some days or everyday. A former smoker was defined as someone who has smoked at least 100 cigarettes in his/her lifetime but no longer smokes. Presented here are the percentage of adults who reported being current smokers and the percentage of adults who reported being former smokers.

There are two main types of smokeless tobacco, chewing tobacco and snuff. Users place the tobacco between their gum and cheek and either suck or chew on the tobacco. In 2009, the Centers for Disease Control reported that 3.5% of all adults aged 18 years and older used smokeless tobacco. Smokeless tobacco is addictive, known to cause cancer, and affects oral and reproductive health.^[14]

Respondents were asked if they currently use chewing tobacco, snuff, or snus (Swedish for snuff) every day, some days, or not at all. Presented below is the percentage of adults who reported using chewing tobacco, snuff or snus either every day or some days.

TABLE 3.1 – TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2010

	CURRENT SMOKER				FORMER SMOKER			
	N	%	95% CI		N	%	95% CI	
OVERALL	16219	14.1	13.2	- 15.0	16219	29.3	28.2	- 30.4
GENDER								
MALE	6086	14.8	13.4	- 16.2	6086	30.2	28.4	- 31.9
FEMALE	10133	13.4	12.4	- 14.5	10133	28.6	27.2	- 29.9
AGE GROUP								
18–24	362	18.8	12.8	- 24.9	362	11.8	6.2	- 17.4
25–34	1357	18.7	15.6	- 21.7	1357	16.4	13.5	- 19.4
35–44	2487	15.5	13.6	- 17.5	2487	23.6	21.2	- 25.9
45–54	3422	14.8	13.1	- 16.5	3422	26.4	24.2	- 28.5
55–64	3573	12.6	11.1	- 14.1	3573	40.7	38.3	- 43.1
65–74	2500	10.4	8.8	- 12.0	2500	49.6	46.8	- 52.4
75 AND OLDER	2249	4.7	3.6	- 5.8	2249	45.7	42.8	- 48.5
RACE-ETHNICITY*								
WHITE	13279	14.1	13.1	- 15.0	13279	32.2	31.0	- 33.4
BLACK	789	15.7	11.5	- 19.8	789	18.1	13.6	- 22.5
HISPANIC	1252	14.8	11.3	- 18.3	1252	20.3	16.2	- 24.4
ASIAN	276	8.1	3.4	- 12.9	276	7.5	3.3	- 11.8
DISABILITY [†]								
DISABILITY	3723	22.6	20.3	- 24.9	3723	33.8	31.4	- 36.3
NO DISABILITY	11454	11.9	11.0	- 12.9	11454	28.0	26.8	- 29.3
EDUCATION								
< HIGH SCHOOL	1530	26.8	22.3	- 31.3	1530	26.2	22.0	- 30.4
HIGH SCHOOL	4044	21.8	19.6	- 24.0	4044	32.4	30.0	- 34.8
COLLEGE 1–3 YRS	3706	19.3	17.2	- 21.4	3706	32.3	30.0	- 34.7
COLLEGE 4+ YRS	6816	7.0	6.1	- 7.9	6816	27.1	25.6	- 28.6
HOUSEHOLD INCOME								
<\$25,000	3738	25.7	23.1	- 28.2	3738	28.0	25.5	- 30.4
\$25,000–34,999	1418	18.2	14.9	- 21.4	1418	32.3	28.3	- 36.2
\$35,000–49,999	1735	18.1	15.1	- 21.2	1735	32.7	29.3	- 36.1
\$50,000–74,999	1960	13.8	11.3	- 16.4	1960	30.1	27.0	- 33.1
\$75,000+	4800	8.7	7.5	- 9.9	4800	28.8	27.0	- 30.6
REGION								
I–WESTERN	2242	18.0	15.6	- 20.5	2242	31.4	28.5	- 34.4
II–CENTRAL	2134	16.3	13.8	- 18.8	2134	29.1	26.3	- 32.0
III–NORTH EAST	3756	12.8	10.9	- 14.8	3756	29.6	27.0	- 32.2
IV–METRO WEST	2076	8.9	7.3	- 10.6	2076	29.5	27.1	- 32.0
V–SOUTH EAST	3983	16.1	14.1	- 18.1	3983	30.9	28.5	- 33.3
VI–BOSTON	1756	15.5	13.0	- 18.1	1756	22.5	19.8	- 25.2

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† Insufficient Data

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**TABLE 3.1(CONTINUED) - SMOKELESS TOBACCO USE AMONG MASSACHUSETTS
ADULTS, 2010**

	USE SMOKELESS TOBACCO (CHEWING TOBACCO, SNUFF OR SNUSS)		
	N	%	95% CI
OVERALL	16301	1.5	1.1 - 1.8
GENDER			
MALE	6122	2.4	1.7 - 3.1
FEMALE	10179	0.6	0.3 - 0.9
AGE GROUP			
18–24	†		
25–34	†		
35–44	2500	2.0	1.2 - 2.8
45–54	3429	1.0	0.6 - 1.5
55–64	3587	0.7	0.3 - 1.0
65–74	2515	0.9	0.4 - 1.3
75 AND OLDER	†		
RACE-ETHNICITY*			
WHITE	13347	1.4	1.0 - 1.8
BLACK	†		
HISPANIC	†		
ASIAN	†		
DISABILITY[¶]			
DISABILITY	3744	0.9	0.4 - 1.3
NO DISABILITY	11506	1.6	1.1 - 2.1
EDUCATION			
< HIGH SCHOOL	†		
HIGH SCHOOL	4058	1.9	0.9 - 2.8
COLLEGE 1–3 YRS	3720	1.2	0.6 - 1.7
COLLEGE 4+ YRS	6859	1.2	0.8 - 1.6
HOUSEHOLD INCOME			
<\$25,000	3757	1.8	0.8 - 2.8
\$25,000–34,999	†		
\$35,000–49,999	†		
\$50,000–74,999	†		
\$75,000+	4818	1.3	0.8 - 1.7
REGION			
I–WESTERN	2255	0.9	0.4 - 1.4
II–CENTRAL	2138	2.2	0.9 - 3.4
III–NORTH EAST	†		
IV–METRO WEST	†		
V–SOUTH EAST	4003	1.6	0.7 - 2.4
VI–BOSTON	1770	1.8	0.8 - 2.8

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† Insufficient Data

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Section 3.2: Smoking Cessation

Some of the immediate health benefits to quitting smoking are: improved heart rate and blood pressure, improved circulation and lung function, and improved sense of smell and taste. Long-term benefits include reduced risk of cancer and other diseases caused by smoking, such as heart disease and COPD.^[15]

Respondents who were current smokers were asked if they had stopped smoking for one day or longer in the past 12 months because they were trying to quit smoking. They were also asked if they had any intention of trying to quit smoking within the next 30 days. Presented here is the percentage of adult current smokers who reported that they had attempted to quit smoking for one day or longer in the past 12 months and the percentage of adult current smokers who reported that they had plans to quit smoking within the next 30 days.

TABLE 3.2 – SMOKING CESSATION AMONG MASSACHUSETTS ADULTS, 2010

	QUIT ATTEMPT				PLANNING TO QUIT			
	N	%	95% CI		N	%	95% CI	
OVERALL	2502	63.1	59.9	- 66.3	2136	40.3	36.7	- 43.8
GENDER								
MALE	1002	60.3	55.3	- 65.3	838	39.9	34.3	- 45.5
FEMALE	1500	65.9	62.0	- 69.8	1298	40.6	36.1	- 45.1
AGE GROUP								
18–24	79	75.3	58.5	- 92.1	64	46.5	27.2	- 65.8
25–34	282	70.0	62.0	- 77.9	246	38.8	29.6	- 48.1
35–44	453	67.7	61.5	- 74.0	387	44.2	37.0	- 51.4
45–54	647	59.1	53.2	- 65.0	555	39.5	33.2	- 45.8
55–64	587	53.0	46.7	- 59.3	505	37.0	30.5	- 43.5
65–74	314	50.7	42.6	- 58.8	268	34.4	25.9	- 42.8
75 AND OLDER	115	43.3	31.7	- 54.9	93	22.0	11.3	- 32.8
RACE-ETHNICITY*								
WHITE	2039	59.8	56.2	- 63.3	1765	37.4	33.6	- 41.2
BLACK	138	75.3	65.2	- 85.3	114	47.6	33.1	- 62.0
HISPANIC	180	70.9	59.5	- 82.3	146	48.4	34.3	- 62.4
ASIAN	†				†			
DISABILITY [¶]								
DISABILITY	874	65.1	59.8	- 70.4	752	43.0	36.8	- 49.3
NO DISABILITY	1461	61.2	57.1	- 65.3	1244	37.6	33.2	- 42.1
EDUCATION								
< HIGH SCHOOL	345	66.9	57.8	- 76.0	282	47.1	36.0	- 58.2
HIGH SCHOOL	862	58.3	52.6	- 64.1	736	33.4	27.8	- 38.9
COLLEGE 1–3 YRS	733	66.5	61.0	- 72.0	625	44.6	38.0	- 51.3
COLLEGE 4+ YRS	549	64.3	58.2	- 70.4	489	41.2	34.0	- 48.5
HOUSEHOLD INCOME								
<\$25,000	927	65.5	60.3	- 70.8	774	44.8	38.4	- 51.2
\$25,000–34,999	251	60.9	51.3	- 70.4	227	38.0	28.3	- 47.7
\$35,000–49,999	284	67.0	58.5	- 75.5	251	39.0	29.2	- 48.8
\$50,000–74,999	269	52.7	42.5	- 62.9	236	35.0	25.3	- 44.7
\$75,000+	426	64.9	58.4	- 71.5	381	41.2	33.6	- 48.8
REGION								
I–WESTERN	414	57.4	50.0	- 64.9	366	33.6	26.3	- 40.9
II–CENTRAL	350	64.5	56.4	- 72.7	303	39.5	30.4	- 48.6
III–NORTH EAST	558	67.3	60.0	- 74.6	483	47.6	38.9	- 56.4
IV–METRO WEST	171	64.9	55.9	- 73.9	154	40.0	29.4	- 50.5
V–SOUTH EAST	702	65.8	59.9	- 71.7	590	39.4	32.3	- 46.5
VI–BOSTON	264	60.8	52.2	- 69.4	233	44.5	35.0	- 54.0

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.3: Environmental Tobacco Smoke

Environmental tobacco smoke (ETS), referred to as secondhand smoke, includes both the smoke given off the burning end of tobacco products and the smoke exhaled by the smoker. Secondhand smoke has been linked to lung cancer deaths, heart disease, and respiratory illnesses, such as asthma and bronchitis in non-smoking adults. Nonsmokers exposed to secondhand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent compared to those not exposed to secondhand smoke.^[16]

Respondents were asked about rules regarding smoking in their households. Answer selections were: no smoking is allowed, smoking is allowed in some places or at some times, or smoking is permitted anywhere in the household. Presented here is the percentage of adults reporting that no smoking was allowed in their household. Respondents were also asked about exposure to environmental tobacco smoke at their home, work, or other places. ETS exposure was defined in one of two ways depending on whether respondents reported working outside the home or not on an earlier employment status question. Among the employed (including the self-employed), ETS exposure was defined as any report of exposure to ETS at work, at home, or in other places in the past 7 days. Among those not employed outside the home, ETS exposure was defined as any exposure to ETS at home or in other places in the past 7 days.

TABLE 3.3 – ENVIRONMENTAL TOBACCO AMONG MASSACHUSETTS ADULTS, 2010

	LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED				EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE			
	N	%	95% CI		N	%	95% CI	
OVERALL	14417	83.8	82.8	- 84.7	14151	33.0	31.7	- 34.3
GENDER								
MALE	5349	82.7	81.2	- 84.2	5268	37.4	35.3	- 39.6
FEMALE	9068	84.7	83.6	- 85.8	8883	28.9	27.4	- 30.4
AGE GROUP								
18–24	327	82.1	76.3	- 87.8	317	59.2	50.4	- 68.0
25–34	1216	85.2	82.2	- 88.1	1191	42.0	37.8	- 46.2
35–44	2233	87.9	86.0	- 89.7	2180	34.6	31.8	- 37.4
45–54	3087	83.4	81.5	- 85.2	3035	31.2	28.8	- 33.6
55–64	3234	80.2	78.1	- 82.2	3170	28.6	26.3	- 31.0
65–74	2208	78.6	76.2	- 81.1	2174	23.9	21.3	- 26.4
75 AND OLDER	1907	80.7	78.3	- 83.2	1892	18.8	16.2	- 21.4
RACE-ETHNICITY*								
WHITE	11893	83.2	82.2	- 84.2	11729	31.6	30.3	- 33.0
BLACK	674	84.0	79.9	- 88.0	645	43.3	36.8	- 49.8
HISPANIC	1091	83.8	79.4	- 88.1	1056	40.8	35.2	- 46.4
ASIAN	252	92.7	89.0	- 96.4	244	29.9	21.3	- 38.5
DISABILITY [†]								
DISABILITY	3356	75.4	73.0	- 77.8	3262	40.0	37.1	- 42.9
NO DISABILITY	10150	86.0	85.0	- 87.0	10016	31.2	29.8	- 32.7
EDUCATION								
< HIGH SCHOOL	1303	71.7	66.7	- 76.7	1242	44.6	38.9	- 50.3
HIGH SCHOOL	3507	77.3	75.1	- 79.5	3391	39.9	37.0	- 42.9
COLLEGE 1–3 YRS	3319	79.9	77.8	- 82.0	3241	36.5	33.8	- 39.3
COLLEGE 4+ YRS	6243	89.7	88.6	- 90.7	6233	27.3	25.6	- 29.0
HOUSEHOLD INCOME								
<\$25,000	3274	71.2	68.5	- 74.0	3157	42.4	39.2	- 45.6
\$25,000–34,999	1263	74.7	70.5	- 78.9	1236	41.1	36.3	- 45.8
\$35,000–49,999	1567	79.9	76.7	- 83.0	1541	40.8	36.6	- 44.9
\$50,000–74,999	1808	82.4	79.8	- 85.1	1795	36.5	32.8	- 40.2
\$75,000+	4462	90.1	88.9	- 91.3	4454	27.1	25.1	- 29.0
REGION								
I–WESTERN	2043	80.0	77.4	- 82.6	1982	34.5	31.3	- 37.7
II–CENTRAL	1920	82.3	79.8	- 84.8	1889	34.7	31.2	- 38.1
III–NORTH EAST	3377	83.8	81.6	- 86.1	3308	34.6	31.4	- 37.8
IV–METRO WEST	1898	88.4	86.7	- 90.1	1891	29.3	26.5	- 32.1
V–SOUTH EAST	3563	82.7	80.6	- 84.7	3501	30.9	28.2	- 33.7
VI–BOSTON	1577	81.8	78.9	- 84.6	1542	39.7	35.9	- 43.5

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

‡ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.4: Alcohol Use

Excessive alcohol consumption is among the leading causes of preventable death in the United States.^[17] Excessive drinking, including binge and heavy drinking, has numerous chronic effects including cirrhosis of the liver, pancreatitis, high blood pressure, stroke, and various cancers. Alcohol abuse can cause unintentional injuries, motor vehicle accidents, alcohol poisonings, and contributes to violence, and suicides.^[18] In 2009, driving while under the influence of alcohol accounted for 108 alcohol-related fatalities in Massachusetts – 32% of the total traffic fatalities for the year.^[19]

All respondents were asked about their consumption of alcohol in the past month. A drink of alcohol was defined as one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. Binge drinking was defined as consumption of five or more drinks for men or four or more drinks for women, on any one occasion in the past month. Heavy drinking was defined as consumption of more than 60 drinks in the past month for men and consumption of more than 30 drinks in the past month for women. Presented here are the percentage of adults who reported binge drinking and the percentage of adults who reported heavy drinking.

TABLE 3.4 – ALCOHOL USE AMONG MASSACHUSETTS ADULTS, 2010

	BINGE DRINKING					HEAVY DRINKING				
	N	%	95% CI			N	%	95% CI		
OVERALL	15341	17.8	16.7	-	18.8	15179	6.7	6.0	-	7.3
GENDER										
MALE	5735	23.2	21.4	-	25.0	5671	6.7	5.5	-	7.8
FEMALE	9606	12.8	11.6	-	14.0	9508	6.7	5.9	-	7.4
AGE GROUP										
18–24	343	38.7	30.3	-	47.0	336	11.4	6.2	-	16.7
25–34	1286	27.6	23.9	-	31.3	1280	8.9	6.3	-	11.4
35–44	2368	22.6	20.3	-	24.9	2350	6.1	4.8	-	7.4
45–54	3255	16.0	14.1	-	17.8	3222	5.9	4.8	-	7.0
55–64	3382	10.4	8.8	-	11.9	3348	6.8	5.5	-	8.1
65–74	2369	7.4	5.8	-	8.9	2350	6.6	5.1	-	8.1
75 AND OLDER	2123	1.9	1.1	-	2.6	2087	3.8	2.6	-	5.0
RACE-ETHNICITY*										
WHITE	12617	18.6	17.5	-	19.8	12486	7.3	6.5	-	8.0
BLACK	725	15.1	10.1	-	20.2	†				
HISPANIC	1177	16.2	12.2	-	20.2	1172	5.1	2.8	-	7.5
ASIAN	263	8.1	3.7	-	12.6	†				
DISABILITY [¶]										
DISABILITY	3578	12.8	10.7	-	14.8	3539	5.8	4.6	-	7.1
NO DISABILITY	10777	19.3	18.0	-	20.5	10676	6.8	6.0	-	7.6
EDUCATION										
< HIGH SCHOOL	1424	10.8	7.1	-	14.4	1412	3.2	1.6	-	4.9
HIGH SCHOOL	3789	18.0	15.6	-	20.4	3735	7.8	6.1	-	9.5
COLLEGE 1–3 YRS	3531	20.5	18.1	-	22.9	3499	7.7	6.1	-	9.3
COLLEGE 4+ YRS	6549	17.4	15.9	-	18.8	6488	6.1	5.3	-	7.0
HOUSEHOLD INCOME										
<\$25,000	3564	10.9	8.9	-	13.0	3517	3.9	2.8	-	4.9
\$25,000–34,999	1362	14.9	11.5	-	18.3	1347	4.6	3.1	-	6.1
\$35,000–49,999	1666	18.1	14.9	-	21.3	1653	7.4	5.3	-	9.5
\$50,000–74,999	1893	20.0	16.8	-	23.1	1882	8.6	6.4	-	10.8
\$75,000+	4659	21.8	20.0	-	23.6	4634	7.9	6.7	-	9.1
REGION										
I–WESTERN	2162	18.5	15.5	-	21.4	2143	8.8	6.5	-	11.1
II–CENTRAL	2053	21.3	18.2	-	24.4	2021	6.9	4.9	-	8.9
III–NORTH EAST	3596	16.3	14.1	-	18.5	3563	6.0	4.6	-	7.4
IV–METRO WEST	2002	15.1	12.9	-	17.3	1980	5.3	4.1	-	6.4
V–SOUTH EAST	3788	18.8	16.3	-	21.3	3751	7.1	5.6	-	8.7
VI–BOSTON	1696	18.6	15.7	-	21.6	1679	6.7	5.0	-	8.5

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.5: Overweight and Obesity Status

Obese and/or overweight adults are at increased risk of developing serious health conditions such as hypertension, dyslipidemia (a disorder of lipoprotein metabolism, which may include overproduction of blood cholesterol), type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and certain cancers, including endometrial, breast, and colon cancer. An estimated 1.82 billion dollars in medical expenses are attributable to adult obesity in Massachusetts.^[20]

To address this significant public health problem in the Massachusetts, in January 2009, the Department of Public Health launched Mass in Motion. A multi-pronged approach to address the obesity epidemic, Mass in Motion (a public/private initiative) includes: support for regulatory changes to promote healthy diet and exercise, such as menu labeling; grants to cities and towns to promote wellness at the community level; the expansion of workplace wellness programs; and a state-sponsored web-site promoting better eating and increasing physical activity.^[21]

All respondents were asked to report their height and weight. Respondents' overweight status and obesity status were categorized based on their Body Mass Index (BMI), which equals weight in kilograms divided by height in meters squared. Using the Healthy People 2010 standards (HP2010), all adults with a BMI between 25.0 and 29.9 were classified as being overweight and adults with a BMI greater than or equal to 30.0 were classified as being obese. Presented here are the percentages of adults who were determined to be overweight and obese. Please note that the overweight category includes all adults with a BMI of greater than 25.0, including those who are obese.

Since 2000, the percent of adults who are overweight or obese has been increasing. This increase had peaked in 2007 reaching 58.9% for overweight and 21.7% for obese and appeared to be leveling off; however the 2010 estimates show slight increases over previous years. Additional years of data are needed to determine whether this increase represents a return to the former increasing trend.

TABLE 3.5 – OVERWEIGHT AND OBESE AMONG MASSACHUSETTS ADULTS, 2010

	OVERWEIGHT (BMI ≥ 25.0)				OBESE (BMI ≥ 30.0)			
	N	%	95% CI		N	%	95% CI	
OVERALL	15088	60.1	58.8	- 61.4	15088	23.6	22.5	- 24.7
GENDER								
MALE	5947	71.1	69.2	- 72.9	5947	26.1	24.3	- 27.8
FEMALE	9141	49.3	47.7	- 50.9	9141	21.1	19.9	- 22.4
AGE GROUP								
18–24	342	41.1	32.7	- 49.5	342	9.5	4.7	- 14.4
25–34	1263	55.6	51.4	- 59.7	1263	23.7	20.2	- 27.3
35–44	2318	60.9	58.1	- 63.6	2318	24.5	22.0	- 26.9
45–54	3218	63.3	60.9	- 65.6	3218	25.7	23.5	- 27.9
55–64	3307	66.0	63.6	- 68.4	3307	25.2	23.0	- 27.3
65–74	2350	65.6	62.8	- 68.4	2350	28.1	25.6	- 30.7
75 AND OLDER	2119	54.4	51.4	- 57.3	2119	17.4	15.2	- 19.6
RACE-ETHNICITY*								
WHITE	12407	59.2	57.9	- 60.6	12407	22.9	21.8	- 24.1
BLACK	724	67.3	61.1	- 73.5	724	31.3	25.7	- 36.8
HISPANIC	1150	66.5	61.5	- 71.5	1150	31.8	26.9	- 36.7
ASIAN	261	51.7	42.8	- 60.7	261	14.4	8.3	- 20.5
DISABILITY†								
DISABILITY	3519	68.4	65.8	- 71.0	3519	33.6	31.1	- 36.1
NO DISABILITY	10614	58.0	56.5	- 59.5	10614	20.8	19.6	- 22.0
EDUCATION								
< HIGH SCHOOL	1395	67.8	62.9	- 72.6	1395	31.0	26.4	- 35.6
HIGH SCHOOL	3742	64.7	62.0	- 67.3	3742	28.0	25.5	- 30.5
COLLEGE 1–3 YRS	3466	63.6	61.0	- 66.2	3466	28.0	25.7	- 30.3
COLLEGE 4+ YRS	6449	55.9	54.1	- 57.8	6449	19.0	17.5	- 20.4
HOUSEHOLD								
<\$25,000	3538	65.0	62.1	- 67.9	3538	27.5	24.9	- 30.1
\$25,000–34,999	1342	63.9	59.6	- 68.2	1342	23.3	19.7	- 26.8
\$35,000–49,999	1645	59.7	55.9	- 63.6	1645	25.7	22.3	- 29.0
\$50,000–74,999	1887	64.2	60.7	- 67.7	1887	27.5	24.3	- 30.8
\$75,000+	4615	58.2	56.1	- 60.3	4615	21.5	19.8	- 23.2
REGION								
I–WESTERN	2105	62.0	58.8	- 65.2	2105	24.9	22.1	- 27.7
II–CENTRAL	2013	62.6	59.2	- 65.9	2013	27.6	24.5	- 30.7
III–NORTH EAST	3535	60.3	57.2	- 63.3	3535	24.3	21.8	- 26.9
IV–METRO WEST	1963	55.6	52.8	- 58.4	1963	19.6	17.3	- 21.9
V–SOUTH EAST	3727	63.2	60.5	- 65.9	3727	23.8	21.5	- 26.1
VI–BOSTON	1668	58.1	54.6	- 61.7	1668	23.5	20.5	- 26.5

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

‡ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.6: Physical Activity

Regular physical activity reduces a person's risk for heart attack, colon cancer, diabetes, and high blood pressure, and helps to reduce the risk of stroke. Additionally, it helps to control weight, contributes to healthy bones, muscles, and joints, reduces falls among older adults, helps to relieve the pain of arthritis, reduces symptoms of anxiety and depression, and is associated with fewer hospitalizations, physician visits, and medications.^[22]

In 2010 all respondents were asked if during the past month, other than their regular job, did they participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise. Presented here is the percentage of adults who participated in any leisure time physical activity in the last 30 days.

TABLE 3.6 – ANY LEISURE TIME PHYSICAL ACTIVITY AMONG MASSACHUSETTS ADULTS, 2010

	EXERCISED IN THE PAST MONTH				
	N	%	95% CI		
OVERALL	16282	79.4	78.4	-	80.4
GENDER					
MALE	6118	81.8	80.3	-	83.3
FEMALE	10164	77.2	75.9	-	78.5
AGE GROUP					
18–24	365	85.4	79.6	-	91.2
25–34	1361	83.6	80.7	-	86.5
35–44	2497	81.1	79.0	-	83.2
45–54	3423	82.0	80.2	-	83.8
55–64	3587	77.6	75.5	-	79.6
65–74	2514	75.5	73.1	-	77.9
75 AND OLDER	2259	65.0	62.3	-	67.7
RACE-ETHNICITY*					
WHITE	13330	81.3	80.3	-	82.2
BLACK	794	74.1	69.1	-	79.2
HISPANIC	1253	66.7	62.2	-	71.3
ASIAN	278	78.4	71.5	-	85.3
DISABILITY [†]					
DISABILITY	3738	65.3	62.9	-	67.8
NO DISABILITY	11498	83.1	82.0	-	84.2
EDUCATION					
< HIGH SCHOOL	1536	56.8	51.9	-	61.7
HIGH SCHOOL	4049	69.2	66.8	-	71.6
COLLEGE 1–3 YRS	3722	77.6	75.5	-	79.6
COLLEGE 4+ YRS	6851	87.5	86.3	-	88.6
HOUSEHOLD INCOME					
<\$25,000	3752	63.9	61.2	-	66.7
\$25,000–34,999	1418	71.0	67.3	-	74.7
\$35,000–49,999	1740	73.9	70.4	-	77.3
\$50,000–74,999	1964	82.4	79.8	-	84.9
\$75,000+	4812	88.6	87.4	-	89.9
REGION					
I–WESTERN	2248	77.8	75.3	-	80.2
II–CENTRAL	2137	79.0	76.5	-	81.4
III–NORTH EAST	3768	77.6	75.1	-	80.1
IV–METRO WEST	2088	84.8	82.8	-	86.9
V–SOUTH EAST	4000	78.0	75.9	-	80.2
VI–BOSTON	1769	75.4	72.4	-	78.5

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient Data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.7: Flu Vaccine and Pneumonia Vaccine

Influenza, or the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and can even lead to death. Because of the fluctuations in the length and severity of the flu from year to year, the CDC estimates that from the 1976-1977 season to the 2006-2007 flu season, flu-associated deaths ranged from a low of about 3,000 to a high of about 49,000 people.^[23] Adults 65 years or older, children younger than 2 years old, and individuals with chronic medical conditions are at increased risk for pneumococcal infection. In Massachusetts, flu and pneumonia were the seventh leading causes of death in 2008 among adults 65 and older.^[24]

All respondents were asked if they had received an influenza vaccine (flu shot) or nasal flu spray (flu mist) within the past 12 months. In addition, all respondents were asked if they had ever received a pneumonia vaccine. Presented here are the percentages of adults ages 50-64 years and ages 65 and older who received a flu vaccine or spray in the past year, and the percentage of adults, ages 65 and older, who reported that they had ever had a pneumonia vaccination.

TABLE 3.7.1 – FLU VACCINE AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2010

	FLU VACCINE IN PAST YEAR, AGES 50-64				FLU VACCINE IN PAST YEAR, AGES 65+			
	N	%	95% CI		N	%	95% CI	
OVERALL	5112	52.6	50.6	- 54.7	4478	72.8	70.9	- 74.6
GENDER								
MALE	1945	48.8	45.5	- 52.0	1541	73.5	70.4	- 76.6
FEMALE	3167	56.0	53.5	- 58.6	2937	72.3	70.0	- 74.6
AGE GROUP								
50-64	5112	52.6	50.6	- 54.7				
65-74					2368	70.2	67.5	- 72.8
75 AND OLDER					2110	75.5	73.0	- 78.0
RACE-ETHNICITY*								
WHITE	4370	53.0	50.8	- 55.1	3953	73.5	71.6	- 75.4
BLACK	237	50.9	41.3	- 60.5	149	63.8	52.1	- 75.5
HISPANIC	324	50.8	40.8	- 60.8	183	76.2	68.3	- 84.2
ASIAN	†				†			
DISABILITY [¶]								
DISABILITY	1335	60.6	56.4	- 64.9	1289	75.5	72.1	- 78.8
NO DISABILITY	3489	50.7	48.3	- 53.1	2751	71.8	69.5	- 74.2
EDUCATION								
< HIGH SCHOOL	425	51.4	41.3	- 61.5	642	70.5	64.3	- 76.7
HIGH SCHOOL	1118	40.9	36.5	- 45.2	1448	68.3	64.7	- 71.8
COLLEGE 1-3 YRS	1215	54.0	49.9	- 58.2	937	75.6	71.9	- 79.3
COLLEGE 4+ YRS	2343	56.4	53.6	- 59.3	1433	75.4	72.5	- 78.4
HOUSEHOLD INCOME								
<\$25,000	1009	48.8	43.5	- 54.1	1490	69.0	65.3	- 72.6
\$25,000-34,999	392	46.3	38.3	- 54.3	572	75.8	70.8	- 80.9
\$35,000-49,999	539	45.8	39.5	- 52.0	527	73.3	68.0	- 78.6
\$50,000-74,999	753	52.4	47.2	- 57.7	380	74.3	68.6	- 80.1
\$75,000+	1799	56.2	53.0	- 59.3	540	76.3	71.7	- 80.8
REGION								
I-WESTERN	783	47.2	42.3	- 52.2	652	71.6	67.0	- 76.3
II-CENTRAL	686	55.9	50.6	- 61.2	558	72.9	68.0	- 77.8
III-NORTH EAST	1135	50.7	45.9	- 55.4	983	71.8	67.3	- 76.3
IV-METRO WEST	656	56.5	52.0	- 60.9	594	78.5	74.9	- 82.2
V-SOUTH EAST	1283	48.7	44.1	- 53.4	1222	70.0	65.9	- 74.2
VI-BOSTON	561	60.6	55.1	- 66.2	461	67.6	62.0	- 73.2

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

TABLE 3.7.2 – PNEUMONIA VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2010

	EVER HAD PNEUMONIA VACCINE		
	N	%	95% CI
OVERALL	4218	71.2	69.3 - 73.1
GENDER			
MALE	1418	69.4	66.2 - 72.7
FEMALE	2800	72.4	70.1 - 74.7
AGE GROUP			
65–74	2217	64.0	61.2 - 66.9
75 AND OLDER	2001	78.6	76.2 - 81.1
RACE-ETHNICITY*			
WHITE	3747	72.1	70.1 - 74.1
BLACK	132	68.2	57.4 - 78.9
HISPANIC	157	57.7	46.2 - 69.2
ASIAN	†		
DISABILITY¶			
DISABILITY	1227	78.4	75.2 - 81.6
NO DISABILITY	2591	68.1	65.6 - 70.6
EDUCATION			
< HIGH SCHOOL	592	70.6	65.1 - 76.0
HIGH SCHOOL	1378	71.3	67.9 - 74.8
COLLEGE 1–3 YRS	883	70.9	66.8 - 75.1
COLLEGE 4+ YRS	1351	71.6	68.5 - 74.8
HOUSEHOLD INCOME			
<\$25,000	1404	72.1	68.8 - 75.5
\$25,000–34,999	553	72.2	67.0 - 77.4
\$35,000–49,999	497	71.4	66.0 - 76.9
\$50,000–74,999	356	69.8	63.4 - 76.2
\$75,000+	508	67.3	62.2 - 72.5
REGION			
I–WESTERN	614	73.5	69.0 - 78.1
II–CENTRAL	526	72.4	67.3 - 77.4
III–NORTH EAST	929	70.0	65.4 - 74.6
IV–METRO WEST	568	74.6	70.7 - 78.6
V–SOUTH EAST	1150	69.3	65.2 - 73.5
VI–BOSTON	424	62.3	56.3 - 68.3

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.8: Human Papilloma Virus (HPV)

Genital human papilloma virus (also called HPV) is the most common sexually transmitted infection (STI). Approximately 20 million Americans are currently infected with HPV. Another 6 million people become newly infected each year. HPV is so common that at least 50% of sexually active men and women get it at some point in their lives.^[25]

Vaccines can protect males and females against some of the most common types of HPV. These vaccines are given in three shots. It is important to get all three doses to get the best protection. The vaccines are most effective when given before a person's first sexual contact. Cervarix and Gardasil protect females against HPV that causes most cervical cancer. Gardasil protects both males and females from genital warts.^[25]

Researchers at CDC reported that although 25% of adolescents 13 to 17 years old reported receiving at least 1 dose of the HPV vaccine, only 11% reported receiving all 3 doses. The 3 most common barriers to vaccination, reported by parents, were the belief that the child did not need the vaccine, a lack of sufficient vaccine knowledge, and the fact that the child was not sexually active.^[26] (See Also Section 5.8 Cervical Cancer Screening)

All respondents between the ages of 18-49 were asked if they had ever received the HPV vaccine; if they responded yes, they were then asked how many HPV shots they had received. Presented below are the percentage of females aged 18-49 who had ever received the HPV vaccine and the percentage of those who had completed the series of three shots. Percentages for males are not presented due to insufficient data.

TABLE 3.8 – HPV VACCINE AMONG MASSACHUSETTS FEMALES, AGES 18-49 YEARS, 2010

	EVER HAD HPV VACCINE				COMPLETED SERIES					
	N	%	95% CI		N	%	95% CI			
OVERALL	3133	8.0	6.5	-	9.5	192	75.6	67.5	-	83.6
AGE GROUP										
18-24	167	60.9	49.6	-	72.3	82	82.9	73.5	-	92.3
25-34	760	11.0	7.8	-	14.2	77	76.2	63.1	-	89.3
35-44	1348	2.3	1.0	-	3.5	†				
45-49	†					†				
RACE-ETHNICITY*										
WHITE	2300	8.2	6.3	-	10.0	124	76.6	67.0	-	86.3
BLACK	†					†				
HISPANIC	413	9.2	5.1	-	13.2	†				
ASIAN	†					†				
DISABILITY [¶]										
DISABILITY	546	11.6	6.9	-	16.2	†				
NO DISABILITY	2455	7.1	5.5	-	8.7	144	73.6	63.7	-	83.5
EDUCATION										
< HIGH SCHOOL	†					†				
HIGH SCHOOL	588	8.5	4.5	-	12.4	†				
COLLEGE 1–3 YRS	790	10.2	6.7	-	13.8	60	76.2	63.0	-	89.4
COLLEGE 4+ YRS	1551	6.9	5.0	-	8.8	80	80.5	69.2	-	91.8
HOUSEHOLD INCOME										
<\$25,000	616	11.7	7.5	-	15.8	53	55.7	36.3	-	75.2
\$25,000–34,999	†					†				
\$35,000–49,999	336	9.8	5.0	-	14.7	†				
\$50,000–74,999	424	8.0	3.3	-	12.6	†				
\$75,000+	1219	5.9	3.8	-	8.0	52	86.6	76.2	-	97.1
REGION										
I–WESTERN	418	4.4	1.9	-	6.9	†				
II–CENTRAL	420	7.6	3.6	-	11.6	†				
III–NORTH EAST	763	8.0	4.5	-	11.4	57	61.2	39.4	-	83.1
IV–METRO WEST	415	8.7	4.9	-	12.4	†				
V–SOUTH EAST	716	8.3	4.6	-	11.9	†				
VI–BOSTON	389	11.4	7.1	-	15.7	†				

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.9: Hepatitis B Virus (HBV) Vaccine

Hepatitis is the inflammation of the liver and also refers to viral infections that affect the liver. The most common types are Hepatitis A, Hepatitis B, and Hepatitis C.

Viral hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation. Among persons with chronic Hepatitis B, the risk for premature death from cirrhosis or hepatocellular carcinoma is 15%–25%. HBV is transmitted by contact with infected blood or body fluids. Transmission can occur during birth from an infected mother, during unprotected sex with an infected partner, through and contaminated needles. An estimated 4.4 million Americans are living with chronic hepatitis; most do not know they are infected. An estimated 800,000–1.4 million of those have chronic HBV infection. About 80,000 new infections occur each year.^[27]

The rate of new HBV infections has declined by approximately 82% since 1991, when a national strategy to eliminate HBV infection was implemented in the United States. The decline has been greatest among children born since 1991, when routine vaccination of children was first recommended.^[27] From 1999-2008 Massachusetts reported that rates of acute Hepatitis B decreased by 57%.^[28]

All respondents were asked if they had ever received the Hepatitis B vaccine. They were told to respond yes only if they had received the entire series of 3 shots. Presented below is the percentage of adults who reported that they had ever received the Hepatitis B vaccine.

TABLE 3.9 – HEPATITIS B VACCINE AMONG MASSACHUSETTS ADULTS, 2010

	RECEIVED 3 SHOTS HBV VACCINE				
	N	%	95% CI		
OVERALL	12926	39.9	38.5	-	41.3
GENDER					
MALE	4785	37.1	34.9	-	39.4
FEMALE	8141	42.3	40.6	-	44.0
AGE GROUP					
18–24	270	68.8	59.7	-	77.8
25–34	1021	65.6	61.2	-	70.1
35–44	1918	44.9	41.8	-	48.0
45–54	2785	39.2	36.6	-	41.9
55–64	2970	27.2	24.7	-	29.6
65–74	2038	23.7	21.0	-	26.4
75 AND OLDER	1743	10.1	8.0	-	12.2
RACE-ETHNICITY*					
WHITE	10672	37.3	35.8	-	38.8
BLACK	616	51.5	44.9	-	58.0
HISPANIC	965	48.3	42.5	-	54.2
ASIAN	196	57.8	47.7	-	68.0
DISABILITY[†]					
DISABILITY	3030	39.4	36.3	-	42.5
NO DISABILITY	9082	40.2	38.6	-	41.8
EDUCATION					
< HIGH SCHOOL	1183	36.0	30.0	-	42.1
HIGH SCHOOL	3216	28.3	25.3	-	31.3
COLLEGE 1–3 YRS	3019	42.5	39.7	-	45.3
COLLEGE 4+ YRS	5467	44.4	42.4	-	46.4
HOUSEHOLD INCOME					
<\$25,000	3001	39.5	36.1	-	42.9
\$25,000–34,999	1180	33.2	28.4	-	37.9
\$35,000–49,999	1413	38.8	34.6	-	42.9
\$50,000–74,999	1660	38.6	34.7	-	42.4
\$75,000+	3876	44.4	42.1	-	46.7
REGION					
I–WESTERN	1876	40.6	37.1	-	44.0
II–CENTRAL	1728	37.6	33.9	-	41.3
III–NORTH EAST	3012	37.9	34.7	-	41.2
IV–METRO WEST	1631	43.0	39.8	-	46.2
V–SOUTH EAST	3240	35.7	32.7	-	38.8
VI–BOSTON	1400	47.8	43.8	-	51.9

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.10: Tetanus Vaccine

Tetanus (or lockjaw) is a serious disease that causes painful tightening of the muscles, usually all over the body. It can lead to "locking" of the jaw so the victim cannot open his mouth or swallow. Tetanus leads to death in about 1 in 10 cases.

Several vaccines are used to prevent tetanus among children, adolescents, and adults including DTaP and Tdap (Diphtheria, Tetanus and Pertussis); and DT, and Td (Diphtheria and Tetanus). Due to widespread immunization in childhood, tetanus is now extremely rare in developed countries. In the US, only 130 cases were reported in the period 1998-2000 most occurring among unvaccinated or inadequately vaccinated individuals following an acute injury.^[29] The last reported case of tetanus in Massachusetts was in 1996.^[30]

Presented here is the percentage of adults who reported receiving the tetanus vaccine in the past 10 years.

TABLE 3.10 – TETANUS VACCINE AMONG MASSACHUSETTS ADULTS, 2010

	RECEIVED TETANUS VACCINE IN PAST 10 YEARS		
	N	%	95% CI
OVERALL	13570	74.9	73.7 - 76.1
GENDER			
MALE	5096	73.6	71.7 - 75.6
FEMALE	8474	76.0	74.7 - 77.4
AGE GROUP			
18–24	310	76.2	68.6 - 83.8
25–34	1112	78.2	74.4 - 82.0
35–44	2112	76.7	74.1 - 79.2
45–54	2949	78.0	75.8 - 80.2
55–64	3036	75.6	73.4 - 77.8
65–74	2088	71.3	68.6 - 73.9
75 AND OLDER	1771	57.8	54.6 - 61.0
RACE-ETHNICITY*			
WHITE	11195	76.3	75.1 - 77.5
BLACK	643	72.3	67.0 - 77.6
HISPANIC	1016	66.4	60.9 - 71.9
ASIAN	229	69.8	60.9 - 78.7
DISABILITY[†]			
DISABILITY	3144	75.0	72.6 - 77.4
NO DISABILITY	9603	75.3	73.9 - 76.6
EDUCATION			
< HIGH SCHOOL	1230	65.8	60.7 - 71.0
HIGH SCHOOL	3323	69.8	67.1 - 72.5
COLLEGE 1–3 YRS	3141	76.2	74.0 - 78.4
COLLEGE 4+ YRS	5837	77.8	76.2 - 79.5
HOUSEHOLD INCOME			
<\$25,000	3094	70.2	67.4 - 73.0
\$25,000–34,999	1202	68.5	64.2 - 72.9
\$35,000–49,999	1481	74.9	71.6 - 78.2
\$50,000–74,999	1698	76.3	73.0 - 79.7
\$75,000+	4194	78.2	76.3 - 80.1
REGION			
I–WESTERN	1933	74.3	71.4 - 77.2
II–CENTRAL	1837	76.5	73.4 - 79.7
III–NORTH EAST	3153	70.5	67.4 - 73.5
IV–METRO WEST	1766	80.1	77.7 - 82.4
V–SOUTH EAST	3361	73.4	70.9 - 76.0
VI–BOSTON	1479	70.2	66.8 - 73.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 3.11: Shingles

Almost 1 out of every 3 people in the United States will develop shingles during their lifetime. There are an estimated one million cases of shingles each year in the US. Approximately half of all cases occur in adults ages 60 and older. Shingles (or herpes zoster) is caused by the chickenpox virus and is characterized by a painful skin rash with blisters in a limited area on one side of the body, often in a stripe. The most common complication of shingles is a condition called postherpetic neuralgia (PHN). People with PHN have severe pain in the areas where they had the shingles rash, even after the rash clears up. Shingles may also lead to serious complications involving the eye. Very rarely, shingles can also lead to pneumonia, hearing problems, blindness, brain inflammation (encephalitis) or death.^[31] The shingles vaccine, Zostavax® first became available in May 2006. A *Healthy People 2020* objective is to increase the shingles vaccine rate to 30% of older adults.^[3]

All respondents aged 50 and older were asked if they had ever received the shingles vaccine. Table 3.11 presents the percentage of adults aged 50 or older who had ever received the shingles vaccine.

TABLE 3.11 – SHINGLES VACCINE AMONG MASSACHUSETTS ADULTS, AGE 50+, 2010

	EVER HAD SHINGLES VACCINE		
	N	%	95% CI
OVERALL	8991	9.7	8.8 - 10.5
GENDER			
MALE	3246	8.5	7.1 - 9.8
FEMALE	5745	10.6	9.5 - 11.7
AGE GROUP			
50-59	3224	1.7	1.0 - 2.4
60-69	2944	15.0	13.2 - 16.8
70-75	1699	16.7	14.2 - 19.2
75+	1124	15.6	12.4 - 18.7
RACE-ETHNICITY*			
WHITE	7846	10.0	9.1 - 10.9
BLACK	†		
HISPANIC	459	6.4	3.3 - 9.6
ASIAN	†		
DISABILITY¶			
DISABILITY	2456	10.5	8.8 - 12.3
NO DISABILITY	5873	9.4	8.4 - 10.4
EDUCATION			
< HIGH SCHOOL	937	4.8	2.6 - 7.0
HIGH SCHOOL	2398	7.8	6.3 - 9.3
COLLEGE 1–3 YRS	2034	8.9	7.3 - 10.5
COLLEGE 4+ YRS	3600	11.6	10.3 - 13.0
HOUSEHOLD INCOME			
<\$25,000	2297	7.7	6.0 - 9.4
\$25,000–34,999	902	9.5	6.9 - 12.1
\$35,000–49,999	1010	11.0	8.2 - 13.8
\$50,000–74,999	1095	10.2	7.8 - 12.6
\$75,000+	2246	9.3	7.8 - 10.8
REGION			
I–WESTERN	1358	8.1	6.0 - 10.1
II–CENTRAL	1167	5.9	4.3 - 7.5
III–NORTH EAST	1984	9.2	7.2 - 11.1
IV–METRO WEST	1181	13.7	11.5 - 15.8
V–SOUTH EAST	2347	9.7	7.9 - 11.4
VI–BOSTON	940	8.8	6.5 - 11.1

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

SECTION 4: CHRONIC HEALTH CONDITIONS

SECTION 4: CHRONIC HEALTH CONDITIONS

Section 4.1: Diabetes

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone which is used to convert sugar, starches, and other food into the energy needed for everyday life.^[32] There are two types of diabetes: type 1 and type 2. In type 1 diabetes, the body is unable to produce insulin. In type 2 diabetes, the body is able to produce insulin, but is unable to utilize it efficiently.

Obesity, poor diet, and physical inactivity are risk factors associated with the increase in the prevalence of type 2 diabetes. In 2008, diabetes was the ninth leading cause of death in Massachusetts.^[24] Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age.^[33] It is estimated that in Massachusetts alone, the cost of diabetes is \$4.3 billion. People with diagnosed diabetes, on average, have medical expenditures that are approximately 2.3 times higher than for people without the disease.^[34]

All respondents were asked if a doctor had ever told them that they had diabetes or pre-diabetes (defined as a blood glucose level that is higher than normal but not yet diabetic). Women who reported that they had diabetes only during pregnancy (gestational diabetes) were categorized as not having diabetes. Presented here is the percentage of adults who reported that a doctor had ever told them that they had diabetes and the percentage of adults who reported that a doctor had ever told them that they have pre-diabetes.

TABLE 4.1 – DIABETES AMONG MASSACHUSETTS ADULTS, 2010

	PRE-DIABETES				DIABETES			
	N	%	95% CI		N	%	95% CI	
OVERALL	13004	4.9	4.4	- 5.4	16287	7.4	6.9	- 8.0
GENDER								
MALE	4839	4.7	3.9	- 5.5	6118	7.9	7.1	- 8.8
FEMALE	8165	5.0	4.3	- 5.7	10169	7.0	6.3	- 7.6
AGE GROUP								
18–24	†				†			
25–34	1201	2.7	1.3	- 4.0	†			
35–44	2173	3.0	2.0	- 4.0	2498	3.0	2.1	- 3.8
45–54	2880	4.7	3.6	- 5.8	3429	6.4	5.3	- 7.4
55–64	2774	7.7	6.2	- 9.1	3587	12.6	11.0	- 14.1
65–74	1819	11.0	9.0	- 12.9	2511	18.9	16.7	- 21.0
75 AND OLDER	1642	7.9	6.2	- 9.7	2262	16.3	14.3	- 18.4
RACE-ETHNICITY*								
WHITE	10815	5.2	4.6	- 5.8	13335	7.2	6.6	- 7.8
BLACK	577	4.1	2.5	- 5.8	794	10.9	8.3	- 13.6
HISPANIC	900	3.8	1.9	- 5.6	1252	10.6	8.0	- 13.3
ASIAN	†				†			
DISABILITY [¶]								
DISABILITY	2662	9.0	7.4	- 10.6	3739	16.5	14.7	- 18.2
NO DISABILITY	9569	3.9	3.4	- 4.5	11500	5.0	4.5	- 5.5
EDUCATION								
< HIGH SCHOOL	1010	7.1	3.9	- 10.4	1538	16.2	13.4	- 19.1
HIGH SCHOOL	3067	5.3	4.3	- 6.3	4055	10.4	9.0	- 11.7
COLLEGE 1–3 YRS	2980	5.5	4.4	- 6.7	3719	8.0	6.9	- 9.2
COLLEGE 4+ YRS	5908	4.2	3.5	- 4.9	6851	4.8	4.2	- 5.5
HOUSEHOLD INCOME								
<\$25,000	2687	6.8	5.3	- 8.3	3759	15.6	13.7	- 17.4
\$25,000–34,999	1134	5.1	3.5	- 6.8	1416	10.6	8.2	- 12.9
\$35,000–49,999	1421	6.7	4.9	- 8.5	1739	9.0	7.1	- 10.9
\$50,000–74,999	1670	4.0	2.6	- 5.4	1967	6.6	5.2	- 8.0
\$75,000+	4272	3.8	3.1	- 4.6	4813	3.7	3.1	- 4.3
REGION								
I–WESTERN	1848	6.0	4.4	- 7.5	2254	8.6	7.1	- 10.0
II–CENTRAL	1738	5.1	3.8	- 6.4	2139	8.2	6.6	- 9.8
III–NORTH EAST	2987	5.3	4.1	- 6.4	3770	6.7	5.7	- 7.8
IV–METRO WEST	1798	4.5	3.3	- 5.6	2088	5.7	4.6	- 6.8
V–SOUTH EAST	3158	4.4	3.3	- 5.5	3995	8.1	7.0	- 9.2
VI–BOSTON	1435	4.0	2.8	- 5.2	1769	9.2	7.4	- 11.0

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 4.2: Asthma

Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness.^[35] Asthma attacks can be triggered by a variety of causes, such as second hand smoke, outdoor air pollution, allergens, irritants, and respiratory viral infections. These environmental irritants are also potential risk factors associated with the development of asthma.^[36] The prevalence of asthma in the state of Massachusetts is one of the highest reported for a state across the nation, and the costs of treatment are increasing each year: the total charges for hospitalization due to asthma in Massachusetts increased 77.7% from \$50 million in 2000 to \$89 million in 2006.^[37]

All respondents were asked if a doctor, nurse, or other health care professional had ever told them that they had asthma. Those who reported ever having asthma were then asked if they currently have asthma. Reported here are the percentages of adults who have ever had asthma and those who currently have asthma.

TABLE 4.2 – ASTHMA AMONG MASSACHUSETTS ADULTS, 2010

	EVER HAD ASTHMA				CURRENTLY HAVE ASTHMA			
	N	%	95% CI		N	%	95% CI	
OVERALL	16271	15.3	14.4	- 16.3	16215	10.4	9.6	- 11.1
GENDER								
MALE	6113	12.9	11.5	- 14.3	6092	7.6	6.6	- 8.6
FEMALE	10158	17.6	16.4	- 18.8	10123	12.9	11.8	- 13.9
AGE GROUP								
18–24	364	26.2	18.7	- 33.8	359	12.3	6.9	- 17.6
25–34	1360	19.4	16.3	- 22.6	1355	13.4	10.8	- 15.9
35–44	2496	14.7	12.8	- 16.6	2491	9.9	8.3	- 11.5
45–54	3429	14.2	12.6	- 15.8	3421	10.0	8.7	- 11.3
55–64	3583	14.0	12.4	- 15.6	3568	9.7	8.3	- 11.1
65–74	2503	12.9	11.1	- 14.6	2492	9.5	7.9	- 11.0
75 AND OLDER	2261	12.6	10.6	- 14.6	2254	9.3	7.5	- 11.1
RACE-ETHNICITY*								
WHITE	13321	15.1	14.1	- 16.0	13276	10.4	9.6	- 11.2
BLACK	793	17.6	12.5	- 22.8	791	11.7	7.8	- 15.5
HISPANIC	1254	19.5	15.8	- 23.3	1248	12.9	10.0	- 15.9
ASIAN	279	6.8	2.9	- 10.6	†			
DISABILITY¶								
DISABILITY	3729	25.2	22.8	- 27.5	3709	20.3	18.1	- 22.5
NO DISABILITY	11495	13.0	12.0	- 14.1	11465	7.9	7.1	- 8.7
EDUCATION								
< HIGH SCHOOL	1536	23.8	19.4	- 28.2	1530	18.2	14.3	- 22.2
HIGH SCHOOL	4046	14.0	12.1	- 15.9	4032	10.0	8.5	- 11.6
COLLEGE 1–3 YRS	3717	17.0	14.9	- 19.1	3704	11.0	9.5	- 12.6
COLLEGE 4+ YRS	6848	14.3	13.0	- 15.6	6826	9.4	8.4	- 10.4
HOUSEHOLD INCOME								
<\$25,000	3748	21.1	18.7	- 23.5	3731	16.8	14.7	- 19.0
\$25,000–34,999	1420	16.2	12.9	- 19.4	1416	9.4	7.1	- 11.7
\$35,000–49,999	1738	14.7	11.6	- 17.7	1734	9.1	7.0	- 11.2
\$50,000–74,999	1967	14.5	12.1	- 17.0	1963	9.2	7.3	- 11.2
\$75,000+	4809	13.6	12.2	- 15.0	4793	8.6	7.5	- 9.8
REGION								
I–WESTERN	2249	17.7	15.1	- 20.4	2244	12.0	10.0	- 14.1
II–CENTRAL	2138	18.2	15.4	- 21.0	2133	11.6	9.4	- 13.9
III–NORTH EAST	3768	15.6	13.4	- 17.7	3752	10.1	8.5	- 11.7
IV–METRO WEST	2085	12.8	11.0	- 14.5	2076	8.3	6.9	- 9.8
V–SOUTH EAST	3995	14.9	12.9	- 16.8	3978	10.9	9.2	- 12.6
VI–BOSTON	1765	15.8	13.2	- 18.4	1761	11.4	9.1	- 13.8

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 4.3: Heart Disease and Stroke

Heart disease includes a number of different heart conditions, the most common of which is coronary heart disease, a condition that can lead to a heart attack. A stroke occurs when blood to the brain is blocked or a blood vessel in the brain bursts, causing damage to the individual's brain. Heart disease and stroke account for more than 1/3 of all U.S. deaths.^[38] They are also major causes of disability. In 2008, heart disease and stroke were the second (after cancer-related deaths) and third leading causes of death, respectively, in Massachusetts.^[24]

All respondents ages 35 and older were asked whether a doctor, nurse, or other health professional had ever told them that they had had a myocardial infarction ("MI," also called a "heart attack"), angina or coronary heart disease, or a stroke. Presented here are the percentages of adults 35 and older who reported being told that they had experienced a heart attack, had angina or coronary heart disease, or had a stroke.

**TABLE 4.3.1 – HEART DISEASE AMONG MASSACHUSETTS ADULTS,
AGES 35 YEARS AND OLDER, 2010**

	EVER DIAGNOSED WITH MYOCARDIAL INFARCTION			EVER DIAGNOSED WITH ANGINA OR CORONARY HEART DISEASE		
	N	%	95% CI	N	%	95% CI
OVERALL	14242	4.9	4.5 - 5.4	14191	5.0	4.5 - 5.4
GENDER						
MALE	5358	6.6	5.7 - 7.4	5336	6.2	5.4 - 7.0
FEMALE	8884	3.5	3.0 - 4.0	8855	3.9	3.4 - 4.4
AGE GROUP						
35–44	2494	0.8	0.4 - 1.3	2491	1.0	0.5 - 1.5
45–54	3419	1.7	1.1 - 2.3	3418	1.9	1.3 - 2.5
55–64	3579	5.8	4.7 - 6.9	3562	5.8	4.7 - 7.0
65–74	2510	12.2	10.1 - 14.2	2491	12.5	10.6 - 14.4
75 AND OLDER	2240	16.7	14.4 - 18.9	2229	15.8	13.6 - 18.0
RACE-ETHNICITY*						
WHITE	11949	5.1	4.6 - 5.6	11912	5.3	4.8 - 5.9
BLACK	†			†		
HISPANIC	948	3.2	2.0 - 4.3	941	3.8	2.4 - 5.2
ASIAN	†			†		
DISABILITY¶						
DISABILITY	3430	12.2	10.6 - 13.7	3400	13.4	11.7 - 15.1
NO DISABILITY	9873	2.8	2.4 - 3.3	9861	2.8	2.4 - 3.2
EDUCATION						
< HIGH SCHOOL	1391	12.5	9.6 - 15.4	1373	10.2	7.6 - 12.9
HIGH SCHOOL	3575	7.2	6.1 - 8.4	3569	7.4	6.2 - 8.6
COLLEGE 1–3 YRS	3223	5.1	4.0 - 6.1	3214	5.1	4.1 - 6.1
COLLEGE 4+ YRS	5961	2.9	2.4 - 3.4	5942	3.3	2.7 - 3.8
HOUSEHOLD INCOME						
<\$25,000	3316	10.8	9.1 - 12.4	3301	10.7	9.0 - 12.4
\$25,000–34,999	1262	7.4	5.5 - 9.4	1260	8.1	6.1 - 10.2
\$35,000–49,999	1536	6.6	4.8 - 8.3	1532	6.5	4.8 - 8.2
\$50,000–74,999	1693	3.6	2.4 - 4.9	1689	3.3	2.2 - 4.4
\$75,000+	4219	1.8	1.3 - 2.2	4214	2.1	1.6 - 2.6
REGION						
I–WESTERN	1972	5.1	3.9 - 6.3	1971	5.7	4.4 - 7.0
II–CENTRAL	1870	4.8	3.6 - 5.9	1865	5.4	4.1 - 6.7
III–NORTH EAST	3245	4.8	3.7 - 5.8	3227	5.1	4.1 - 6.2
IV–METRO WEST	1879	4.0	3.0 - 4.9	1871	3.7	2.9 - 4.5
V–SOUTH EAST	3561	6.6	5.4 - 7.9	3548	5.8	4.7 - 6.9
VI–BOSTON	1498	3.7	2.5 - 4.9	1494	4.3	3.0 - 5.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

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**TABLE 4.3.2 – STROKE AMONG MASSACHUSETTS ADULTS,
AGES 35 YEARS AND OLDER, 2010**

	STROKE		
	N	%	95% CI
OVERALL	14259	2.5	2.2 - 2.8
GENDER			
MALE	5362	2.5	2.0 - 3.0
FEMALE	8897	2.5	2.1 - 2.9
AGE GROUP			
35–44	2496	0.8	0.4 - 1.3
45–54	3423	1.3	0.8 - 1.7
55–64	3580	2.7	2.0 - 3.4
65–74	2509	4.4	3.2 - 5.5
75 AND OLDER	2251	8.6	6.9 - 10.3
RACE-ETHNICITY*			
WHITE	11957	2.5	2.2 - 2.9
BLACK	645	3.4	1.6 - 5.2
HISPANIC	†		
ASIAN	†		
DISABILITY¶			
DISABILITY	3435	7.8	6.5 - 9.2
NO DISABILITY	9885	1.1	0.9 - 1.4
EDUCATION			
< HIGH SCHOOL	1394	4.3	3.0 - 5.6
HIGH SCHOOL	3586	4.5	3.5 - 5.4
COLLEGE 1–3 YRS	3224	2.8	2.0 - 3.5
COLLEGE 4+ YRS	5961	1.3	0.9 - 1.7
HOUSEHOLD INCOME			
<\$25,000	3322	6.3	5.1 - 7.6
\$25,000–34,999	1268	3.5	2.2 - 4.8
\$35,000–49,999	1538	3.0	1.7 - 4.3
\$50,000–74,999	1694	1.9	1.2 - 2.7
\$75,000+	4218	0.7	0.3 - 1.0
REGION			
I–WESTERN	1978	2.9	1.9 - 3.8
II–CENTRAL	1872	2.5	1.6 - 3.4
III–NORTH EAST	3247	2.0	1.4 - 2.6
IV–METRO WEST	1878	2.1	1.5 - 2.8
V–SOUTH EAST	3564	2.9	2.1 - 3.6
VI–BOSTON	1504	2.9	1.8 - 3.9

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

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Section 4.4: Cancer Diagnosis

The number of cancer survivors increased from 1.5% of US population in 1971 to 3.9% of US population in 2007. This increase in cancer survivors can be attributed to multiple factors including: earlier detection, improved diagnostic methods, more effective treatment, improved clinical follow up after treatment, and an aging U.S. population. Breast, prostate and colorectal cancers are the most common types of cancer among survivors.^[39]

In Massachusetts, though cancer rates fluctuated by year, overall cancer incidence from 2003-2007 remained unchanged for both males and females. During the same time period, cancer mortality decreased by 1.3% per year for males and 2.1% per year for females. The most common cancer diagnoses for men during this time period were prostate, bronchus and lung, colon/rectum and urinary bladder. For women, the most commonly diagnosed cancers were breast, bronchus and lung, colon/rectum, and uterus.^[40]

Presented below is the percentage of adults who were ever told they had one or more types of cancer by a doctor, nurse, or other health professional.

TABLE 4.4 – CANCER DIAGNOSIS AMONG MASSACHUSETTS ADULTS, 2010

	EVER DIAGNOSED WITH CANCER		
	N	%	95% CI
OVERALL	14513	9.2	8.6 - 9.8
GENDER			
MALE	5403	8.0	7.1 - 8.8
FEMALE	9110	10.2	9.4 - 11.1
AGE GROUP			
18–24	†		
25–34	†		
35–44	2230	3.3	2.4 - 4.3
45–54	3090	7.7	6.4 - 9.0
55–64	3255	13.7	12.0 - 15.3
65–74	2240	23.3	20.8 - 25.8
75 AND OLDER	1957	27.5	24.8 - 30.2
RACE-ETHNICITY*			
WHITE	11989	10.3	9.6 - 11.0
BLACK	675	5.2	3.0 - 7.3
HISPANIC	1091	4.0	2.2 - 5.9
ASIAN	†		
DISABILITY[¶]			
DISABILITY	3379	16.9	15.0 - 18.7
NO DISABILITY	10213	7.1	6.5 - 7.7
EDUCATION			
< HIGH SCHOOL	1314	9.5	7.0 - 12.0
HIGH SCHOOL	3517	9.0	7.8 - 10.3
COLLEGE 1–3 YRS	3339	9.2	7.9 - 10.5
COLLEGE 4+ YRS	6296	9.2	8.3 - 10.1
HOUSEHOLD INCOME			
<\$25,000	3289	11.6	10.0 - 13.1
\$25,000–34,999	1275	12.7	10.2 - 15.1
\$35,000–49,999	1582	11.1	9.1 - 13.1
\$50,000–74,999	1821	9.1	7.4 - 10.7
\$75,000+	4478	6.6	5.7 - 7.4
REGION			
I–WESTERN	2050	10.6	8.9 - 12.2
II–CENTRAL	1934	6.5	5.3 - 7.7
III–NORTH EAST	3400	8.5	7.1 - 9.8
IV–METRO WEST	1908	9.4	8.1 - 10.7
V–SOUTH EAST	3592	11.0	9.5 - 12.5
VI–BOSTON	1589	8.2	6.7 - 9.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

SECTION 5: CANCER SCREENING

SECTION 5: CANCER SCREENING

Section 5.1: Colorectal Cancer Screening

Cancer of the colon or rectum is the third leading cause of cancer-related death in the United States and it is projected that there will be 49,380 deaths due to colorectal cancer in 2011. It is estimated that more than half of these lives could have been saved with recommended screening such as fecal occult blood tests, sigmoidoscopy, and colonoscopy, screening procedures that are performed to detect colorectal cancer in the early stages.^[41]

Respondents, ages 50 and older, were asked if they ever had had a blood stool test using a home test kit to determine if their stool contained blood and were also asked if they had ever had a sigmoidoscopy or colonoscopy, tests that examine the bowel for signs of cancer or other health problems. Presented here is the percentage of adults who had a blood stool test using a home test kit in the past two years and the percentage of adults who had a sigmoidoscopy or colonoscopy in the past five years.

TABLE 5.1 – COLORECTAL CANCER SCREENING AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2010

	BLOOD STOOL TEST IN THE PAST TWO YEARS				SIGMOIDOSCOPY OR COLONOSCOPY IN PAST FIVE YEARS			
	N	%	95% CI		N	%	95% CI	
OVERALL	9192	18.3	17.1	- 19.4	9259	63.2	61.7	- 64.6
GENDER								
MALE	3349	17.5	15.7	- 19.2	3373	65.0	62.7	- 67.4
FEMALE	5843	18.9	17.5	- 20.3	5886	61.7	59.9	- 63.5
AGE GROUP								
50-59	3293	12.0	10.5	- 13.5	3324	59.6	57.2	- 62.1
60-69	2994	22.3	20.2	- 24.5	3014	68.5	66.0	- 70.9
70-79	1750	24.8	21.9	- 27.7	1759	68.0	64.9	- 71.0
80 AND OLDER	1155	21.6	18.3	- 24.9	1162	55.3	51.4	- 59.3
RACE-ETHNICITY*								
WHITE	7996	18.6	17.4	- 19.7	8061	63.8	62.3	- 65.3
BLACK	358	22.8	15.9	- 29.7	358	64.6	57.0	- 72.2
HISPANIC	490	17.0	10.5	- 23.4	486	55.2	47.1	- 63.3
ASIAN	†				50	66.4	48.8	- 84.0
DISABILITY¶								
DISABILITY	2516	21.0	18.7	- 23.4	2551	64.0	61.2	- 66.7
NO DISABILITY	5995	17.5	16.2	- 18.8	6023	63.3	61.6	- 65.1
EDUCATION								
< HIGH SCHOOL	992	18.8	14.9	- 22.8	974	56.2	50.3	- 62.1
HIGH SCHOOL	2450	17.4	15.2	- 19.5	2470	58.8	55.9	- 61.7
COLLEGE 1-3 YRS	2072	22.1	19.5	- 24.6	2083	61.0	58.0	- 64.1
COLLEGE 4+ YRS	3654	16.7	15.1	- 18.3	3707	67.6	65.5	- 69.7
HOUSEHOLD INCOME								
<\$25,000	2387	21.0	18.5	- 23.6	2392	56.6	53.4	- 59.8
\$25,000-34,999	930	20.8	17.1	- 24.6	934	64.2	59.7	- 68.7
\$35,000-49,999	1025	18.0	14.8	- 21.2	1041	60.9	56.6	- 65.2
\$50,000-74,999	1099	17.2	14.1	- 20.3	1116	62.9	58.8	- 67.0
\$75,000+	2288	17.2	15.2	- 19.2	2310	68.4	65.8	- 71.0
REGION								
I-WESTERN	1382	16.5	13.8	- 19.1	1393	61.7	58.1	- 65.2
II-CENTRAL	1200	22.2	19.0	- 25.5	1210	65.9	62.2	- 69.6
III-NORTH EAST	2041	18.7	16.0	- 21.4	2055	61.1	57.6	- 64.5
IV-METRO WEST	1196	17.5	15.1	- 19.9	1214	64.0	60.8	- 67.1
V-SOUTH EAST	2401	17.7	15.4	- 19.9	2397	62.6	59.4	- 65.8
VI-BOSTON	957	18.1	14.8	- 21.4	975	65.4	61.4	- 69.5

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† Insufficient data

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Section 5.2: Prostate Cancer Screening

Prostate cancer is the second leading cause of cancer death in American men, behind only lung cancer. Almost 2 out of 3 prostate cancers are found in men over the age of 65.^[42] Prostate cancer was the most commonly diagnosed cancer among Massachusetts males, and the second leading cause of cancer deaths.^[43]

Men aged 50 and older were asked if they had ever had a prostate-specific antigen test (PSA), a blood test used to indicate an increased risk of prostate cancer. Those who responded yes were asked how long it had been since their last PSA test. The percentage of males aged 50 and older who reported that they had had a PSA test in the past year is presented.

A digital rectal exam (DRE) is an exam in which a doctor, nurse, or other health professional places a gloved finger into the rectum to feel the size, shape, and hardness of the prostate gland. Male respondents aged 50 and older were asked if they had had a digital rectal exam, and if so, how long it had been since their last DRE. Presented below is the percentage of males aged 50 and older who have had a DRE in the past year.

**TABLE 5.2 – PROSTATE CANCER SCREENING AMONG MASSACHUSETTS MEN
AGES 50 AND OLDER, 2010**

	PROSTATE SPECIFIC ANTIGEN TEST IN THE PAST YEAR				DIGITAL RECTAL EXAM IN THE PAST YEAR			
	N	%	95% CI		N	%	95% CI	
OVERALL	3187	60.0	57.5	- 62.5	3356	64.4	62.0	- 66.7
AGE GROUP								
50-59	1211	50.1	46.0	- 54.3	1279	61.2	57.2	- 65.1
60-69	1068	67.0	62.9	- 71.1	1116	67.5	63.5	- 71.5
70-79	570	73.0	68.0	- 78.0	595	67.8	62.5	- 73.1
80 AND OLDER	338	62.2	55.0	- 69.3	366	63.3	56.5	- 70.1
RACE-ETHNICITY*								
WHITE	2789	61.0	58.4	- 63.6	2939	65.4	62.9	- 67.8
BLACK	109	63.8	51.0	- 76.7	113	63.8	51.4	- 76.2
HISPANIC	144	56.5	43.2	- 69.9	148	54.7	41.2	- 68.2
ASIAN	†				†			
DISABILITY¶								
DISABILITY	858	58.2	53.4	- 62.9	920	60.8	56.1	- 65.5
NO DISABILITY	2104	61.0	57.9	- 64.0	2197	65.9	63.0	- 68.8
EDUCATION								
< HIGH SCHOOL	307	50.1	40.1	- 60.1	326	49.3	38.5	- 60.1
HIGH SCHOOL	768	57.9	52.8	- 63.0	812	58.5	53.4	- 63.5
COLLEGE 1–3 YRS	690	60.1	54.7	- 65.4	728	63.4	58.3	- 68.4
COLLEGE 4+ YRS	1416	62.2	58.7	- 65.8	1484	69.4	66.2	- 72.7
HOUSEHOLD INCOME								
<\$25,000	707	55.3	49.3	- 61.3	747	53.5	47.6	- 59.4
\$25,000–34,999	304	62.0	54.4	- 69.6	320	66.0	58.3	- 73.7
\$35,000–49,999	392	59.2	52.1	- 66.3	408	61.1	54.2	- 68.1
\$50,000–74,999	431	62.1	55.6	- 68.6	449	66.8	60.6	- 73.1
\$75,000+	999	61.2	57.1	- 65.3	1051	68.5	64.6	- 72.3
REGION								
I–WESTERN	478	52.6	46.4	- 58.8	505	59.6	53.7	- 65.6
II–CENTRAL	428	62.7	56.3	- 69.1	445	66.2	59.8	- 72.6
III–NORTH EAST	717	59.9	54.1	- 65.7	759	64.2	58.7	- 69.7
IV–METRO WEST	424	64.7	59.5	- 69.9	447	71.1	66.3	- 75.9
V–SOUTH EAST	835	59.0	53.5	- 64.5	878	60.3	54.9	- 65.8
VI–BOSTON	300	60.6	53.1	- 68.2	316	63.7	56.4	- 71.0

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

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Section 5.3: Breast Cancer Screening

Cancer of the breast is the most commonly diagnosed cancer among women in the United States. In 2008, breast cancer was the second leading cause of cancer death among Massachusetts women.^[24] Early detection of breast cancer can occur through the use of screening tools such as mammography and clinical breast exams. A mammogram, an X-ray of the breast, is the one of the methods to detect breast cancer early, before it is large enough to feel or to cause symptoms.^[44]

All female respondents were asked about breast cancer screening. Those women who reported that they had ever had a mammogram were asked how long it had been since their last mammogram. Those women who reported that they ever had a clinical breast exam (when a doctor, nurse or other health professional feels the breast for lumps) were asked how long it had been since their last clinical breast exam. One Healthy People 2020 objective is to increase the proportion of women who have breast cancer screening by 10% to 81.1%.^[3] The percentage of women age 40 and older in Massachusetts who reported that they had had a mammogram in the past two years is presented in this report.

**TABLE 5.3 – BREAST CANCER SCREENING AMONG MASSACHUSETTS WOMEN
AGES 40 AND OLDER, 2010**

	MAMMOGRAM IN THE PAST 2 YEARS				CLINICAL BREAST EXAM IN THE PAST 2 YEARS			
	N	%	95% CI		N	%	95% CI	
OVERALL	7678	83.6	82.2	- 85.0	7610	86.8	85.6	- 87.9
AGE GROUP								
40-49	1684	76.5	73.4	- 79.5	1674	89.0	86.7	- 91.2
50-59	2063	88.9	86.8	- 91.0	2045	89.6	87.5	- 91.7
50-69	1923	90.0	88.2	- 91.9	1908	89.7	87.9	- 91.5
70-79	1199	88.6	85.9	- 91.2	1186	81.7	78.7	- 84.7
80+	809	76.4	72.5	- 80.3	797	68.7	64.4	- 73.0
RACE-ETHNICITY*								
WHITE	6531	83.9	82.5	- 85.4	6482	87.1	85.9	- 88.4
BLACK	356	88.1	82.9	- 93.3	349	91.3	87.9	- 94.8
HISPANIC	509	81.5	74.5	- 88.5	498	81.9	76.9	- 86.9
ASIAN	59	70.7	54.4	- 87.0	59	75.0	60.1	- 89.8
DISABILITY [†]								
DISABILITY	1974	81.2	78.4	- 84.0	1947	82.6	80.2	- 85.0
NO DISABILITY	5181	84.4	82.7	- 86.0	5149	88.5	87.1	- 89.8
EDUCATION								
< HIGH SCHOOL	790	80.7	74.6	- 86.9	777	73.7	67.3	- 80.1
HIGH SCHOOL	2008	80.8	78.0	- 83.5	1995	81.3	78.8	- 83.8
COLLEGE 1–3 YRS	1800	82.8	79.9	- 85.8	1778	87.1	84.7	- 89.5
COLLEGE 4+ YRS	3058	85.8	83.8	- 87.7	3040	90.8	89.4	- 92.3
HOUSEHOLD INCOME								
<\$25,000	1998	77.7	74.7	- 80.8	1980	76.1	73.1	- 79.1
\$25,000–34,999	731	82.3	77.7	- 86.9	719	81.1	76.8	- 85.4
\$35,000–49,999	814	84.5	80.4	- 88.7	802	89.0	86.0	- 92.0
\$50,000–74,999	879	84.7	80.5	- 89.0	873	89.1	85.2	- 92.9
\$75,000+	1981	85.2	82.8	- 87.6	1973	92.4	90.7	- 94.0
REGION								
I–WESTERN	1124	79.9	76.0	- 83.7	1117	82.6	79.1	- 86.1
II–CENTRAL	999	80.8	76.9	- 84.8	989	87.1	83.9	- 90.2
III–NORTH EAST	1709	86.0	83.0	- 89.1	1688	88.9	86.6	- 91.2
IV–METRO WEST	1019	84.1	81.2	- 87.0	1015	88.6	86.3	- 90.9
V–SOUTH EAST	1945	86.0	83.4	- 88.6	1931	86.2	83.7	- 88.6
VI–BOSTON	866	83.0	79.0	- 87.0	854	85.6	82.5	- 88.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 5.4: Cervical Cancer Screening

Cervical cancer can be detected and treated early if women are screened regularly with a Pap smear, also referred to as a Pap test. Most often cervical cancer develops in women ages 40 and older; however, precursors to cervical cancer most often occur in young women. Pap smears reduce both the incidence of and mortality from cervical cancer.^[45] HPV infection is the primary risk factor for cervical cancer and sexually transmitted HPV infection is more common among women in their late teens and early twenties. Although HPV infection is common, only a small percentage develop into cervical cancer.^[46] Women who have been sexually active should have regular Pap tests at least every three years as the chances of being cured are higher if cervical cancer is detected early.^[47] (See Also Section 3.8, HPV Vaccine)

All women were asked if they ever had had a Pap smear, a screening test for cancer of the cervix. Those who reported that they had had a Pap smear were then asked how long it had been since their last Pap smear. The percentage of women who reported having had a Pap smear in the past 3 years is presented.

TABLE 5.4 – CERVICAL CANCER SCREENING AMONG MASSACHUSETTS WOMEN, 2010

	PAP SMEAR TEST WITHIN PAST 3 YEARS				
	N	%	95% CI		
OVERALL	9323	84.5	83.4	-	85.6
AGE GROUP					
18–24	173	77.0	67.4	-	86.6
25–34	804	93.2	89.9	-	96.4
35–44	1415	92.6	90.7	-	94.6
45–54	1928	92.5	90.8	-	94.3
55–64	2078	84.2	82.0	-	86.5
65–74	1464	72.8	69.6	-	76.0
75 AND OLDER	1318	47.2	43.4	-	50.9
RACE-ETHNICITY*					
WHITE	7591	84.2	83.0	-	85.3
BLACK	486	90.5	87.6	-	93.3
HISPANIC	802	85.2	80.6	-	89.8
ASIAN	139	89.5	84.0	-	95.0
DISABILITY [¶]					
DISABILITY	2198	76.6	73.9	-	79.2
NO DISABILITY	6532	87.3	86.1	-	88.5
EDUCATION					
< HIGH SCHOOL	887	72.4	66.7	-	78.1
HIGH SCHOOL	2296	75.9	73.2	-	78.7
COLLEGE 1–3 YRS	2230	83.8	81.8	-	85.9
COLLEGE 4+ YRS	3879	89.8	88.5	-	91.2
HOUSEHOLD INCOME					
<\$25,000	2348	71.3	68.2	-	74.5
\$25,000–34,999	864	75.1	70.9	-	79.3
\$35,000–49,999	984	84.6	81.4	-	87.8
\$50,000–74,999	1108	87.0	83.6	-	90.5
\$75,000+	2545	93.7	92.5	-	94.9
REGION					
I–WESTERN	1342	79.7	76.4	-	82.9
II–CENTRAL	1224	83.0	80.3	-	85.7
III–NORTH EAST	2131	85.8	83.4	-	88.3
IV–METRO WEST	1210	87.5	85.4	-	89.7
V–SOUTH EAST	2295	83.7	81.3	-	86.0
VI–BOSTON	1095	85.4	82.1	-	88.8

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

SECTION 6: OTHER TOPICS

SECTION 6: OTHER TOPICS

Section 6.1: Sexual Orientation

Health research indicates that health disparities exist between the homosexual (gay, lesbian)/bisexual population and the heterosexual population.^[48] Differences exist with respect to access to health care, overall health status, cancer screening, chronic health conditions, mental health, substance use including tobacco smoking, sexual health, and violence/victimization. Fear of discrimination and stigma keep many from seeking care or disclosing relevant information once in care.^[49]

All respondents were asked if they considered themselves to be heterosexual or straight, homosexual (gay, lesbian), bisexual or other. The percentage of those who self-identified as homosexual, bisexual or other is presented.

TABLE 6.1 - SEXUAL ORIENTATION AMONG MASSACHUSETTS ADULTS, 2010

	SELF-IDENTIFIED AS HOMOSEXUAL, BISEXUAL OR OTHER		
	N	%	95% CI
OVERALL	14936	3.3	2.8 - 3.7
GENDER			
MALE	5657	3.7	3.0 - 4.5
FEMALE	9279	2.8	2.3 - 3.3
AGE GROUP			
18–24	†		
25–34	1286	3.3	2.0 - 4.5
35–44	2346	3.3	2.3 - 4.2
45–54	3194	3.6	2.8 - 4.4
55–64	3315	2.7	2.1 - 3.4
65–74	2277	2.8	1.7 - 3.8
75 AND OLDER	1990	2.0	1.3 - 2.8
RACE-ETHNICITY*			
WHITE	12331	3.1	2.7 - 3.6
BLACK	†		
HISPANIC	1157	2.4	1.3 - 3.5
ASIAN	†		
DISABILITY[¶]			
DISABILITY	3491	4.4	3.2 - 5.6
NO DISABILITY	10508	3.0	2.5 - 3.5
EDUCATION			
< HIGH SCHOOL	1356	3.2	1.8 - 4.6
HIGH SCHOOL	3720	2.6	1.5 - 3.7
COLLEGE 1–3 YRS	3456	2.9	2.1 - 3.8
COLLEGE 4+ YRS	6372	3.7	3.1 - 4.3
HOUSEHOLD INCOME			
<\$25,000	3465	4.6	3.5 - 5.8
\$25,000–34,999	1326	3.8	2.2 - 5.3
\$35,000–49,999	1638	3.5	2.2 - 4.7
\$50,000–74,999	1866	3.1	2.0 - 4.2
\$75,000+	4631	2.8	2.1 - 3.5
REGION			
I–WESTERN	2118	3.4	2.4 - 4.5
II–CENTRAL	1974	2.2	1.2 - 3.1
III–NORTH EAST	3521	3.2	2.1 - 4.3
IV–METRO WEST	1946	3.2	2.1 - 4.4
V–SOUTH EAST	3686	2.6	1.8 - 3.4
VI–BOSTON	1654	6.6	5.1 - 8.1

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 6.2: HIV Testing

In Massachusetts, the number of people living with HIV/AIDS increases each year due to the fact that 1) new HIV infection diagnoses exceed the number of deaths among people reported with HIV/AIDS and 2) there are more survivors due to improved treatment options over time. An estimated 21% of people infected with HIV do not know they have it. Early awareness of an HIV infection through HIV testing can prevent further spread of the disease.^[50]

All respondents ages 18-64 were asked if they had ever been tested for HIV. Respondents were told not to include times that HIV testing had been done as part of a blood donation. Respondents who reported that they had ever been tested for HIV were asked the date of their most recent HIV test. Presented here are the percentage of adults ages 18-64 who report ever having been tested for HIV and the percentage who had been tested in the past year.

TABLE 6.2 – HIV TESTING AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2010

	EVER TESTED FOR HIV				TESTED FOR HIV IN PAST YEAR			
	N	%	95% CI		N	%	95% CI	
OVERALL	10169	44.5	43.0	- 46.0	9070	8.0	7.1	- 8.9
GENDER								
MALE	3923	42.4	40.0	- 44.8	3541	7.5	6.2	- 8.8
FEMALE	6246	46.5	44.6	- 48.4	5529	8.5	7.3	- 9.8
AGE GROUP								
18–24	335	33.0	25.6	- 40.4	306	14.4	9.4	- 19.4
25–34	1229	56.1	51.9	- 60.3	1108	14.2	11.4	- 17.1
35–44	2261	57.1	54.3	- 60.0	1967	8.5	6.8	- 10.3
45–54	3119	36.5	34.1	- 38.9	2773	5.6	4.4	- 6.8
55–64	3225	23.4	21.3	- 25.5	2916	2.1	1.4	- 2.7
RACE-ETHNICITY*								
WHITE	8101	41.3	39.6	- 42.9	7315	6.3	5.4	- 7.2
BLACK	550	65.4	58.5	- 72.3	457	15.0	10.5	- 19.5
HISPANIC	952	59.4	53.7	- 65.1	790	21.1	16.1	- 26.1
ASIAN	230	37.3	28.3	- 46.3	†			
DISABILITY¶								
DISABILITY	2147	53.7	50.1	- 57.3	1821	11.5	8.8	- 14.2
NO DISABILITY	7523	42.6	40.9	- 44.4	6823	7.3	6.4	- 8.3
EDUCATION								
< HIGH SCHOOL	751	55.1	48.0	- 62.2	627	18.5	11.9	- 25.2
HIGH SCHOOL	2181	39.6	36.1	- 43.2	1954	8.8	6.7	- 11.0
COLLEGE 1–3 YRS	2410	45.8	42.6	- 48.9	2142	9.3	7.4	- 11.3
COLLEGE 4+ YRS	4806	44.8	42.7	- 46.9	4331	6.2	5.2	- 7.3
HOUSEHOLD INCOME								
<\$25,000	1938	55.2	51.1	- 59.3	1661	17.3	13.8	- 20.8
\$25,000–34,999	747	42.7	36.8	- 48.6	675	12.2	8.0	- 16.4
\$35,000–49,999	1062	43.2	38.4	- 48.0	959	6.3	3.7	- 8.8
\$50,000–74,999	1414	41.2	37.1	- 45.4	1291	7.0	4.6	- 9.4
\$75,000+	3923	44.2	42.0	- 46.5	3563	6.0	4.9	- 7.2
REGION								
I–WESTERN	1437	43.6	39.7	- 47.6	1295	8.4	6.3	- 10.6
II–CENTRAL	1374	42.4	38.5	- 46.4	1239	5.4	3.7	- 7.1
III–NORTH EAST	2438	43.0	39.4	- 46.5	2162	8.9	6.6	- 11.2
IV–METRO WEST	1325	45.3	41.9	- 48.7	1181	6.6	4.7	- 8.4
V–SOUTH EAST	2403	39.8	36.3	- 43.2	2172	6.9	4.9	- 8.9
VI–BOSTON	1166	61.0	56.9	- 65.0	998	17.8	13.7	- 21.8

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 6.3: Sexual Violence

Sexual violence results in harmful and lasting consequences for victims, families, and communities. In addition to the potential for injury and the psychological consequences of being a victim of sexual violence, many victims experience physiological problems. Physiological problems include chronic headaches, back pain, fatigue, sleep disturbances, recurrent nausea, decreased appetite, menstrual pain, and sexual dysfunction.^[51] Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse.^{[52] [53]}

Respondents were asked if they had experienced sexual violence at any time in their lifetimes. Sexual violence was defined as having the sexual parts of the body touched without consent or attempted or completed sex without consent. Presented here are the percentages of men and women who reported that they had experienced sexual violence at some time in their lifetimes.

TABLE 6.3 – SEXUAL VIOLENCE AMONG MASSACHUSETTS ADULTS, 2010**

	SEXUAL VIOLENCE, WOMEN				SEXUAL VIOLENCE, MEN			
	N	%	95% CI		N	%	95% CI	
OVERALL	2188	16.6	14.1	- 19.0	1437	4.9	3.1	- 6.8
AGE GROUP								
18–24	†				†			
25–34	211	12.1	6.0	- 18.2	†			
35–44	360	22.2	16.4	- 28.1	232	7.8	3.3	- 12.4
45–54	462	16.8	12.2	- 21.4	†			
55–64	495	19.2	14.1	- 24.3	†			
65–74	335	9.1	4.9	- 13.3	†			
75 AND OLDER	†				†			
RACE-ETHNICITY*								
WHITE	1789	16.4	13.7	- 19.1	1228	5.4	3.3	- 7.5
BLACK	†				†			
HISPANIC	207	16.9	8.3	- 25.6	†			
ASIAN	†				†			
DISABILITY¶								
DISABILITY	488	27.8	21.1	- 34.5	324	12.2	5.4	- 19.0
NO DISABILITY	1572	13.8	11.1	- 16.4	1027	3.5	1.7	- 5.2
EDUCATION								
< HIGH SCHOOL	186	23.0	10.3	- 35.7	†			
HIGH SCHOOL	476	11.8	6.9	- 16.7	†			
COLLEGE 1–3 YRS	547	18.9	13.7	- 24.2	†			
COLLEGE 4+ YRS	977	16.3	12.8	- 19.7	690	3.6	1.6	- 5.7
HOUSEHOLD INCOME								
<\$25,000	521	22.1	15.3	- 28.8	†			
\$25,000–34,999	171	20.0	10.1	- 29.8	†			
\$35,000–49,999	224	14.7	8.4	- 21.0	†			
\$50,000–74,999	288	16.3	9.9	- 22.6	†			
\$75,000+	687	15.5	11.7	- 19.4	†			
REGION								
I–WESTERN	332	13.4	7.9	- 18.8	†			
II–CENTRAL	265	15.1	8.5	- 21.7	†			
III–NORTH EAST	489	14.8	9.2	- 20.5	†			
IV–METRO WEST	289	17.0	12.0	- 22.0	†			
V–SOUTH EAST	535	18.6	12.5	- 24.7	†			
VI–BOSTON	273	21.8	12.9	- 30.7	†			

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† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

** In 2005 the sexual violence questions were changed. As such, percentages are not comparable to year prior to 2005.

Section 6.4: Drinking and Driving

Alcohol-related motor vehicle crashes killed 11,773 people in 2008, representing an average of one alcohol-related fatality every 45 minutes. In the same year, 32 percent of all traffic-related deaths in the United States were caused by alcohol-related motor vehicle crashes.^[54] In 2009, there were 347 motor vehicle fatalities in Massachusetts, of which 39% involved the use of drugs and alcohol.^[55] Effective measures to prevent injuries and deaths from alcohol-related motor vehicle crashes should be taken including health promotion to influence policy and community-based efforts.

All respondents were asked if they had had at least one alcoholic drink in the past month, defined as one can or bottle of beer, one glass of wine, one can or bottle of wine cooler, one cocktail, or one shot of liquor. Those who reported that they had had at least one alcoholic drink in the past month were asked how many times during the past 30 days they had driven after having too much to drink. Presented here is the percentage of all adults who reported driving at least one time during the past month after drinking too much in their opinion.

TABLE 6.4 – DRINKING AND DRIVING AMONG MASSACHUSETTS ADULTS, 2010

	DRINKING AND DRIVING IN PAST 30 DAYS		
	N	%	95% CI
OVERALL	15339	2.9	2.4 - 3.4
GENDER			
MALE	5716	4.2	3.3 - 5.0
FEMALE	9623	1.7	1.2 - 2.2
AGE GROUP			
18–24	341	8.2	3.7 - 12.6
25–34	1281	4.0	2.3 - 5.8
35–44	2348	3.8	2.6 - 4.9
45–54	3249	1.8	1.2 - 2.5
55–64	3394	1.9	1.3 - 2.6
65–74	2375	1.8	0.9 - 2.6
75 AND OLDER	†		
RACE-ETHNICITY*			
WHITE	12607	2.9	2.4 - 3.4
BLACK	†		
HISPANIC	†		
ASIAN	†		
DISABILITY¶			
DISABILITY	3572	2.0	1.1 - 2.9
NO DISABILITY	10777	3.1	2.5 - 3.6
EDUCATION			
< HIGH SCHOOL	†		
HIGH SCHOOL	3777	2.9	1.8 - 4.0
COLLEGE 1–3 YRS	3524	4.1	2.9 - 5.3
COLLEGE 4+ YRS	6544	2.6	2.0 - 3.3
HOUSEHOLD INCOME			
<\$25,000	3557	1.6	0.8 - 2.5
\$25,000–34,999	1358	3.1	1.3 - 4.9
\$35,000–49,999	1653	3.3	2.1 - 4.5
\$50,000–74,999	1887	3.8	2.3 - 5.3
\$75,000+	4639	3.4	2.5 - 4.2
REGION			
I–WESTERN	2170	4.0	2.4 - 5.5
II–CENTRAL	2045	2.7	1.4 - 4.0
III–NORTH EAST	3584	2.0	1.1 - 2.8
IV–METRO WEST	2003	2.9	1.8 - 4.0
V–SOUTH EAST	3796	2.7	1.8 - 3.7
VI–BOSTON	1696	3.6	1.9 - 5.3

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 6.5: Unintentional Falls

Falls are an important yet preventable public health problem among older adults. These events can lead to significant injury and disability as well as precipitate a downward decline in the health of older adults. The types of injuries which can result from a fall include, but are not limited to, traumatic brain injuries, hip and other limb fractures, sprains and strains. Massachusetts residents ages 65 years and over have the highest rates of traumatic brain injury-related (TBI) death and inpatient hospitalizations, compared with other age groups; the leading cause of these TBI's is a fall.^[56]

In 2009, falls were a leading cause of injury-related hospitalizations (28,212), observation stays (3,629), and emergency department visits (193,276) among Massachusetts residents.^{[57][58][59]} In 2008, there were 496 fall-related deaths (both intentional and unintentional), which have increased an average of 18% per year since 2004. Fall-related deaths were the second leading cause of all injury and unintentional injury deaths (they were the third leading cause in 2007). The vast majority (81%) of these deaths occurred among older adults ages 65 years and older.^[24]

Respondents ages 45 and older were asked if they had fallen in the past 3 months. They were also asked if they were injured by a fall in the past 3 months. A fall was defined as unintentionally coming to rest on the ground or another lower level. An injury from a fall was defined as one that caused the respondent to limit regular activities for at least a day or to go see a doctor. Presented here is the percentage of adults ages 45 and older who reported falling in the past 3 months and the percentage that were injured from a fall in the past 3 months.

TABLE 6.5 - UNINTENTIONAL FALLS, MASSACHUSETTS ADULTS 45 AND OLDER, 2010

	UNINTENTIONAL FALLS					INJURED BY UNINTENTIONAL FALL				
	N	%	95% CI			N	%	95% CI		
OVERALL	11045	14.2	13.2	-	15.1	11039	4.7	4.2	-	5.2
GENDER										
MALE	4079	13.5	12.0	-	15.1	4076	3.4	2.7	-	4.2
FEMALE	6966	14.7	13.5	-	15.8	6963	5.7	5.0	-	6.5
AGE GROUP										
45-54	3234	14.2	12.5	-	15.9	3231	4.1	3.3	-	5.0
55-64	3374	14.0	12.4	-	15.6	3374	5.2	4.1	-	6.2
65-74	2355	12.7	10.8	-	14.5	2354	4.0	2.9	-	5.1
75-84	1556	15.5	12.9	-	18.1	1556	5.5	3.8	-	7.2
85 AND OLDER	526	17.3	13.1	-	21.5	524	7.0	4.3	-	9.7
RACE-ETHNICITY*										
WHITE	9518	14.7	13.7	-	15.7	9513	4.8	4.2	-	5.4
BLACK	461	10.5	5.9	-	15.1	460	3.6	1.8	-	5.4
HISPANIC	623	11.7	7.7	-	15.6	623	5.3	2.9	-	7.7
ASIAN	†					†				
DISABILITY [¶]										
DISABILITY	2924	25.4	23.1	-	27.7	2921	9.9	8.4	-	11.5
NO DISABILITY	7332	10.6	9.5	-	11.6	7329	3.0	2.4	-	3.5
EDUCATION										
< HIGH SCHOOL	1147	15.8	12.6	-	18.9	1144	6.6	4.5	-	8.6
HIGH SCHOOL	2891	13.6	11.7	-	15.4	2889	5.2	4.1	-	6.4
COLLEGE 1-3 YRS	2501	14.8	12.9	-	16.7	2500	5.0	3.9	-	6.2
COLLEGE 4+ YRS	4478	13.9	12.5	-	15.3	4478	4.0	3.3	-	4.7
HOUSEHOLD INCOME										
<\$25,000	2749	19.1	16.9	-	21.4	2747	8.2	6.5	-	9.8
\$25,000-34,999	1052	13.0	10.3	-	15.6	1052	4.7	3.1	-	6.3
\$35,000-49,999	1234	14.9	11.9	-	17.8	1234	5.3	3.5	-	7.0
\$50,000-74,999	1327	13.2	10.8	-	15.6	1327	3.1	2.0	-	4.2
\$75,000+	2970	13.0	11.4	-	14.7	2970	3.5	2.6	-	4.3
REGION										
I-WESTERN	1639	14.6	12.2	-	17.0	1639	4.9	3.6	-	6.2
II-CENTRAL	1437	15.7	13.1	-	18.2	1437	5.0	3.6	-	6.5
III-NORTH EAST	2464	13.9	11.6	-	16.1	2462	3.7	2.7	-	4.7
IV-METRO WEST	1470	13.6	11.7	-	15.6	1470	4.6	3.5	-	5.8
V-SOUTH EAST	2854	14.0	12.0	-	16.0	2852	5.1	3.8	-	6.4
VI-BOSTON	1160	12.4	9.9	-	14.9	1158	4.6	3.1	-	6.2

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 6.6: Seatbelt Use

Traffic crashes are the leading cause of unintentional death in the United States and the third leading cause of unintentional injury death in Massachusetts.^[24] In 2009, there were an additional 3,598 hospital discharges and 67,461 emergency department visits, and 701 observations stays at MA acute care hospitals associated with nonfatal motor vehicle occupant injuries.^{[57][58][59]} Wearing a seatbelt is the simplest and least expensive way to reduce deaths and serious injuries. When crash victims are unbuckled, their medical treatment costs are 50 percent higher.^[60] Seat belt use is required by law in Massachusetts.

Respondents were asked how often they wear a seatbelt when riding or driving in a car. Presented here is the percentage of adults who reported that they always wear their seatbelts.

TABLE 6.6 – SEATBELT USE AMONG MASSACHUSETTS ADULTS, 2010

	ALWAYS USE A SEATBELT			
	N	%	95% CI	
OVERALL	15180	82.7	81.7	- 83.7
GENDER				
MALE	5674	76.6	74.9	- 78.3
FEMALE	9506	88.1	87.1	- 89.2
AGE GROUP				
18–24	339	70.5	62.5	- 78.4
25–34	1273	81.4	78.3	- 84.5
35–44	2338	83.1	81.0	- 85.2
45–54	3232	84.4	82.6	- 86.3
55–64	3370	83.7	81.9	- 85.5
65–74	2338	81.0	78.6	- 83.5
75 AND OLDER	2062	85.1	82.9	- 87.3
RACE-ETHNICITY*				
WHITE	12515	82.8	81.7	- 83.9
BLACK	712	75.0	69.4	- 80.6
HISPANIC	1135	84.1	80.4	- 87.8
ASIAN	261	93.3	89.5	- 97.1
DISABILITY [†]				
DISABILITY	3505	78.1	75.8	- 80.5
NO DISABILITY	10716	84.2	83.0	- 85.3
EDUCATION				
< HIGH SCHOOL	1380	72.4	67.4	- 77.5
HIGH SCHOOL	3711	76.0	73.5	- 78.5
COLLEGE 1–3 YRS	3499	79.4	77.2	- 81.6
COLLEGE 4+ YRS	6540	88.0	86.8	- 89.2
HOUSEHOLD INCOME				
<\$25,000	3452	76.5	73.9	- 79.2
\$25,000–34,999	1343	79.6	75.9	- 83.3
\$35,000–49,999	1648	79.6	76.4	- 82.8
\$50,000–74,999	1883	80.1	77.0	- 83.3
\$75,000+	4642	86.0	84.5	- 87.5
REGION				
I–WESTERN	2147	82.0	79.4	- 84.6
II–CENTRAL	2031	80.3	77.4	- 83.3
III–NORTH EAST	3545	81.3	78.9	- 83.7
IV–METRO WEST	1996	88.0	86.2	- 89.8
V–SOUTH EAST	3754	81.4	79.3	- 83.6
VI–BOSTON	1664	78.2	74.9	- 81.5

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

Section 6.7: Family Planning

An unplanned pregnancy is a pregnancy that is unexpected at the time of conception. Women whose pregnancies are unplanned may seek prenatal care later, because they find out about their pregnancies later than women with planned pregnancies. Unplanned pregnancies are associated with an increased risk of morbidity for women and with health behaviors during pregnancy that may adversely affect the health of the newborn infant.^[61] In addition, in 2006, the public cost of births from unintended pregnancies was estimated at \$11.1 billion nationwide and \$181.8 million in Massachusetts.^[62]

All women ages 18-50 who were currently pregnant or had been pregnant in the past five years were asked if they had wanted to be pregnant sooner, later, or not at all. Unplanned pregnancy was defined as wanting to be pregnant later or not at all. Women ages 18-50, who had not had a hysterectomy or sterilization, were not currently pregnant, and whose partners were not reported to have been sterilized nor had a vasectomy also were asked whether they or their partners currently use some form of birth control. Presented below are the percentage of females ages 18-44 who reported an unplanned pregnancy and the percentage of females ages 18-44 who reported that they or their partner use some form of birth control. The more restricted ages are presented here to be consistent with national data.

TABLE 6.6 – FAMILY PLANNING AMONG MASSACHUSETTS WOMEN, AGES 18-44, 2010

	UNPLANNED PREGNANCY					USE BIRTH CONTROL				
	N	%	95% CI			N	%	95% CI		
OVERALL	305	18.6	13.1	-	24.0	649	74.9	70.2	-	79.6
AGE GROUP										
18–24	†					55	71.3	52.8	-	89.8
25–34	139	17.7	10.1	-	25.2	204	77.3	68.4	-	86.1
35–44	145	14.6	7.5	-	21.6	390	74.3	68.5	-	80.1
RACE-ETHNICITY*										
WHITE	202	15.9	9.6	-	22.2	444	77.5	72.1	-	82.8
BLACK	†					†				
HISPANIC	50	40.5	20.8	-	60.2	101	71.7	58.6	-	84.7
ASIAN	†					†				
DISABILITY [¶]										
DISABILITY	†					89	73.2	60.1	-	86.3
NO DISABILITY	259	18.0	12.0	-	24.0	525	75.1	70.0	-	80.3
EDUCATION										
< HIGH SCHOOL	†					†				
HIGH SCHOOL	52	41.8	21.3	-	62.4	123	70.5	57.9	-	83.0
COLLEGE 1–3 YRS	73	21.8	9.4	-	34.1	172	75.9	66.7	-	85.2
COLLEGE 4+ YRS	160	11.2	5.8	-	16.7	316	76.5	70.3	-	82.7
HOUSEHOLD INCOME										
<\$25,000	67	39.1	22.1	-	56.2	138	62.8	50.5	-	75.2
\$25,000–34,999	†					†				
\$35,000–49,999	†					74	82.0	72.0	-	92.0
\$50,000–74,999	†					83	75.5	61.9	-	89.2
\$75,000+	†					251	78.7	72.3	-	85.1
REGION										
I–WESTERN	†					88	73.8	60.8	-	86.8
II–CENTRAL	†					88	76.9	65.4	-	88.4
III–NORTH EAST	†					157	71.9	60.0	-	83.8
IV–METRO WEST	†					84	79.0	69.6	-	88.4
V–SOUTH EAST	†					139	75.1	64.0	-	86.3
VI–BOSTON	†					89	69.2	56.8	-	81.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

SECTION 7: SPECIAL TOPICS

Patient Reported Experiences with Health Care

Beginning in 2009, four questions were added to one split of the Massachusetts BRFSS sample to assess self-perceived quality of care by the interaction between patient and health care provider, as well as certain principles of Patient-Centered Medical Home coverage. All respondents who indicated that they had a personal physician were asked the following questions:

1. “In the last 12 months, when you called this doctor’s or health care provider’s office to get an appointment for care you needed right away, how often did you get an appointment as soon as you thought you needed it?”

2. “In the last 12 months, how often did this doctor or health care provider seem to know the important information about your medical history?”

3. “In the last 12 months, how often did this doctor or health care provider seem informed and up-to-date about the care you got from specialist doctors?”

4. “In the last 12 months, did this doctor or health care provider ask you about each of the different medicines you take, including medicines prescribed by other doctors?”

Response options for the first three questions included: ‘Never’, ‘Almost never’, ‘Sometimes’, ‘Usually’, ‘Almost always’, and ‘Always’. Response options for the fourth question included: ‘Yes’ and ‘No’.

The concept of a Patient-Centered Medical Home (PC-MH) has become increasingly popular in recent years. PC-MH is an approach to providing comprehensive care for children, youth and adults and it facilitates partnerships between individual patients, their personal physicians and the patient’s family.^[63] The following seven principles were developed in 2007 to describe the PC-MH: personal physician, physician directed medical practice, whole person orientation, care coordinated and/or integrated across all elements of the complex health care system, quality and safety, enhanced access, and payment.^[63] A personal physician is not limited to a primary care physician. Specialists may qualify as a personal physician and they may be eligible to serve as medical homes.^{[64][65]}

Below are results for the first two questions in the section, which were determined to provide the most accurate description of the patient’s health care experience. Results are presented by social and demographic characteristics, insurance type, health status, obesity, chronic conditions, and smoking for 2009 and 2010 Massachusetts BRFSS data. Two years of data were combined to increase sample size and enhance the precision of estimates. For the present analysis, the response options were collapsed to ‘Never, Almost never’ versus ‘Sometimes, Usually, Almost always, and Always’. If respondents replied to the first question that they did not need care for an illness or injury in the last 12 months, the rest of the questions in the section were skipped. Overall, 6.1% of adults said they ‘Never’ or ‘Almost never’ received an appointment when they thought they needed it, and 3.0% of adults said their doctor ‘Never’ or ‘Almost never’ knew their medical history.

The first question in the section most accurately represents the PC-MH principle of enhanced access and the second question best represents the principle of whole person orientation. These questions do not absolutely determine if the respondent is using a PC-MH or not, but rather show the respondent’s perception of their quality of care and give some explanation about how the PC-MH principles are being applied in Massachusetts.

The statistically significant results, based on the non-overlapping confidence intervals of estimates (see Terms, Definitions, and Statistical Methodology Used in This Report), from the social and demographic characteristics in Table 7.1 are as follows:

- Hispanic adults were more likely (11.4%) than White non-Hispanic adults (5.3%) to say they ‘Never’ or ‘Almost never’ received an appointment when they thought they needed it.

- Adults with less than a high school education were more likely (14.6%) to say they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to those who completed 1-3 years of college (5.6%) and completed 4+ years of college (5.1%).
- Adults with a household income of less than \$25,000 were more likely (9.4%) to say they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to those with a household income of \$75,000+ (4.3%).
- Adults with less than a high school education were more likely (6.6%) to say their doctor 'Never' or 'Almost never' knew their medical history compared to those who completed 4+ years of college (2.1%).
- Adults with a household income of less than \$25,000 were more likely (6.3%) to say their doctor 'Never' or 'Almost never' knew their medical history compared to those with a household income of \$75,000+ (2.0%).

TABLE 7.1 – PATIENT REPORTED EXPERIENCES WITH HEALTH CARE AMONG MASSACHUSETTS ADULTS, 2009-2010

	‘NEVER/ALMOST NEVER’ RECEIVED APPOINTMENT WHEN THOUGHT NEEDED IT			DOCTOR ‘NEVER/ALMOST NEVER’ KNEW MEDICAL HISTORY		
	N	%	95% CI	N	%	95% CI
OVERALL	7938	6.1	5.2 - 7.0	7910	3.0	2.4 - 3.6
GENDER						
MALE	2757	7.4	5.7 - 9.2	2757	3.7	2.5 - 4.9
FEMALE	5181	5.0	4.1 - 5.9	5153	2.5	1.8 - 3.1
AGE GROUP						
18–24	†			†		
25–34	620	9.0	5.6 - 12.3	615	4.7	2.2 - 7.1
35–44	1240	5.5	3.8 - 7.1	1232	3.0	1.6 - 4.3
45–54	1737	4.6	3.0 - 6.1	1723	2.2	1.3 - 3.1
55–64	1770	5.9	4.2 - 7.6	1774	3.0	1.8 - 4.1
65–74	1227	4.7	3.3 - 6.1	1239	2.6	1.3 - 3.8
75 AND OLDER	1079	7.8	5.6 - 10.0	1072	2.5	1.4 - 3.6
RACE-ETHNICITY*						
WHITE	6571	5.3	4.3 - 6.3	6563	2.8	2.1 - 3.5
BLACK	376	7.3	3.4 - 11.3	†		
HISPANIC	597	11.4	7.0 - 15.9	586	4.4	2.1 - 6.8
ASIAN	†			†		
DISABILITY¶						
DISABILITY	983	6.6	4.1 - 9.2	979	4.0	1.8 - 6.2
NO DISABILITY	2758	3.6	2.6 - 4.5	2771	1.9	1.1 - 2.7
EDUCATION						
< HIGH SCHOOL	723	14.6	8.7 - 20.5	714	6.6	3.4 - 9.7
HIGH SCHOOL	1901	6.7	4.2 - 9.2	1903	4.5	2.8 - 6.3
COLLEGE 1–3 YRS	1846	5.6	3.9 - 7.3	1835	2.8	1.4 - 4.2
COLLEGE 4+ YRS	3453	5.1	4.1 - 6.2	3444	2.1	1.4 - 2.8
HOUSEHOLD INCOME						
<\$25,000	1751	9.4	6.9 - 11.9	1746	6.3	4.1 - 8.4
\$25,000–34,999	690	7.8	4.9 - 10.6	688	3.6	1.6 - 5.6
\$35,000–49,999	903	7.4	4.2 - 10.5	†		
\$50,000–74,999	1057	6.8	4.2 - 9.3	†		
\$75,000+	2448	4.3	2.9 - 5.8	2446	2.0	1.1 - 2.9
REGION						
I–WESTERN	1124	6.6	4.5 - 8.7	1123	3.8	1.8 - 5.8
II–CENTRAL	1073	4.6	2.7 - 6.5	1058	3.2	1.6 - 4.9
III–NORTH EAST	1889	6.5	3.5 - 9.5	1878	3.0	1.9 - 4.2
IV–METRO WEST	1039	5.4	3.7 - 7.1	1039	2.3	1.1 - 3.4
V–SOUTH EAST	1928	6.4	4.6 - 8.3	1930	3.3	1.6 - 4.9
VI–BOSTON	873	8.6	5.6 - 11.5	870	2.4	1.1 - 3.7

* White, Black, and Asian race categories refer to non-Hispanic

† Insufficient data

¶ Disability defined as having one or more of the following conditions for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

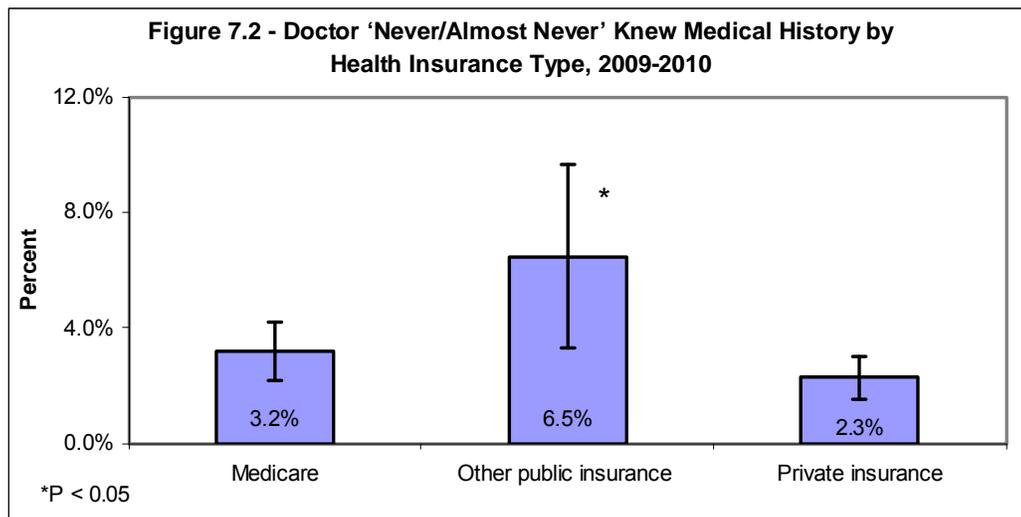
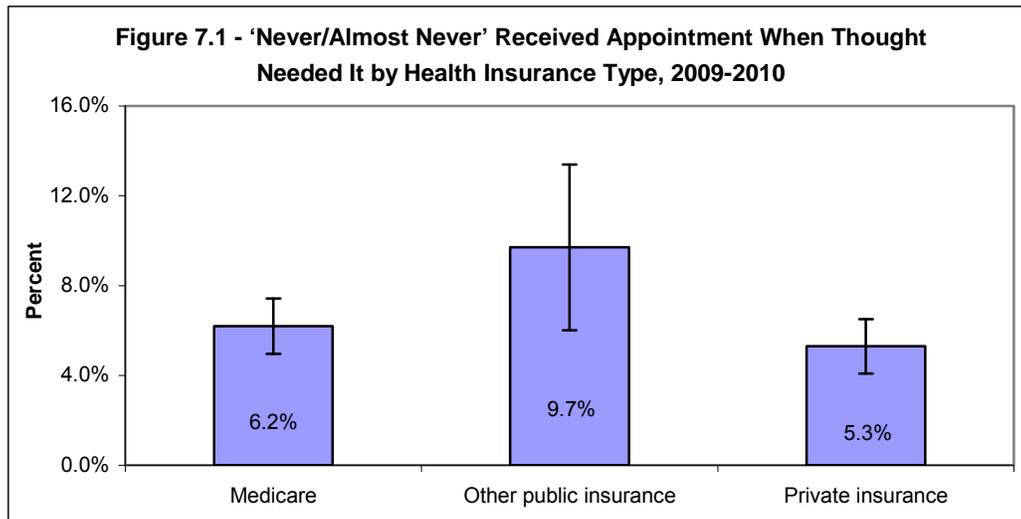
N = Total number of respondents answering ‘Never’, ‘Almost never’, ‘Sometimes’, ‘Usually’, ‘Almost always’, and ‘Always’ to the corresponding question.

CI = Confidence interval

The association between health care access, health behaviors and self-perceived quality of interaction between patient and provider was analyzed. The results are presented below in the form of tables and figures. The selected indicators include health insurance type, self-perceived health status, obesity status, chronic conditions, and smoking status. These selected indicators were chosen because they were determined to be the most likely to show an association with self-perceived quality of care.

The differences between the type of health insurance and self-perceived quality of care are shown in Figures 7.1 and 7.2 and Table 7.2. The types of health insurance were defined as follows: 'Private insurance' included insurance through an employer or any other plan that the respondent or someone else bought on their own. Medicare is public insurance coverage for individuals 65 years and older or those with certain disabilities. 'Other public insurance' included Medicaid, MassHealth, CommonHealth, MassHealth HMOs offered through Neighborhood Health Plan, Fallon Community Health Plan, BMC HealthNet or Network Health, coverage through the military, Indian Health Service, or Commonwealth Care. Health insurance questions were asked of all respondents 18 years and older.

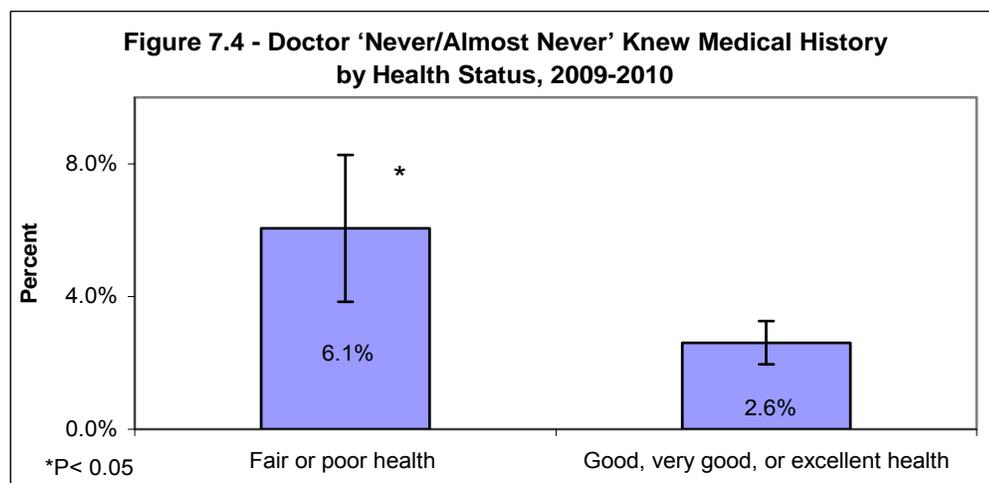
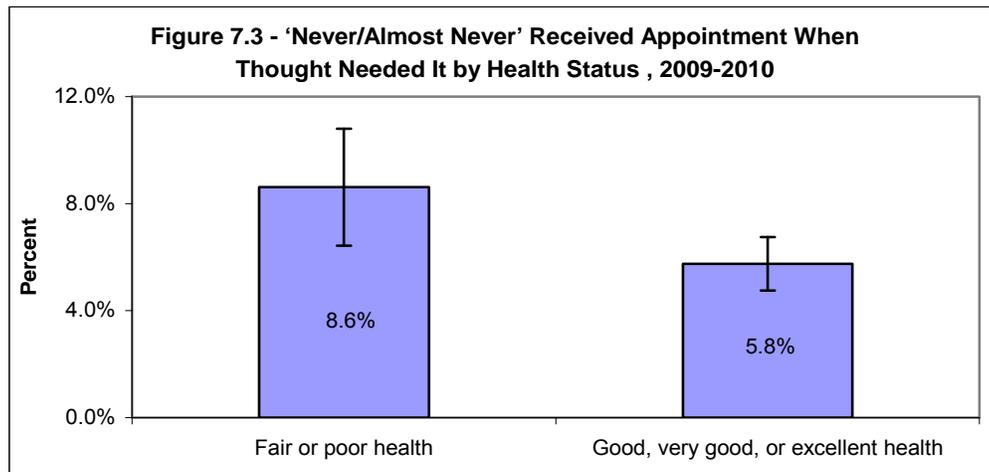
- 9.7% of adults with 'other public insurance' said that they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to 6.2% with Medicare and 5.3% with 'private insurance'. This difference was not statistically significant.
- A higher percentage of adults with 'other public insurance' (6.5%) said that their doctor 'Never' or 'Almost never' knew their medical history compared to those with Medicare (3.2%) and 'private insurance' (2.3%). The percentage of adults with other 'public insurance' was significantly higher than those with 'private insurance'.



The results for self-perceived health status, obesity status, chronic conditions, and smoking are shown below in Figures 7.3- 7.10 and Table 7.2.

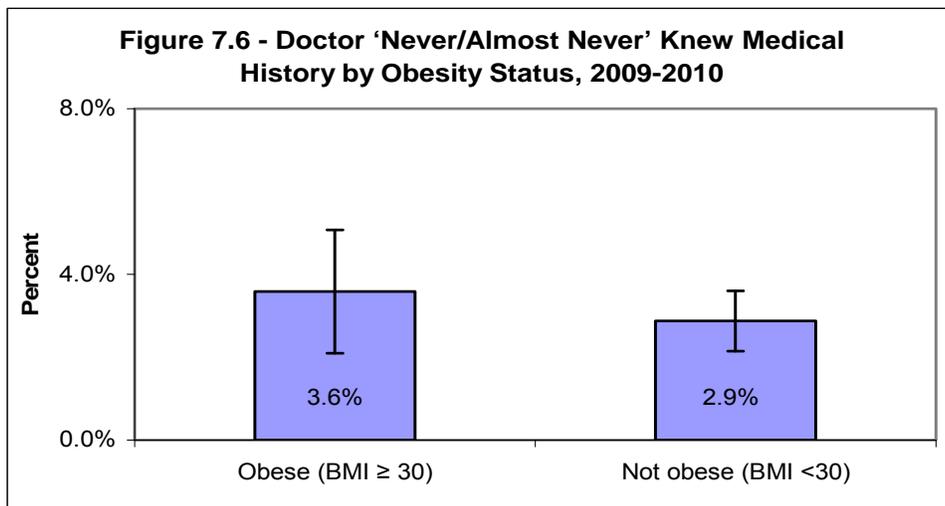
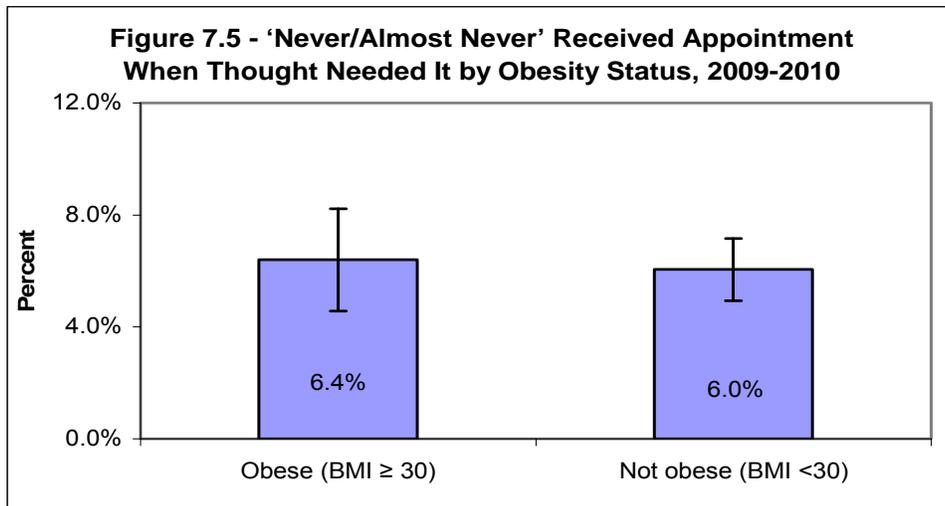
The differences between self-perceived health status, and self-perceived quality of care are shown in Figures 7.3 and 7.4 and Table 7.2.

- 8.6% of adults who perceived fair or poor health said that they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to 5.8% who perceived good, very good or excellent health. This difference was not statistically significant.
- A higher percentage of adults who perceived fair or poor health (6.1%) said that their doctor 'Never' or 'Almost never' knew their medical history compared to those who perceived good, very good or excellent health (2.6%). This difference was statistically significant.



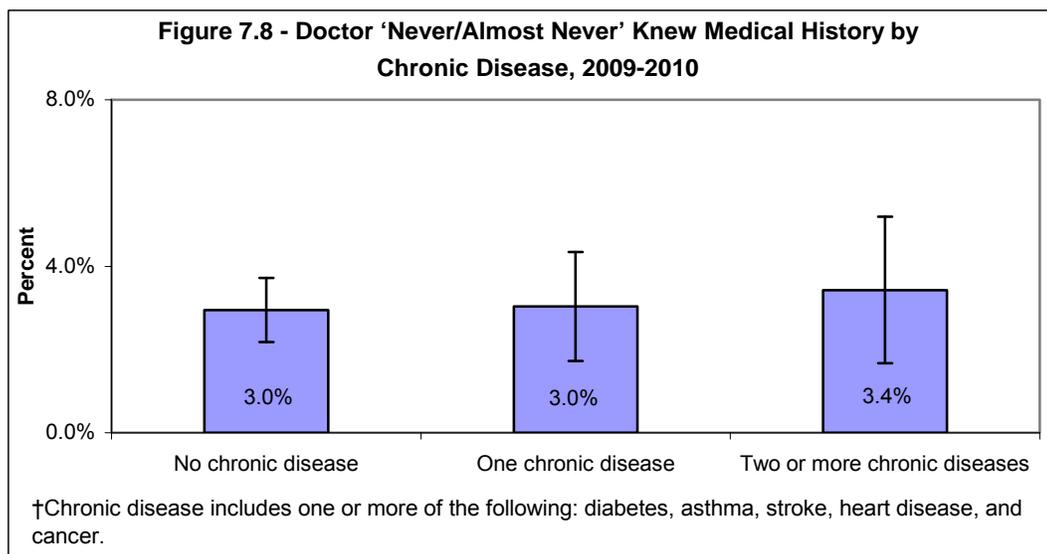
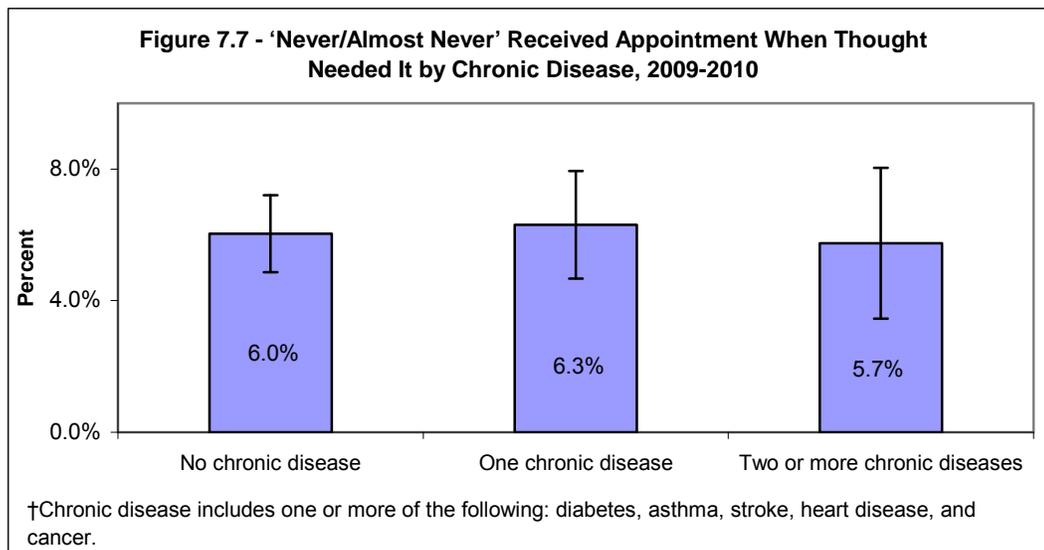
The differences between obesity status (BMI ≥ 30 and BMI < 30) and self-perceived quality of care are shown in Figures 7.5 and 7.6 and Table 7.2.

- 6.4% of obese adults said they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to 6.0% of adults who were not obese, but this difference was not statistically significant.
- 3.6% of obese adults said their doctor 'Never' or 'Almost never' knew their medical history compared to 2.9% of adults who were not obese, but this difference was not statistically significant.



Differences between chronic disease status and self-perceived quality of care are shown in Figures 7.7 and 7.8 and Table 7.2. Chronic conditions included diabetes, asthma, stroke, cancer, and heart disease (including heart attack and angina). The respondent could have one or more of the listed chronic diseases. Differences between those with no chronic disease, one chronic disease or two or more chronic diseases were examined.

- 6.3% of adults with one chronic disease said they ‘Never’ or ‘Almost never’ received an appointment when they thought they needed it compared to 6.0% with no disease and 5.7% with two or more diseases. This difference was not statistically significant.
- 3.4% of adults with two or more chronic diseases said their doctor ‘Never’ or ‘Almost never’ knew their medical history compared to 3.0% with no disease or 3.0% with one chronic disease. This difference was not statistically significant.



Differences between smoking status and self-perceived quality of care are shown in Figures 7.9 and 7.10 and Table 7.2. Smoking status was defined as current smokers versus former and/or never smokers.

- 8.7% of current smokers said they 'Never' or 'Almost never' received an appointment when they thought they needed it compared to 5.6% of former or never smokers. This difference was not statistically significant.
- A higher percentage of current smokers (6.0%) said their doctor 'Never' or 'Almost never' knew their medical history compared to former or never smokers (2.5%). This difference was statistically significant.

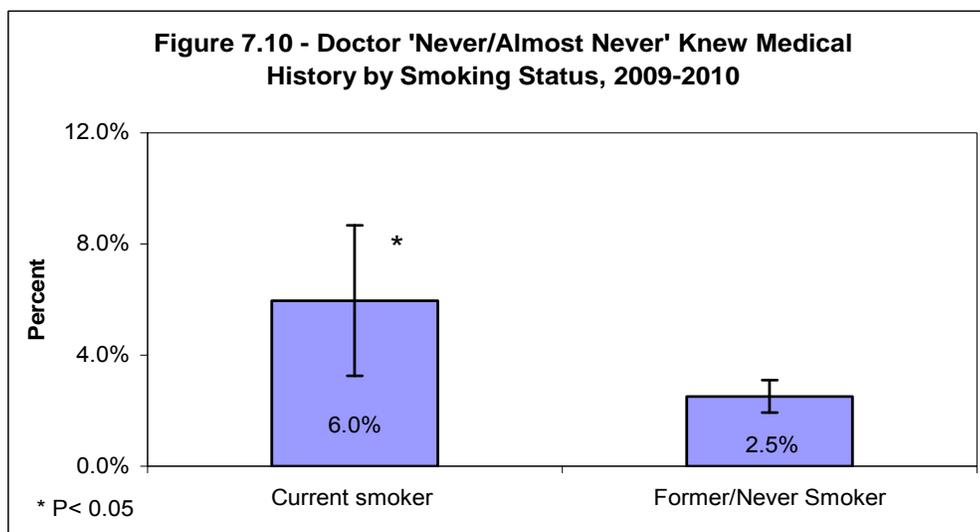
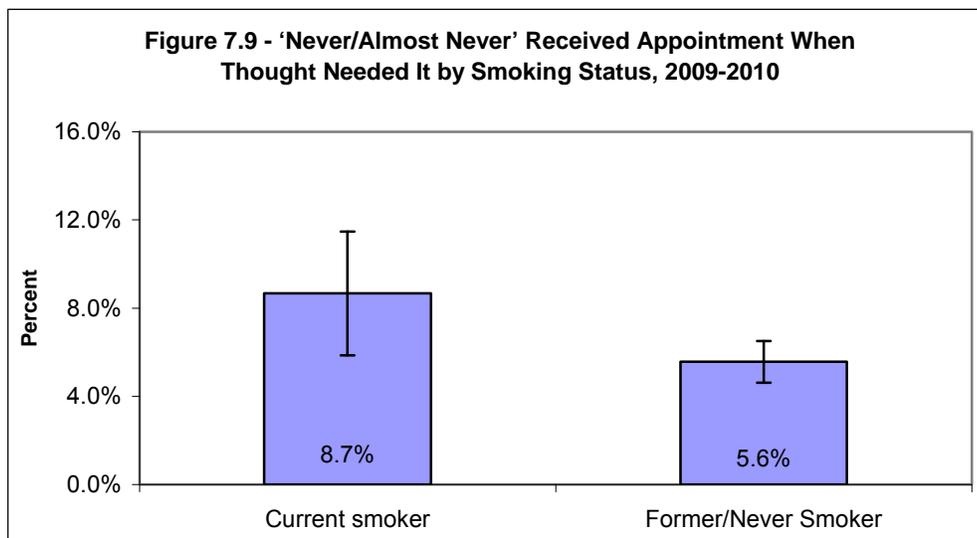


TABLE 7.2 – PATIENT REPORTED EXPERIENCES WITH HEALTH CARE BY SELECTED HEALTH INDICATORS, 2009-2010

	'NEVER/ALMOST NEVER' RECEIVED APPOINTMENT WHEN THOUGHT NEEDED IT			DOCTOR 'NEVER/ALMOST NEVER' KNEW MEDICAL HISTORY		
	N	%	95% CI	N	%	95% CI
INSURANCE TYPE*						
MEDICARE	2639	6.2	5.0 - 7.4	2632	3.2	2.2 – 4.2
OTHER PUBLIC INSURANCE	818	9.7	6.0 - 13.4	809	6.5	3.3 – 9.6
PRIVATE INSURANCE	4177	5.3	4.1 - 6.5	4167	2.3	1.5 – 3.0
HEALTH STATUS						
FAIR OR POOR HEALTH	1412	8.6	6.4 – 10.8	1409	6.1	3.8 – 8.3
GOOD, VERY GOOD, EXCELLENT HEALTH	6514	5.8	4.8 – 6.7	6489	2.6	2.0 – 3.3
OBESITY STATUS						
OBESE (BMI ≥30)	1964	6.4	4.6 – 8.2	1962	3.6	2.1 – 5.1
NOT OBESE (BMI <30)	5525	6.0	4.9 – 7.2	5502	2.9	2.1 – 3.6
CHRONIC DISEASE STATUS**						
NO CHRONIC DISEASE	5029	6.0	4.9 – 7.2	5015	3.0	2.2 – 3.7
ONE CHRONIC DISEASE	2059	6.3	4.7 - 7.9	2048	3.0	1.7 – 4.3
TWO OR MORE CHRONIC DISEASES	850	5.7	3.5 – 8.0	847	3.4	1.7 – 5.2
SMOKING STATUS						
CURRENT SMOKER	1209	8.7	5.9 – 11.5	1208	6.0	3.3 – 8.7
FORMER/NEVER SMOKER	6696	5.6	4.6 – 6.5	6668	2.5	1.9 – 3.1

*Includes all respondents age 18+

**Chronic disease includes one or more of the following: diabetes, asthma, stroke, heart disease, and cancer.

N = Total number of respondents answering 'Never', 'Almost never', 'Sometimes', 'Usually', 'Almost always', and 'Always' to the corresponding question.
CI = Confidence interval

When presenting this data, we considered the patient’s reported experience with health care to be the best way to represent medical home coverage. Although this may be a limitation, until a more specific question about medical home involvement is available, this may be the best way to measure medical home participation.

The presented data shows that individuals in lower socio-economic and high risk groups, such as current smokers and those who report fair or poor health, are less likely to perceive good quality of care. This suggests that a disparity exists among the medical home principles of access to care and whole person orientation. Therefore, medical home coverage in Massachusetts may be limited to those in higher socio-economic and low risk groups. To increase medical home coverage in the future, attention must be given to high risk groups to increase access and improve perceptions of quality of care.

APPENDIX

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010												
	FAIR OR POOR HEALTH			POOR MENTAL HEALTH			POOR PHYSICAL HEALTH			DISABILITY		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	10.9	10.1	- 11.6	8.5	7.6	- 9.4	8.0	7.3	- 8.8	18.4	17.3	- 19.5
GENDER												
MALE	10.9	9.7	- 12.0	7.9	6.7	- 9.2	7.9	6.8	- 9.0	18.2	16.6	- 19.9
FEMALE	11.0	10.2	- 11.8	9.3	8.4	- 10.2	8.0	7.3	- 8.7	19.1	17.5	- 20.7
RACE-ETHNICITY*												
WHITE	9.3	8.6	- 10.0	8.8	7.7	- 9.9	7.8	7.0	- 8.5	18.4	17.1	- 19.8
BLACK	14.5	11.3	- 17.6	9.4	6.7	- 12.1	6.6	5.0	- 8.2	17.2	13.6	- 20.7
HISPANIC	26.6	22.7	- 30.5	12.2	9.3	- 15.1	12.9	10.0	- 15.8	20.5	16.9	- 24.0
ASIAN	†			†			†			†		
DISABILITY												
DISABILITY	30.0	27.5	- 32.5	25.5	22.1	- 28.8	25.1	22.3	- 27.9	100.0		
NO DISABILITY	6.0	5.3	- 6.7	5.1	4.3	- 5.9	3.9	3.2	- 4.6			
EDUCATION												
< HIGH SCHOOL	37.3	32.2	- 42.4	15.3	11.9	- 18.7	17.7	14.1	- 21.2	33.3	28.2	- 38.5
HIGH SCHOOL	16.8	14.9	- 18.8	11.9	9.7	- 14.0	11.4	9.5	- 13.4	22.7	20.2	- 25.2
COLLEGE 1–3 YRS	11.5	10.0	- 13.1	11.5	9.6	- 13.4	9.0	7.7	- 10.3	21.7	19.5	- 23.8
COLLEGE 4+ YRS	4.7	4.1	- 5.3	5.3	4.5	- 6.1	4.7	4.1	- 5.3	13.9	12.1	- 15.8
HOUSEHOLD INCOME												
<\$25,000	29.7	26.9	- 32.4	20.9	18.4	- 23.5	19.1	16.8	- 21.4	39.4	36.1	- 42.7
\$25,000–34,999	18.2	14.2	- 22.3	13.2	9.5	- 17.0	9.1	6.9	- 11.4	22.8	18.7	- 26.9
\$35,000–49,999	9.7	7.7	- 11.7	9.0	6.5	- 11.5	6.8	5.0	- 8.7	17.7	14.9	- 20.5
\$50,000–74,999	6.4	4.9	- 7.8	7.3	3.8	- 10.8	7.2	5.6	- 8.9	15.1	12.7	- 17.4
\$75,000+	4.1	3.1	- 5.1	5.8	4.2	- 7.4	4.7	3.4	- 6.0	10.8	9.1	- 12.4
REGION												
I–WESTERN	12.9	11.0	- 14.8	9.7	7.8	- 11.5	8.5	7.0	- 10.0	21.1	18.0	- 24.2
II–CENTRAL	12.2	10.1	- 14.3	11.5	8.6	- 14.4	10.6	8.3	- 12.8	19.5	16.9	- 22.1
III–NORTH EAST	11.5	9.6	- 13.3	8.0	6.4	- 9.5	7.1	5.6	- 8.6	18.2	15.8	- 20.7
IV–METRO WEST	6.6	5.5	- 7.6	5.6	4.4	- 6.8	6.6	4.7	- 8.5	16.0	13.1	- 18.9
V–SOUTH EAST	11.6	10.0	- 13.1	9.2	7.5	- 10.8	8.3	6.9	- 9.6	18.3	16.1	- 20.6
VI–BOSTON	16.2	13.6	- 18.8	9.9	7.8	- 12.0	9.8	7.9	- 11.7	19.4	16.9	- 21.9

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010															
	DISABILITY/NEED HELP			NO HEALTH INSURANCE			PERSONAL DOCTOR			NO DOCTOR DUE TO COST			CHECKUP IN PAST YEAR		
	%	95% CI		%	%		%	%		%	95% CI		%	95% CI	
OVERALL	5.0	4.5	- 5.4	3.4	2.6	- 4.2	89.4	88.1	- 90.6	7.1	6.2	- 8.0	79.3	77.9	- 80.7
GENDER															
MALE	3.9	3.3	- 4.5	3.5	2.5	- 4.5	87.1	85.3	- 88.9	7.0	5.8	- 8.3	75.7	73.7	- 77.7
FEMALE	6.0	5.3	- 6.6	3.4	2.2	- 4.5	91.9	90.4	- 93.4	7.7	6.5	- 9.0	83.7	82.4	- 85.1
RACE-ETHNICITY*															
WHITE	4.8	4.3	- 5.3	2.6	1.8	- 3.4	91.1	89.8	- 92.5	6.2	5.3	- 7.1	78.9	77.3	- 80.5
BLACK	6.7	4.5	- 8.9	3.3	1.5	- 5.2	87.6	82.8	- 92.4	9.9	6.3	- 13.5	85.3	80.8	- 89.7
HISPANIC	7.4	5.6	- 9.2	8.2	5.1	- 11.3	81.0	76.9	- 85.1	15.5	11.8	- 19.3	82.9	79.2	- 86.6
ASIAN	†			†			90.0	85.2	- 94.8	†			79.7	71.5	- 87.8
DISABILITY															
DISABILITY	24.8	22.4	- 27.2	4.0	2.1	- 5.9	91.7	89.2	- 94.2	14.5	11.5	- 17.4	81.4	78.2	- 84.6
NO DISABILITY				3.3	2.5	- 4.1	89.0	87.6	- 90.4	5.7	4.8	- 6.6	78.8	77.4	- 80.3
EDUCATION															
< HIGH SCHOOL	13.5	10.5	- 16.5	8.7	3.9	- 13.5	78.7	73.3	- 84.0	17.9	13.1	- 22.8	74.6	68.7	- 80.5
HIGH SCHOOL	7.8	6.5	- 9.1	6.1	4.0	- 8.2	87.3	84.6	- 89.9	10.3	8.2	- 12.4	79.2	76.5	- 82.0
COLLEGE 1-3 YRS	6.2	5.1	- 7.4	2.9	1.9	- 3.9	92.0	90.3	- 93.7	9.2	7.4	- 10.9	82.7	80.6	- 84.8
COLLEGE 4+ YRS	2.3	1.9	- 2.8	1.9	0.9	- 3.0	89.8	87.5	- 92.1	4.0	2.8	- 5.2	77.9	75.4	- 80.3
HOUSEHOLD INCOME															
<\$25,000	15.7	13.7	- 17.8	7.9	5.6	- 10.1	84.3	81.5	- 87.1	17.8	14.9	- 20.6	81.0	78.2	- 83.8
\$25,000-34,999	7.3	5.2	- 9.5	6.9	3.5	- 10.4	86.1	80.9	- 91.2	11.8	8.1	- 15.5	80.4	76.1	- 84.8
\$35,000-49,999	4.0	2.9	- 5.1	2.9	1.4	- 4.4	89.5	86.4	- 92.6	9.4	6.4	- 12.3	79.1	75.3	- 82.9
\$50,000-74,999	2.6	1.8	- 3.4	†			89.9	86.1	- 93.8	4.3	3.0	- 5.7	78.9	74.7	- 83.0
\$75,000+	1.5	1.0	- 2.0	†			93.1	90.9	- 95.4	2.9	1.8	- 4.1	79.9	77.4	- 82.4
REGION															
I-WESTERN	6.2	4.9	- 7.4	4.8	2.4	- 7.2	85.5	81.9	- 89.1	8.8	6.3	- 11.4	74.7	70.9	- 78.5
II-CENTRAL	5.9	4.4	- 7.3	2.7	1.4	- 3.9	90.4	87.4	- 93.4	6.9	4.8	- 8.9	79.7	76.1	- 83.2
III-NORTH EAST	4.4	3.6	- 5.3	3.8	2.0	- 5.7	88.5	85.6	- 91.4	8.7	6.5	- 11.0	80.7	78.2	- 83.2
IV-METRO WEST	3.5	2.6	- 4.4	†			89.5	86.5	- 92.5	4.9	3.1	- 6.7	79.7	76.8	- 82.6
V-SOUTH EAST	5.4	4.4	- 6.4	4.1	2.0	- 6.2	92.3	90.4	- 94.1	6.7	5.2	- 8.3	80.8	77.9	- 83.8
VI-BOSTON	6.7	5.3	- 8.0	3.4	1.8	- 4.9	89.1	86.3	- 91.8	10.0	7.1	- 12.8	81.3	78.2	- 84.5

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010															
	DENTAL VISIT			6+TEETH MISSING			CURRENT SMOKER			FORMER SMOKER			QUIT ATTEMPT		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	80.5	79.2	- 81.7	11.9	11.3	- 12.4	14.5	13.3	- 15.6	27.5	26.3	- 28.8	62.0	58.4	- 65.5
GENDER															
MALE	79.1	77.3	- 80.9	11.9	11.0	- 12.8	15.3	13.6	- 17.0	29.1	27.3	- 30.9	58.8	53.7	- 63.9
FEMALE	81.0	79.3	- 82.8	12.3	11.6	- 13.1	14.2	12.6	- 15.7	26.4	24.8	- 28.0	66.5	62.8	- 70.2
RACE-ETHNICITY*															
WHITE	81.8	80.3	- 83.2	11.6	10.9	- 12.2	15.4	13.9	- 16.8	29.6	28.2	- 31.1	59.6	55.6	- 63.7
BLACK	74.9	69.6	- 80.2	19.2	16.0	- 22.4	15.2	11.2	- 19.3	18.3	14.2	- 22.5	72.9	61.8	- 83.9
HISPANIC	73.8	69.8	- 77.8	15.1	12.5	- 17.8	13.0	10.1	- 15.8	20.5	16.9	- 24.2	71.6	61.7	- 81.4
ASIAN	75.5	67.0	- 84.0	†			9.7	4.4	- 15.0	9.9	4.7	- 15.1	71.5	54.4	- 88.6
DISABILITY															
DISABILITY	73.0	69.8	- 76.2	20.8	19.0	- 22.7	25.0	21.7	- 28.3	29.3	25.6	- 33.0	63.6	56.9	- 70.4
NO DISABILITY	82.4	81.0	- 83.7	9.5	8.9	- 10.1	12.4	11.2	- 13.6	27.1	25.7	- 28.4	60.6	56.3	- 64.8
EDUCATION															
< HIGH SCHOOL	60.8	55.1	- 66.5	28.6	24.9	- 32.4	29.6	24.3	- 34.9	22.1	18.2	- 26.0	68.2	60.0	- 76.4
HIGH SCHOOL	72.9	70.0	- 75.8	19.2	17.5	- 20.9	23.5	20.9	- 26.2	29.5	26.7	- 32.2	57.9	51.6	- 64.2
COLLEGE 1-3 YRS	78.3	75.9	- 80.6	13.2	11.9	- 14.5	20.0	17.4	- 22.5	30.2	27.8	- 32.6	65.1	59.5	- 70.7
COLLEGE 4+ YRS	87.4	85.8	- 89.1	6.2	5.5	- 6.8	7.2	5.9	- 8.5	26.9	24.9	- 28.9	65.4	60.3	- 70.5
HOUSEHOLD INCOME															
<\$25,000	68.3	65.4	- 71.1	24.6	22.6	- 26.7	28.2	25.3	- 31.2	24.0	21.5	- 26.5	65.9	60.6	- 71.1
\$25,000-34,999	71.3	66.2	- 76.4	15.6	13.5	- 17.8	21.4	16.9	- 25.8	27.4	22.5	- 32.4	62.5	53.0	- 72.0
\$35,000-49,999	79.7	76.4	- 83.0	11.7	10.1	- 13.3	18.9	15.0	- 22.7	28.6	25.4	- 31.8	67.2	59.9	- 74.5
\$50,000-74,999	78.4	74.3	- 82.6	9.7	8.2	- 11.3	14.0	10.2	- 17.8	30.1	26.5	- 33.6	49.1	38.6	- 59.7
\$75,000+	88.8	86.8	- 90.8	6.6	5.7	- 7.6	10.0	7.8	- 12.2	29.2	27.1	- 31.4	61.5	54.4	- 68.6
REGION															
I-WESTERN	78.5	75.4	- 81.5	13.5	11.8	- 15.2	18.4	15.4	- 21.3	28.7	25.6	- 31.7	57.5	49.7	- 65.3
II-CENTRAL	77.2	73.7	- 80.7	14.1	12.5	- 15.8	17.1	13.9	- 20.3	28.3	25.1	- 31.5	61.4	53.7	- 69.1
III-NORTH EAST	80.2	77.5	- 83.0	11.5	10.1	- 12.8	12.5	10.5	- 14.4	28.7	25.9	- 31.5	68.6	62.4	- 74.9
IV-METRO WEST	84.5	82.1	- 86.9	9.3	8.2	- 10.4	9.7	7.4	- 12.0	27.7	24.8	- 30.7	65.6	58.3	- 73.0
V-SOUTH EAST	80.2	77.6	- 82.8	13.2	11.8	- 14.6	17.3	14.6	- 19.9	27.6	25.0	- 30.1	66.7	61.1	- 72.3
VI-BOSTON	77.9	74.8	- 81.0	14.8	13.1	- 16.4	15.8	13.0	- 18.6	21.9	19.5	- 24.3	60.5	52.5	- 68.6

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010															
	PLANNING TO QUIT			NO SMOKING IN HOUSE			ENVIRONMENTAL SMOKE			BINGE DRINKING			HEAVY DRINKING		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	38.4	34.4	- 42.3	83.8	82.7	- 84.9	35.4	33.8	- 37.0	20.1	18.7	- 21.6	7.2	6.3	- 8.2
GENDER															
MALE	38.1	32.5	- 43.7	82.3	80.6	- 84.0	39.2	36.8	- 41.6	24.6	22.4	- 26.7	7.1	5.7	- 8.5
FEMALE	41.9	36.8	- 47.1	84.3	82.8	- 85.9	32.1	30.1	- 34.2	15.0	13.2	- 16.7	7.5	6.2	- 8.8
RACE-ETHNICITY*															
WHITE	37.1	32.8	- 41.5	83.0	81.6	- 84.3	35.2	33.3	- 37.0	22.1	20.4	- 23.9	8.2	6.9	- 9.4
BLACK	47.9	35.6	- 60.3	84.1	80.3	- 88.0	43.0	36.8	- 49.1	15.9	10.7	- 21.2	†		
HISPANIC	42.3	30.9	- 53.6	84.4	80.5	- 88.4	37.5	32.6	- 42.4	14.5	10.9	- 18.0	4.9	2.8	- 7.0
ASIAN	67.9	50.5	- 85.2	85.1	78.3	- 91.8	27.8	19.6	- 36.0	11.5	5.4	- 17.5	†		
DISABILITY															
DISABILITY	43.7	36.7	- 50.7	76.2	73.0	- 79.5	47.0	43.3	- 50.8	16.8	12.9	- 20.8	5.8	4.2	- 7.4
NO DISABILITY	36.8	32.3	- 41.4	85.5	84.3	- 86.7	33.2	31.4	- 34.9	20.7	19.1	- 22.3	7.4	6.3	- 8.5
EDUCATION															
< HIGH SCHOOL	45.6	34.7	- 56.5	72.4	67.1	- 77.6	49.3	43.3	- 55.3	13.6	8.8	- 18.4	†		
HIGH SCHOOL	31.9	26.2	- 37.6	77.7	75.2	- 80.2	43.0	39.5	- 46.5	20.6	17.6	- 23.6	8.5	6.4	- 10.6
COLLEGE 1-3 YRS	42.8	36.3	- 49.4	79.4	76.9	- 81.8	40.4	37.6	- 43.3	21.8	18.9	- 24.6	8.2	6.1	- 10.3
COLLEGE 4+ YRS	45.2	38.3	- 52.1	89.1	87.4	- 90.7	28.0	25.4	- 30.6	20.8	18.2	- 23.3	7.2	5.6	- 8.8
HOUSEHOLD INCOME															
<\$25,000	44.9	38.7	- 51.2	70.6	67.4	- 73.7	46.4	42.5	- 50.2	13.1	10.5	- 15.6	4.5	3.2	- 5.8
\$25,000-34,999	37.2	27.8	- 46.5	73.8	68.4	- 79.1	47.4	41.9	- 52.8	19.3	14.4	- 24.2	4.9	3.0	- 6.8
\$35,000-49,999	42.9	34.3	- 51.5	80.7	77.1	- 84.3	46.1	41.7	- 50.5	21.0	16.6	- 25.4	8.5	5.2	- 11.8
\$50,000-74,999	33.5	24.3	- 42.7	83.0	79.9	- 86.1	38.7	34.1	- 43.3	22.1	17.8	- 26.4	10.4	6.5	- 14.2
\$75,000+	40.2	32.0	- 48.4	87.9	85.7	- 90.0	28.9	26.0	- 31.8	23.6	20.8	- 26.4	9.0	7.0	- 11.0
REGION															
I-WESTERN	32.5	24.1	- 41.0	79.9	76.9	- 83.0	37.0	32.8	- 41.2	20.6	16.9	- 24.2	9.2	6.6	- 11.8
II-CENTRAL	38.2	29.4	- 47.0	81.6	78.6	- 84.7	37.8	33.8	- 41.7	23.1	19.4	- 26.7	7.5	4.8	- 10.2
III-NORTH EAST	47.1	38.7	- 55.4	83.7	81.2	- 86.1	36.5	32.8	- 40.2	16.5	14.0	- 18.9	6.0	4.7	- 7.4
IV-METRO WEST	38.6	27.8	- 49.4	88.5	86.5	- 90.5	30.9	27.1	- 34.7	16.7	13.4	- 20.0	5.4	3.9	- 6.8
V-SOUTH EAST	40.1	32.0	- 48.2	81.8	79.0	- 84.6	34.6	31.1	- 38.1	23.5	20.3	- 26.6	8.6	6.1	- 11.0
VI-BOSTON	43.9	35.1	- 52.6	81.9	79.1	- 84.8	41.1	36.9	- 45.2	20.2	16.8	- 23.6	7.6	5.5	- 9.8

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010															
	OVERWEIGHT			OBESITY			PHYSICAL ACTIVITY			PRE-DIABETES			DIABETES		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	58.1	56.5	59.7	22.0	20.8	23.1	80.4	79.3	81.5	4.6	4.1	5.2	6.6	6.2	7.1
GENDER															
MALE	68.9	66.7	71.1	24.9	23.1	26.8	82.3	80.6	83.9	4.7	4.0	5.5	7.7	6.9	8.5
FEMALE	47.3	45.4	49.3	19.8	18.4	21.1	77.8	76.2	79.3	4.8	3.9	5.7	6.1	5.5	6.6
RACE-ETHNICITY*															
WHITE	56.9	55.0	58.7	21.5	20.1	22.8	82.4	81.2	83.7	4.8	4.1	5.4	6.1	5.6	6.6
BLACK	66.4	60.2	72.5	30.6	25.5	35.8	73.0	67.9	78.2	4.8	3.0	6.6	12.2	9.6	14.7
HISPANIC	66.7	61.9	71.4	30.5	26.1	35.0	67.4	63.3	71.5	4.2	2.2	6.2	13.4	10.7	16.2
ASIAN	50.7	41.1	60.4	11.9	6.9	16.8	82.7	77.1	88.3	†			†		
DISABILITY															
DISABILITY	66.1	61.8	70.4	30.1	27.3	32.8	69.1	66.0	72.2	7.6	6.1	9.2	13.0	11.2	14.8
NO DISABILITY	56.4	54.6	58.1	19.8	18.6	21.0	83.3	82.1	84.5	3.9	3.3	4.4	4.9	4.5	5.4
EDUCATION															
< HIGH SCHOOL	65.8	61.1	70.4	31.0	25.8	36.3	60.2	55.2	65.2	6.3	3.5	9.1	13.7	10.7	16.8
HIGH SCHOOL	64.2	61.0	67.4	28.1	25.1	31.0	70.7	67.9	73.4	4.7	3.8	5.7	8.7	7.4	10.1
COLLEGE 1–3 YRS	61.5	58.6	64.4	26.6	24.2	28.9	77.8	75.3	80.3	5.4	4.1	6.8	7.3	6.3	8.4
COLLEGE 4+ YRS	55.0	52.3	57.7	17.7	16.0	19.3	87.6	86.2	89.0	4.1	3.4	4.7	4.7	4.1	5.3
HOUSEHOLD INCOME															
<\$25,000	65.0	61.6	68.4	27.7	24.6	30.9	65.4	62.3	68.6	6.4	4.8	8.0	13.7	11.8	15.6
\$25,000–34,999	62.4	56.7	68.0	23.2	18.9	27.5	73.2	69.2	77.2	4.0	2.6	5.4	7.6	5.7	9.5
\$35,000–49,999	58.0	53.0	63.0	23.3	20.1	26.6	73.4	68.5	78.3	5.9	4.2	7.6	7.6	5.9	9.4
\$50,000–74,999	62.7	58.2	67.3	25.6	22.0	29.3	83.9	81.5	86.2	3.7	2.5	5.0	6.3	5.0	7.6
\$75,000+	55.9	53.0	58.8	19.2	17.6	20.9	88.8	87.4	90.2	4.3	3.1	5.4	4.4	3.7	5.2
REGION															
I–WESTERN	61.2	57.1	65.3	24.6	21.1	28.0	79.5	77.0	81.9	5.3	3.9	6.8	7.3	6.0	8.6
II–CENTRAL	60.5	56.6	64.4	26.2	23.3	29.1	80.0	77.5	82.4	5.2	3.9	6.5	8.2	6.6	9.8
III–NORTH EAST	57.7	54.3	61.0	22.8	20.4	25.2	78.3	75.2	81.3	5.2	4.1	6.3	6.6	5.5	7.6
IV–METRO WEST	54.3	50.5	58.2	18.6	15.6	21.6	84.7	81.8	87.7	4.6	3.0	6.2	5.2	4.3	6.1
V–SOUTH EAST	61.2	57.9	64.5	22.5	20.1	24.9	78.9	76.4	81.4	3.8	2.8	4.8	6.7	5.8	7.6
VI–BOSTON	57.5	53.6	61.4	23.4	20.1	26.8	75.0	71.6	78.3	4.3	3.1	5.5	9.2	7.5	10.9

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010																				
	HEPATITIS B VACCINE				TETANUS VACCINE				EVER ASTHMA			CURRENT ASTHMA			CANCER DIAGNOSIS					
	%	95% CI			%	95% CI			%	95% CI		%	95% CI		%	95% CI				
OVERALL	43.6	41.9	-	45.4	75.2	73.7	-	76.7	16.5	15.2	-	17.8	10.5	9.6	-	11.5	8.3	7.8	-	8.8
GENDER																				
MALE	40.2	37.6	-	42.7	73.3	71.1	-	75.5	14.0	12.3	-	15.8	8.0	6.7	-	9.3	8.0	7.2	-	8.8
FEMALE	47.7	45.6	-	49.7	77.1	75.4	-	78.8	19.0	17.2	-	20.8	13.7	12.1	-	15.2	8.8	8.1	-	9.5
RACE-ETHNICITY*																				
WHITE	43.4	41.4	-	45.3	77.1	75.5	-	78.7	16.1	14.7	-	17.5	10.8	9.7	-	12.0	8.8	8.2	-	9.3
BLACK	49.6	42.9	-	56.4	71.8	66.6	-	77.0	19.3	14.3	-	24.3	12.4	8.0	-	16.9	6.3	3.8	-	8.7
HISPANIC	45.3	40.3	-	50.4	66.2	61.1	-	71.4	19.9	16.2	-	23.6	12.8	10.2	-	15.5	5.5	3.3	-	7.7
ASIAN	60.3	50.5	-	70.1	72.6	63.5	-	81.6	†				†				†			
DISABILITY																				
DISABILITY	47.7	42.8	-	52.7	77.6	74.8	-	80.5	27.2	23.6	-	30.8	22.1	18.6	-	25.6	12.8	11.3	-	14.3
NO DISABILITY	42.9	41.0	-	44.8	74.8	73.1	-	76.4	14.2	12.8	-	15.6	8.2	7.2	-	9.2	7.1	6.6	-	7.7
EDUCATION																				
< HIGH SCHOOL	41.5	35.1	-	47.9	67.4	61.3	-	73.4	27.1	21.5	-	32.7	20.7	15.4	-	26.0	7.4	5.2	-	9.5
HIGH SCHOOL	33.0	29.4	-	36.6	70.6	67.4	-	73.8	14.8	12.5	-	17.1	10.4	8.5	-	12.3	6.9	6.0	-	7.7
COLLEGE 1–3 YRS	47.4	44.3	-	50.5	76.8	74.5	-	79.2	17.9	15.3	-	20.5	10.8	9.1	-	12.4	8.4	7.3	-	9.5
COLLEGE 4+ YRS	48.6	45.6	-	51.6	76.5	73.7	-	79.2	16.3	13.9	-	18.6	10.5	8.6	-	12.3	9.1	8.4	-	9.9
HOUSEHOLD INCOME																				
<\$25,000	46.0	42.4	-	49.5	71.5	68.3	-	74.8	22.8	19.9	-	25.7	17.9	15.4	-	20.4	8.8	7.5	-	10.1
\$25,000–34,999	40.1	33.8	-	46.4	70.5	65.1	-	76.0	17.9	13.7	-	22.2	9.5	6.6	-	12.4	8.9	7.0	-	10.8
\$35,000–49,999	46.0	41.5	-	50.5	77.5	74.3	-	80.6	17.1	12.2	-	21.9	9.1	6.7	-	11.5	8.9	7.4	-	10.4
\$50,000–74,999	41.9	36.6	-	47.3	74.3	69.6	-	79.0	14.4	11.5	-	17.4	8.9	7.0	-	10.8	9.0	7.5	-	10.4
\$75,000+	46.5	43.3	-	49.7	78.2	75.5	-	80.8	14.9	12.4	-	17.4	9.0	7.1	-	10.9	7.7	6.7	-	8.6
REGION																				
I–WESTERN	45.5	41.6	-	49.4	74.2	70.4	-	77.9	19.7	16.1	-	23.2	13.1	10.3	-	15.9	8.9	7.5	-	10.3
II–CENTRAL	40.3	35.6	-	45.0	75.8	71.9	-	79.7	20.3	16.8	-	23.8	12.8	9.7	-	15.8	6.7	5.5	-	7.8
III–NORTH EAST	42.1	38.7	-	45.5	71.7	68.5	-	74.9	17.2	14.1	-	20.2	10.1	8.4	-	11.9	7.8	6.7	-	9.0
IV–METRO WEST	46.9	42.6	-	51.1	79.7	76.5	-	82.8	12.7	10.6	-	14.8	8.6	6.7	-	10.5	8.7	7.6	-	9.8
V–SOUTH EAST	41.7	38.2	-	45.3	74.9	72.1	-	77.8	15.6	13.1	-	18.1	11.0	8.9	-	13.1	9.1	7.9	-	10.3
VI–BOSTON	47.6	43.3	-	51.8	69.1	65.4	-	72.9	16.8	13.6	-	19.9	11.6	8.9	-	14.3	8.7	7.2	-	10.2

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010															
	PAP SMEAR, PAST 3 YEARS			SEXUAL ORIENTATION			EVER TESTED FOR HIV YEAR			TESTED FOR HIV PAST YEAR			SEXUAL VIOLENCE - WOMEN		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	84.0	82.5	- 85.6	3.5	2.8	- 4.1	43.8	42.0	- 45.6	9.1	7.9	- 10.3	16.3	12.8	- 19.7
GENDER															
MALE				3.8	2.9	- 4.7	41.4	38.9	- 44.0	8.2	6.7	- 9.7			
FEMALE				3.2	2.5	- 3.9	47.3	44.8	- 49.8	10.6	8.7	- 12.5			
RACE-ETHNICITY*															
WHITE	85.0	83.2	- 86.9	3.4	2.6	- 4.3	40.9	38.9	- 42.9	7.7	6.4	- 9.0	17.3	13.1	- 21.4
BLACK	88.7	85.0	- 92.4	†			64.2	58.1	- 70.4	15.3	10.6	- 20.1	†		
HISPANIC	82.9	78.6	- 87.3	2.4	1.3	- 3.5	56.5	51.0	- 61.9	20.1	15.5	- 24.7	16.9	9.1	- 24.7
ASIAN	80.5	72.9	- 88.0	†			34.0	24.7	- 43.2	†			†		
DISABILITY															
DISABILITY	80.7	76.5	- 84.8	5.5	2.3	- 8.7	53.9	49.5	- 58.3	13.3	9.9	- 16.7	33.2	23.5	- 42.9
NO DISABILITY	85.9	84.2	- 87.5	3.1	2.5	- 3.7	41.6	39.7	- 43.6	8.3	7.1	- 9.6	12.7	7.6	- 17.8
EDUCATION															
< HIGH SCHOOL	76.3	70.8	- 81.8	3.3	1.7	- 4.8	58.2	52.2	- 64.1	19.7	12.8	- 26.7	19.0	12.7	- 25.3
HIGH SCHOOL	78.9	75.0	- 82.7	2.8	1.4	- 4.1	40.6	37.0	- 44.2	9.9	7.5	- 12.3	18.8	12.3	- 25.3
COLLEGE 1-3 YRS	83.8	81.4	- 86.3	3.2	2.0	- 4.4	47.4	43.8	- 51.1	11.1	8.6	- 13.6	26.0	17.9	- 34.1
COLLEGE 4+ YRS	87.5	84.8	- 90.2	3.4	2.8	- 4.1	42.0	39.3	- 44.8	7.6	5.7	- 9.5	21.7	10.6	- 32.8
HOUSEHOLD INCOME															
<\$25,000	76.3	72.8	- 79.8	5.0	3.7	- 6.3	54.9	50.6	- 59.1	17.6	14.1	- 21.0	16.6	9.1	- 24.1
\$25,000-34,999	81.2	77.1	- 85.3	4.3	2.2	- 6.4	46.4	39.3	- 53.5	15.2	9.8	- 20.5	15.2	9.7	- 20.7
\$35,000-49,999	86.3	83.1	- 89.4	3.0	1.9	- 4.1	43.6	37.9	- 49.3	7.4	4.1	- 10.7	16.6	9.7	- 23.6
\$50,000-74,999	85.4	81.4	- 89.3	3.0	1.8	- 4.2	41.5	36.1	- 47.0	8.7	4.8	- 12.6	12.6	7.1	- 18.1
\$75,000+	89.8	87.1	- 92.5	2.9	1.8	- 4.0	40.9	38.1	- 43.8	6.6	4.9	- 8.3	11.9	7.0	- 16.8
REGION															
I-WESTERN	78.2	73.7	- 82.7	3.8	2.4	- 5.3	44.2	40.0	- 48.3	10.0	7.1	- 12.9	16.8	10.2	- 23.5
II-CENTRAL	80.0	75.4	- 84.6	2.6	1.1	- 4.1	40.9	37.0	- 44.9	5.9	3.9	- 7.9	13.9	9.8	- 17.9
III-NORTH EAST	85.2	82.0	- 88.4	2.9	2.0	- 3.8	43.6	39.3	- 47.8	10.7	7.5	- 13.9	19.7	12.3	- 27.1
IV-METRO WEST	88.5	86.3	- 90.7	3.7	1.6	- 5.8	43.4	39.0	- 47.7	6.9	4.6	- 9.2	18.3	11.5	- 25.1
V-SOUTH EAST	86.1	84.1	- 88.2	2.7	1.7	- 3.6	40.6	36.7	- 44.6	8.7	5.9	- 11.5	30.9	22.1	- 39.7
VI-BOSTON	83.2	78.7	- 87.6	6.6	5.0	- 8.1	59.2	54.8	- 63.6	18.1	13.8	- 22.4	13.0	9.9	- 16.1

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

	SEATBELT USE			
	%	95% CI		
OVERALL	81.8	80.4	-	83.2
GENDER				
MALE	76.1	74.1	-	78.1
FEMALE	86.2	84.5	-	87.9
RACE-ETHNICITY*				
WHITE	81.7	80.1	-	83.3
BLACK	74.6	68.7	-	80.4
HISPANIC	85.0	81.5	-	88.4
ASIAN	90.9	86.0	-	95.9
DISABILITY				
DISABILITY	78.0	74.7	-	81.3
NO DISABILITY	82.8	81.3	-	84.3
EDUCATION				
< HIGH SCHOOL	70.5	64.8	-	76.2
HIGH SCHOOL	75.3	72.4	-	78.2
COLLEGE 1–3 YRS	78.1	75.4	-	80.8
COLLEGE 4+ YRS	86.9	84.6	-	89.1
HOUSEHOLD INCOME				
<\$25,000	76.1	73.1	-	79.1
\$25,000–34,999	78.2	73.3	-	83.1
\$35,000–49,999	79.5	75.8	-	83.2
\$50,000–74,999	78.8	74.2	-	83.5
\$75,000+	83.1	80.4	-	85.8
REGION				
I–WESTERN	80.8	77.7	-	83.9
II–CENTRAL	78.2	74.6	-	81.9
III–NORTH EAST	80.5	77.5	-	83.4
IV–METRO WEST	87.3	84.6	-	90.1
V–SOUTH EAST	80.7	77.9	-	83.6
VI–BOSTON	77.2	73.6	-	80.8

MASSACHUSETTS AND NATIONAL ESTIMATES

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010			
VARIABLES	MA %	US MEDIAN¶ %	US RANGE¶ %
OVERALL HEALTH MEASURES			
FAIR OR POOR HEALTH	11.6	15.0	10.7-32.1
15+ POOR MENTAL HEALTH DAYS	8.8	9.8	5.4-14.2
15+ DAYS IN POOR PHYSICAL HEALTH	8.4	9.7	5.5-15.5
HEALTH CARE ACCESS AND UTILIZATION			
HAVE PERSONAL HEALTH CARE PROVIDER	91.3	83.1	70.9-91.3
COULD NOT SEE DOCTOR DUE TO COST	6.7	13.4	6.5-20.9
CHECKUP IN PAST YEAR	80.0	67.3	53.8-80.1
DENTAL VISIT IN THE PAST YEAR	80.6	68.3	55.1-80.6
6 OR MORE TEETH MISSING	13.0	14.5	8.6-30.0
RISK FACTORS AND PREVENTIVE BEHAVIORS			
CURRENT SMOKER	14.1	17.3	5.8-26.8
FORMER SMOKER	29.3	24.9	10.5-33.0
USE SMOKELESS TOBACCO	1.5	3.9	0.3-8.2
QUIT ATTEMPT AMONG CURRENT SMOKERS	63.1	59.4	51.9-69.3
BINGE DRINKING	17.8	15.0	6.6-21.6
HEAVY DRINKING	6.7	4.9	2.0-7.2
OVERWEIGHT (BASED ON HP 2010)	60.1	64.7	57.2-69.9
OBESITY	23.6	27.6	21.4-34.5
PHYSICAL ACTIVITY IN PAST MONTH	79.4	76.0	57.7-82.5
FLU VACCINE IN PAST YEAR (50-64)	52.6	46.4	14.1-55.0
FLU VACCINE IN PAST YEAR (65+)	72.8	67.4	27.0-73.5
EVER HAD PNEUMONIA VACCINATION (65+)	71.2	68.5	24.7-74.0
CHRONIC HEALTH CONDITIONS			
DIABETES	7.4	8.7	5.3-13.2
EVER HAD ASTHMA	15.3	13.8	9.3-17.6
CURRENTLY HAVE ASTHMA	10.4	9.0	5.2-11.1
MYOCARDIAL INFARCTION (35+)	4.9	5.6	2.2-8.4
ANGINA (35+)	5.0	5.7	2.6-11.0
STROKE (35+)	2.5	3.5	2.0-5.8
CANCER SCREENING			
BLOOD STOOL TEST IN PAST 2 YRS (50+)	18.3	17.0	8.5-27.0
SIGMOID OR COLONOSCOPY PAST 5 YRS(50+)	63.2	52.7	29.9-63.4
PSA IN PAST YEAR (MEN 50+)	60.0	55.3	33.4-63.3
DRE IN THE PAST YEAR (MEN 50+)	64.4	44.6	23.5-64.4
MAMMOGRAPHY IN PAST 2 YRS (40+)	83.6	75.4	63.8-83.6
CLINICAL BREAST EXAM (40+)	86.8	76.5	60.1-86.8
PAP SMEAR IN PAST THREE YEARS	84.5	76.4	23.5-64.4
OTHER TOPICS			
EVER TESTED FOR HIV (18-64)	44.5	37.2	23.5-68.2
DRINKING & DRIVING	2.9	1.9	0.5-3.9
UNINTENTIONAL FALLS (45+)	14.2	16.2	11.2-24.8
INJURY FROM UNINTENTIONAL FALL (45+)	4.7	5.1	3.7-8.3
SEATBELT USE	82.7	85.3	62.3-93.7

¶ The US median percentage and range are based on data for all 50 states, District of Columbia, and Puerto Rico.

MASSACHUSETTS ESTIMATES AND HEALTHY PEOPLE 2020[^]

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010		
VARIABLES	MA %	HP 2020 [^] %
HEALTH CARE ACCESS AND UTILIZATION		
NO HEALTH INSURANCE (18-64)	3.0	0.0
HAVE PERSONAL HEALTH CARE PROVIDER	91.3	83.9
DENTAL VISIT IN THE PAST YEAR	80.6	49.0
RISK FACTORS AND PREVENTIVE BEHAVIORS		
CURRENT SMOKER	14.1	12.0
USE SMOKELESS TOBACCO	1.5	0.3
QUIT ATTEMPT AMONG CURRENT SMOKERS	63.1	80.0
LIVE IN HH WHERE SMOKING IS NOT ALLOWED	83.8	87.0
EXPOSED TO ENVIRONMENTAL SMOKE	33.0	68.0
BINGE DRINKING	17.8	24.3
HEAVY DRINKING	6.7	25.3
OBESITY	23.6	30.6
FLU VACCINE IN PAST YEAR (50-64)	52.6	80.0
FLU VACCINE IN PAST YEAR (65+)	72.8	90.0
EVER HAD PNEUMONIA VACCINATION (65+)	71.2	90.0
EVER SHINGLES VACCINE (50+)	9.7	30.0
CANCER SCREENING		
BLOOD STOOL TEST IN PAST 2 YRS (50+)	18.3	70.5
SIGMOID OR COLONOSCOPY PAST 5 YRS(50+)	63.2	70.5
MAMMOGRAPHY IN PAST 2 YRS (40+)	83.6	81.1
CLINICAL BREAST EXAM (40+)	86.8	81.1
PAP SMEAR IN PAST THREE YEARS	84.5	93.0
OTHER TOPICS		
EVER TESTED FOR HIV (18-64)	44.5	16.9
SEATBELT USE	82.7	92.4
[^] Healthy People 2020 Objectives		

ITEM-SPECIFIC NON-RESPONSE

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2010	
	PERCENTAGE OF NON-RESPONSE*
	%
FAIR OR POOR HEALTH	0.3
15+ DAYS IN POOR PHYSICAL HEALTH	2.5
15+ POOR MENTAL HEALTH DAYS	2.0
DISABILITY	6.5
NO HEALTH INSURANCE	0.2
NO PERSONAL HEALTH CARE PROVIDER	0.2
COULD NOT SEE DOCTOR DUE TO COST	0.3
HAD CHECKUP IN PAST YEAR	0.7
DENTAL VISIT IN THE PAST YEAR	0.9
6 OR MORE TEETH MISSING	3.0
CURRENT SMOKER	0.6
FORMER SMOKER	0.6
QUIT ATTEMPT AMONG CURRENT SMOKERS	0.3
EXPOSED TO ENVIRONMENTAL SMOKE	13.2
BINGE DRINKING	5.6
HEAVY DRINKING	7.0
OVERWEIGHT (BASED ON HP 2010)	7.5
OBESITY	7.5
PHYSICAL ACTIVITY	0.2
FLU VACCINE IN THE PAST YEAR (50-64)	5.1
FLUE VACCINE IN THE PAST YEAR (65+)	6.4
EVER HAD PNEUMONIA VACCINE(65+)	11.9
HPV VACCINATION	11.5
HEPATITIS B VACCINE (3SHOTS)	20.1
TETANUS VACCINE IN PAST 10 YRS	16.8
EVER SHINGLES VACCINE	11.6
PRE-DIABETES	8.6
DIABETES	0.2
EVER HAD ASTHMA	0.3
CURRENTLY HAVE ASTHMA	0.6
MYOCARDIAL INFARCTION (35+)	0.5
EVER CANCER DIAGNOSIS	11.0
SIGMOID OR COLONOSCOPY PAST 5 YRS(50+)	9.0
PSA IN PAST YEAR	14.4
MAMMOGRAPHY IN PAST 2 YRS (40+)	6.8
EVER TESTED FOR HIV (18-64)	9.6
DRINKING & DRIVING	6.0
UNINTENTIONAL FALLS	6.5
SEATBELT USE	7.0
UNPLANNED PREGNANCY	5.0

* The item-specific unweighted non-response % was calculated using the number of respondents who had finished the demographic section of the 2006 BRFSS as the denominator and those who reported don't know or refused as the numerators.

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM COMPARISON TABLE

VARIABLES	PREVIOUS YEAR %	CURRENT YEAR %	DIFFERENCE ¶
FAIR OR POOR HEALTH	12.0	11.6	↔
15+ POOR MENTAL HEALTH DAYS	8.9	8.8	↔
15+ DAYS IN POOR PHYSICAL HEALTH	8.4	8.4	↔
DISABILITY	21.3	18.7	↔
DISABILITY / NEED HELP WITH ACTIVITIES	5.7	5.3	↔
NO HEALTH INSURANCE (18-64)	3.4	3.0	↔
HAVE PERSONAL HEALTH CARE PROVIDER	89.7	91.3	↔
COULD NOT SEE DOCTOR DUE TO COST	7.0	6.7	↔
CHECKUP IN PAST YEAR	76.3	80.0	↑
DENTAL VISIT IN THE PAST YEAR ¥	77.8	80.6	↑
6 OR MORE TEETH MISSING ¥	14.4	13.0	↓
CURRENT SMOKER	15.0	14.1	↔
FORMER SMOKER	28.5	29.3	↔
USE SMOKELESS TOBACCO	N/R	1.5	N/R
QUIT ATTEMPT AMONG CURRENT SMOKERS	61.2	63.1	↔
PLAN TO QUIT AMONG CURRENT SMOKERS	41.6	40.3	↔
LIVE IN HH WHERE SMOKING IS NOT ALLOWED	80.6	83.8	↑
EXPOSED TO ENVIRONMENTAL SMOKE	38.1	33.0	↓
BINGE DRINKING	17.6	17.8	↔
HEAVY DRINKING	6.2	6.7	↔
OVERWEIGHT (BASED ON HP 2010)	57.5	60.1	↔
OBESITY	21.8	23.6	↔
PHYSICAL ACTIVITY IN PAST MONTH ¥	77.9	79.4	↔
FLU VACCINE IN PAST YEAR (50-64)	48.9	52.6	↔
FLU VACCINE IN PAST YEAR (65+)	73.2	72.8	↔
EVER HAD PNEUMONIA VACCINATION (65+)	71.3	71.2	↔
HPV VACCINATION (18-49)	N/R	8.0	N/R
COMPLETED HPV VACCINE SERIES (18-49)	N/R	75.6	N/R
HEPATITIS B VACCINE (3 SHOTS)	N/R	39.9	N/R
TETANUS VACCINE IN PAST 10 YRS	N/R	74.9	N/R
EVER SHINGLES VACCINE (50+)	N/R	9.7	N/R
PRE-DIABETES	4.6	4.9	↔
DIABETES	7.9	7.4	↔
EVER HAD ASTHMA	15.8	15.3	↔
CURRENTLY HAVE ASTHMA	10.8	10.4	↔
MYOCARDIAL INFARCTION (35+)	5.4	4.9	↔
ANGINA (35+)	5.3	5.0	↔
STROKE (35+)	2.7	2.5	↔
EVER CANCER DIAGNOSIS	N/R	9.2	N/R
BLOOD STOOL TEST IN PAST 2 YRS (50+) ¥	24.3	18.3	↓
SIGMOID OR COLONOSCOPY PAST 5 YRS (50+) ¥	63.5	63.2	↔
PSA IN PAST YEAR (MEN 50+) ¥	62.2	60.0	↔
DRE IN THE PAST YEAR (MEN 50+) ¥	63.1	64.4	↔
MAMMOGRAPHY IN PAST 2 YRS (40+) ¥	84.9	83.6	↔
CLINICAL BREAST EXAM (40+)	N/R	86.8	N/R
PAP SMEAR IN PAST THREE YEARS ¥	83.5	84.5	↔
EVER TESTED FOR HIV (18-64)	43.3	44.5	↔
TESTED FOR HIV IN PAST YEAR (18-64)	10.9	8.0	↓
SEXUAL VIOLENCE (WOMEN)	14.6	16.6	↔
DRINKING & DRIVING ¥	2.5	2.9	↔
UNINTENTIONAL FALLS (45+) ¥	15.5	14.2	↔
INJURY FROM UNINTENTIONAL FALL (45+) ¥	5.1	4.7	↔
SEATBELT USE ¥	80.4	82.7	↑
UNPLANNED PREGNANCY (18-44) ¥	19.7	18.6	↔
USE BIRTH CONTROL (18-44) ¥	78.4	74.9	↔

¥ Variables most recently asked in 2008, all others asked in 2009.

N/R = Not reported

¶ Arrows indicate statistically significant increase (↑), decrease (↓), or no difference (↔), P < 0.05

LIMITATIONS

There are some limitations that should be considered when interpreting results from the BRFSS, based on the nature of the survey data:

- The health characteristics estimated from the BRFSS pertain to the adult population, aged 18 years and older, who live in households with a landline telephone.
- As noted above, respondents are identified through telephone-based methods.
- Telephone penetration in the United States is estimated at 96.7%; in Massachusetts, telephone penetration is estimated at 98.3%, meaning that only 1.7% of households do not have any telephone service.^[66]
- Telephone coverage varies across population subgroups: minorities and those in lower socioeconomic groups typically have lower telephone coverage. No direct method of compensating for non-telephone coverage is employed by the BRFSS; however, post-stratification weights are used, which may partially correct for any bias caused by non-telephone coverage. Post-stratification is designed to make the total number of cases equal to some desired number which, for MA BRFSS data, is the number of people in the state who are aged 18 years and older. In the BRFSS, such post-stratification serves as a blanket adjustment for non-coverage and non-response and forces the total number of cases to equal population estimates.
- Evidence of acceptable performance on surveys is measured by the following quality assurance indicators: CASRO or other response rate, refusal rate, refusal conversion, and timeliness of providing data. A high response rate indicates low potential bias. CASRO response rate is a main indicator of survey quality. The CASRO rate is a measure of respondent cooperation and is generally defined as the proportion of all eligible respondents in the sample for whom an interview has been completed. In 2009, the MA BRFSS had an average CASRO rate of 49%, which is higher than the required BRFSS standard of 40%.
- Another factor to consider is the growth of cellular telephone only households. Results from the 2009 National Health Interview Survey indicate that almost 23.9% of American adults live in a wireless-only household.^[67] A survey of cell phone-only users conducted in 2009 and 2010 and new estimates of main health indicators based on the addition of the cell-only sample to the traditional landline-only sample will be released as a supplement to this report later this year.
- All data collected by the BRFSS are based on self-report from the respondents. By its nature, self-reported data may be subject to error for several reasons. An individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors. Some respondents may over report socially desirable behaviors, while underreporting behaviors they perceive to be less acceptable. Finally, because the BRFSS surveys a randomly selected sample of Massachusetts adults, these results may differ from another random sample to some extent simply due to chance.
- Persons with the most severe limitations and with certain disabilities are not represented in this sample since individuals living in institutions are not included in the BRFSS. BRFSS methodology also precludes anyone from assisting respondents in completing the interview if the selected adult had difficulty in participating for any reason, such as an intellectual or developmental disability.

REFERENCES

- [1] National Center for Health Statistics. (January 11, 2007). *Reliability of Survey Estimates*. Retrieved August 2, 2007, from <http://www.cdc.gov/nchs/about/major/ahcd/reliability.htm>
- [2] Rosner, B. (2005). *Fundamentals of Biostatistics*, 6th Ed. Pacific Grove, CA: Duxbury Press.
- [3] U.S. Dept. of Health and Human Services. *Healthy People 2020*. Retrieved on March 2, 2011, from <http://www.healthypeople.gov/2020/default.aspx>
- [4] Idler EL & Benyamini Y. *Self-rated health and mortality: A review of twenty-seven community studies*. J Health Soc Behav 1997; 38:p. 21-37.
- [5] Centers for Disease Control and Prevention. (2000). *Measuring Healthy Days*. Retrieved October 19, 2006, from <http://www.cdc.gov/hrqol/pdfs/mhd.pdf>.
- [6] Centers for Disease Control and Prevention. *Health-Related Quality of Life*. Retrieved October 19, 2006, from <http://www.cdc.gov/hrqol/>
- [7] U.S. Census Bureau, *Americans with Disabilities: 2002, Issued May 2006*. Retrieved on March 2, 2011, <http://www.census.gov/prod/2006pubs/p70-107.pdf>
- [8] *Self-assessed health status and selected behavioral risk factors among persons with and without health-care coverage. United States, 1994-1995*. MMWR. 47(09): p. 176-180.
- [9] Weissman, J.S. & Epstein, A.M. (1993). *The insurance gap: does it make a difference?* Annu Rev Public Health, 14, 243-270.
- [10] Division of Health Care Finance and Policy, (2010). *Health Insurance Coverage in Massachusetts: Results from the 2008-2010 Massachusetts Health Insurance Surveys*. Retrieved on May 17, 2011 from http://www.mass.gov/Eeohhs2/docs/dhcfp/r/pubs/10/mhis_report_12-2010.pdf
- [11] Centers for Disease Control and Prevention. (2011). *Preventing Cavities, Gum Disease, Tooth Loss, and Oral Cancers: At A Glance 2010*. Retrieved on March 2, 2011 from <http://www.cdc.gov/chronicdisease/resources/publications/AAG/doh.htm>
- [12] Centers for Disease Control and Prevention. (2011). *Tobacco Use: Targeting the Nation's Leading Killer: At A Glance*. Retrieved on March 2, 2011, from <http://www.cdc.gov/chronicdisease/resources/publications/aag/osh.htm>
- [13] Massachusetts Department of Public Health, Tobacco Control Program. (2008). *Reducing the health and economic burden of tobacco use*. Retrieved on May 28, 2009, from http://www.mass.gov/Eeohhs2/docs/dph/tobacco_control/program_overview.pdf
- [14] Centers for Disease Control and Prevention. (2011). *Smokeless Tobacco Facts*. Retrieved March 3, 2011, from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/smokeless_facts/index.htm
- [15] National Cancer Institute. (2011). *Harms of Smoking and Health Benefits of Quitting*. Retrieved March 7, 2011 from <http://www.cancer.gov/cancertopics/factsheet/Tobacco/cessation>
- [16] U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. (2006). *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Retrieved on November 1, 2006, from <http://www.surgeongeneral.gov/library/secondhandsmoke/report/>
- [17] Danaei, G., et al. (2009). *The Preventable Causes of Death in the United States: Comparative Risk Assessment of Dietary, Lifestyle, and Metabolic Risk Factors*. PLoS Med 6(4): e1000058. Retrieved on March 3, 2011 from <http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000058>
- [18] Centers for Disease Control and Prevention. (2011). *Alcohol and Public Health: FAQs*. Retrieved on March 4, 2011 from <http://www.cdc.gov/alcohol/faqs.htm#heavyDrinking>
- [19] National Highway Traffic Safety Administration, National Center for Statistics and Analysis (2010). *Traffic Safety Facts - Highlights of 2009 Motor Vehicle Crashes - August 2010*. Retrieved on March 7, 2011 from <http://www-nrd.nhtsa.dot.gov/Pubs/811363.PDF>
- [20] Centers for Disease Control and Prevention. (updated May 29, 2009). *Overweight and Obesity: Economic Consequences*. Retrieved on June 2, 2009 from http://www.cdc.gov/nccdphp/dnpa/obesity/economic_consequences.htm
- [21] Massachusetts Department of Public Health, (2011), *About Mass in Motion*, Retrieved on May 6, 2011 from http://www.mass.gov/?pageID=eohhs2terminal&L=4&L0=Home&L1=Consumer&L2=Prevention+and+Wellness&L3=Healthy+Living&sid=Eeohhs2&b=terminalcontent&f=dph_mass_in_motion_about&csid=Eeohhs2
- [22] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. (1996). *Physical Activity and Health: a Report of the Surgeon General*. Retrieved on April 6, 2010 from <http://www.cdc.gov/physicalactivity/everyone/health/>

- [23] Centers for Disease Control and Prevention. (2011). *Estimating Seasonal Influenza-Associated Deaths in the United States: CDC Study Confirms Variability of Flu*. Retrieved on March 8, 2011, from http://www.cdc.gov/flu/about/disease/us_flu-related_deaths.htm
- [24] Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research and Evaluation. (August 2010). *Massachusetts Deaths 2008*. Boston, MA
- [25] Centers for Disease Control and Prevention. (2011). *Sexually Transmitted Diseases (STDs) - Genital HPV Infection - Fact Sheet*. Retrieved on March 8, 2011 from <http://www.cdc.gov/std/HPV/STDFact-HPV.htm>
- [26] MedScape Today. (March 12, 2010) *Complete HPV Immunization Rates Low in the US*. Retrieved on March 8, 2011 from <http://www.medscape.com/viewarticle/718413>
- [27] Centers for Disease Control and Prevention. (march 2011). *Viral Hepatitis*. Retrieved on March 8, 2011 from <http://www.cdc.gov/hepatitis/>
- [28] National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention. (2010) *Massachusetts - 2010 Profile*. Retrieved on March 8, 2011 from http://www.cdc.gov/nchhstp/stateprofiles/pdf/massachusetts_profile.pdf
- [29] Dire, Daniel, (2010) *Tetanus*. MedScape, eMedicine Emergency. Retrieved on March 9, 2011 from <http://emedicine.medscape.com/article/786414-overview>
- [30] MA Department of Public Health, Bureau of Communicable Disease Control. (2006) *Tetanus*. Retrieved on March 9, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/disease_reporting/guide/tetanus.pdf
- [31] Centers for Disease Control and Prevention. (2011) *Shingles (Herpes Zoster)*. Retrieved on May 10, 2011 from <http://www.cdc.gov/shingles/about/overview.html>
- [32] American Diabetes Association. (2011). *Diabetes Basics*. Retrieved on March 14, 2011 from: <http://www.diabetes.org/diabetes-basics/>
- [33] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2011). *National diabetes fact sheet, 2011*. Retrieved on March 14, 2011 from http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf
- [34] Massachusetts Department of Public Health. (June 2009) *Healthy Massachusetts Disease Management and Wellness: Focus on Diabetes*. Retrieved on March 14, 2011 from http://www.mass.gov/Eeohhs2/docs/eohhs/healthymass/diabetes_recommendations.doc
- [35] Centers for Disease Control and Prevention. (updated May 5, 2009). *Basic Facts About Asthma*. Retrieved on May 29, 2009, from <http://www.cdc.gov/asthma/faqs.htm>
- [36] National Heart Lung and Blood Institute. (2011). *Diseases and conditions index: Asthma*. Retrieved on March 14, 2011 from http://www.nhlbi.nih.gov/health/dci/Diseases/Asthma/Asthma_Whats.html
- [37] Massachusetts Department of Public Health, Asthma Prevention and Control Program. (April 2009). *Burden of Asthma in Massachusetts*. Retrieved on May 28, 2009, from http://www.mass.gov/Eeohhs2/docs/dph/com_health/asthma/burden_in_mass.pdf
- [38] Centers for Disease Control and Prevention, Chronic Disease Prevention and Health Promotion. (2011). *Heart Disease and Stroke: Addressing The Nation's Leading Killers: At A Glance 2010*. Retrieved on March 15, 2011 from <http://www.cdc.gov/chronicdisease/resources/publications/AAG/dhdsp.htm>
- [39] Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, (March 11, 2011), *Cancer Survivors - United States, 2007*. Retrieved on March 15, 2011 from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6009a1.htm?s_cid=mm6009a1_w
- [40] Massachusetts Department of Public Health. *Cancer Incidence and Mortality in Massachusetts, 2003-2007, A Statewide Report*. Retrieved on May 6, 2011, from http://www.mass.gov/Eeohhs2/docs/dph/cancer/registry_statewide_03_07_report.pdf
- [41] American Cancer Society. (2011) *Colorectal Cancer Facts & Figures 2011-2013*. Retrieved on March 16, 2011 from <http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/document/acspc-028323.pdf>
- [42] American Cancer Society. (2011) *Prostate Cancer*. Retrieved on March 16, 2011 from <http://www.cancer.org/Cancer/ProstateCancer/index>
- [43] Massachusetts Department of Public Health. *Cancer in Massachusetts by Race and Ethnicity 200-2004*. Retrieved on March 16, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/cancer/race_ethnicity.doc
- [44] Centers for Disease Control and Prevention. (2006). *Breast Cancer Screening*. Retrieved on November 15, 2006, from http://www.cdc.gov/cancer/breast/basic_info/screening.htm
- [45] U.S. Preventive Services Task Force. (January 2003). *Screening for Cervical Cancer*. Retrieved on March 16, 2011, from <http://www.uspreventiveservicestaskforce.org/uspstf/uspsscerv.htm>
- [46] National Cancer Institute. (December 21, 2010). *Pap Test Fact Sheet*. Retrieved on May 6, 2011, from <http://www.cancer.gov/cancertopics/factsheet/detection/Pap-test>
- [47] Centers for Disease Control and Prevention. (2003). *Cervical Cancer Screening Fact Sheet*. Retrieved on May 1, 2007, from http://www.cdc.gov/cancer/cervical/pdf/cc_basic.pdf

- [48] Massachusetts Department of Public Health. *A Health Profile of Massachusetts Adults by Sexual Orientation Identity: Results from the 2001-2006 Behavioral Risk Factor Surveillance System Surveys*. Retrieved April 8, 2010 from http://www.mass.gov/Eeohhs2/docs/dph/health_equity/sexual_orientation_disparities_report.pdf
- [49] Massachusetts Department of Public Health. *The Health of Lesbian, Gay, Bisexual and Transgender (LGBT) Persons in Massachusetts*. Retrieved April 8, 2010 from http://www.mass.gov/Eeohhs2/docs/dph/commissioner/lgbt_health_report.pdf
- [50] Massachusetts Department of Public Health, Office of HIV/AIDS. (March 2010). *Massachusetts HIV/AIDS Data Fact Sheet: The Massachusetts HIV/AIDS Epidemic at a Glance*. Retrieved March 16, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/aids/2010_profiles/epidemic_glance.doc
- [51] Centers for Disease Control and Prevention. *Intimate Partner Violence: Prevention Strategies*. Updated April 8, 2010, from <http://www.cdc.gov/ViolencePrevention/intimatepartnerviolence/prevention.html>
- [52] Crime Victims Research and Treatment Center and National Victim Center. (1992). *Rape in America, A Report to the Nation*. Medical University of South Carolina: Charleston, SC. Retrieved on March 16, 2011 from <http://www.ncvc.org/ncvc/main.aspx?dbName=DocumentViewer&DocumentID=32366>
- [53] The National Center for Victims of Crime. (1998) *Sexual Assault*. Retrieved on March 16, 2011 from <http://www.ncvc.org/ncvc/main.aspx?dbName=DocumentViewer&DocumentID=32369>
- [54] United State Department of Transportation, National Highway Traffic Safety Administration. (2010). *Traffic Safety Facts 2008 Data: Alcohol-Impaired Driving*. Retrieved on March 17, 2011, from <http://www-nrd.nhtsa.dot.gov/Pubs/811155.PDF>
- [55] Massachusetts Executive Office of Public Safety and Security. (2011) *Drunk Driving, Over the Limit, Under Arrest*. Retrieved on March 22, 2011 from http://www.mass.gov/?pageID=eopsterminal&L=3&L0=Home&L1=Crime+Prevention+%26+Personal+Safety&L2=Traffic+Safety&sid=Eeops&b=terminalcontent&f=programs_ghsb_new_ydydl&csid=Eeops
- [56] Massachusetts Department of Public Health, 2011, *Injury Prevention for Older Adults*, Retrieved on May 6, 2011 from http://www.mass.gov/?pageID=eohhs2terminal&L=4&L0=Home&L1=Consumer&L2=Prevention+and+Wellness&L3=Injury+Prevention&sid=Eeohhs2&b=terminalcontent&f=dph_com_health_injury_c_older_adults&csid=Eeohhs2
- [57] Massachusetts Department of Public Health, Injury Surveillance Program. (2011). *Injury Related Hospital Discharges, 2009*. Retrieved on March 22, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/injury_surveillance/ma_resident_hosp_discharge_summary09.pdf
- [58] Massachusetts Department of Public Health, Injury Surveillance Program (2011). *Injury Related Outpatient Observation Stays, 2009*. Retrieved on March 22, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/injury_surveillance/ma_residents_outpatient_summary_09.pdf
- [59] Massachusetts Department of Public Health, Injury Surveillance Program. (2011). *Injury Related Emergency Department Visits, 2009*. Retrieved on March 22, 2011 from http://www.mass.gov/Eeohhs2/docs/dph/injury_surveillance/ma_residents_emergency_visits_summary_09.pdf
- [60] Blincoc, L., et al. (2002). *The Economic Impact of Motor Vehicle Crashes*. Sponsored by the U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C
- [61] The National Campaign to Prevent Teen and Unplanned Pregnancy. (May 2008). *Fast Facts: The Consequences of Unplanned Pregnancy*. Retrieved on May 29, 2009, from <http://www.thenationalcampaign.org/resources/pdf/fast-facts-consequences-of-unplanned-pregnancy.pdf>
- [62] Sonfield, A et al. *The Public Costs of Births Resulting from Unintended Pregnancies: National and State-Level Estimates*. Perspectives on Sexual and Reproductive Health. June 2011, Vol 43, No. 2, pp. 94-102.
- [63] American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association. (2007). *Joint Principles of the Patient-Centered Medical Home*. Retrieved on March 22, 2011 from <http://www.medicalhomeinfo.org/downloads/pdfs/jointstatement.pdf>
- [64] American College of Physicians. (2006). *The Advanced Medical Home: A Patient-Centered, Physician-Guided Model of Health Care*. Retrieved on March 22, 2011 from http://www.agingtech.org/documents/advanced_medical_home.pdf
- [65] Casalino LP et al (2010). Specialist Physician Practices as Patient-Centered Medical Homes. Retrieved on March 22, 2011 from <http://www.nejm.org/doi/pdf/10.1056/NEJMo1001232>
- [66] Belinfante, A. (February 2010). *Telephone subscribership in the United States: Data though March 2010*. Federal Communications Commission. Retrieved on May 2, 2010 from http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301241A1.pdf
- [67] Blumberg, SJ, Luke JV. (April 20, 2011) *Wireless substitution: State-level Estimates from the National Health Interview Survey, January 2007-June 2010* National Center for Health Statistics. Retrieved on May 2 2010, from <http://www.cdc.gov/nchs/data/nhsr/nhsr039.pdf>