A Profile of Health Among Massachusetts Adults, 2008

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

Overall changes in the presentation style and content of last year's report are carried into this year's report as well. This report features some additional changes in style and content.

Many of the differences in health indicators between subgroups remain the same as in the previous year's report; therefore we include only selected results in the summary section of this report. We also focus on differences in health care utilization and access between subgroups in the summary section; this topic is of particular interest in Massachusetts due to recently enacted health care reforms. Detailed information on all indicators may be obtained from the tables and charts in the back of the report.

Two sections highlighting new variables and measures have been added to this report:

- A section on topics related to Massachusetts health care reform has been added;
- A section on gambling and gambling problems has been added.

This report contains state-level health indicators only. Health indicators at the city/town level will be provided in a special report, to be released following the statewide annual report. This special report will present data for selected cities and towns by sociodemographic characteristics of the population and time trend analysis.

INTRODUCTION

The Behavioral Risk Factor Surveillance System (BRFSS) is a continuous, random–digit–dial, landline-only telephone 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 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 2008, 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 2008, 20,559 interviews were conducted 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. The detailed data for these cities will be presented in a special report to be released following the statewide annual report.

ABOUT THIS REPORT

This report summarizes selected results from the 2008 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. The only exception to this format can be found in Section 2.4 Health Care Reform. Due to the small number of respondents, these data could not be presented by subgroup.

United States (US) median data for all participating states and territories for the same variables are presented for 2008 in a separate table to enable comparison between Massachusetts and national data.

In Appendix I of the report, tables detailing age-adjusted percentages for 2008 indicators and their 95% confidence intervals are presented.

A comparison of 2008 Massachusetts results to national data and Healthy People 2010 Objectives is also provided in Appendix I.

All percentages in this report are weighted (see definition in next section) to the total Massachusetts population in 2008. The weighting adjusts for both the probability that an individual is selected to participate in the survey and differential participation by sex, age, and race-ethnicity.

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 and non-coverage of households without landline telephones. 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, 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 2008 was 20,559, 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 2008 BRFSS contained three splits: split 1 contained 6,802 respondents, split 2 contained 6,945 respondents, and split 3 contained 6,812 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 where 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 I).

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 statistical test 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 2010 Objectives: *Healthy People 2010: National Health Promotion and Disease Prevention Objectives* is a national agenda that aims to significantly improve the health of Americans in the decade proceeding the year 2010. Developed through an extensive governmental, professional, and public national process, Healthy People 2010 defined two broad national goals: to increase quality and years of healthy life and to eliminate health disparities. These goals were supported by 476 specific objectives that set priorities for public health during the first decade of the 2000’s. The objectives were organized into 28 priority areas and for each objective, a numeric national target for the year 2010 was set. For each health status indicator in this report that has a corresponding Healthy People 2010 Objective, the year 2010 target is shown in the summary table at the end of the document.

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008

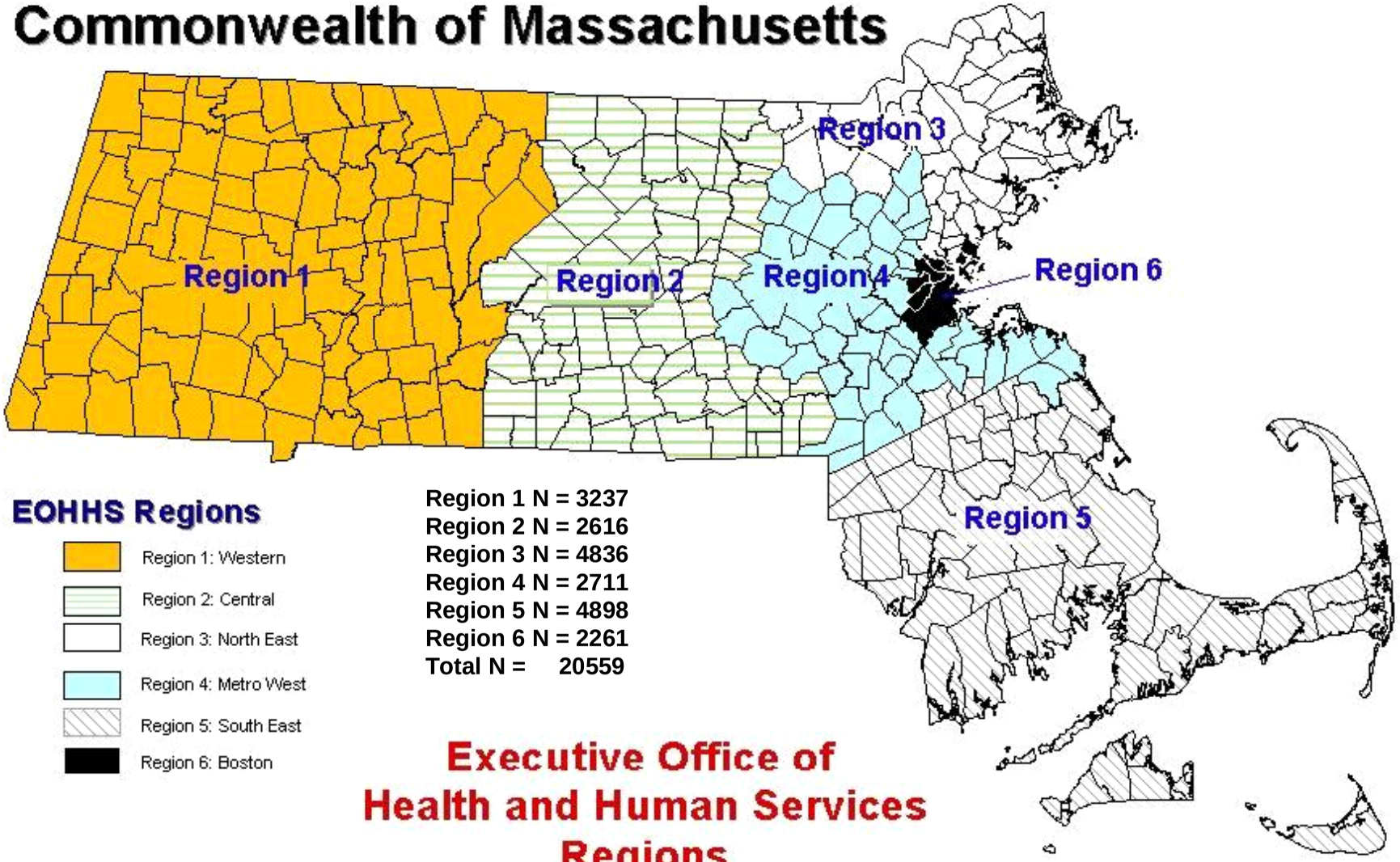
	UNWEIGHTED SAMPLE SIZE N	WEIGHTED PERCENT %†
OVERALL	20559	100
GENDER		
MALE	7527	47.7
FEMALE	13032	52.3
AGE GROUP		
18–24	753	12.6
25–34	1988	16.6
35–44	3388	19.3
45–54	4393	19.6
55–64	4136	14.4
65–74	2829	8.7
75 AND OLDER	2820	9.0
RACE-ETHNICITY*		
WHITE	16645	83.6
BLACK	1088	4.9
HISPANIC	1952	8.4
ASIAN	346	3.1
DISABILITY¶		
DISABILITY	4824	21.5
NO DISABILITY	13428	78.5
EDUCATION		
< HIGH SCHOOL	2235	7.5
HIGH SCHOOL	5665	25.6
COLLEGE 1–3 YRS	4742	24.0
COLLEGE 4+ YRS	7794	42.9
HOUSEHOLD INCOME		
<$25,000	5247	20.4
$25,000–34,999	1845	8.4
$35,000–49,999	2324	12.3
$50,000–74,999	2750	16.6
$75,000+	5723	42.2
REGION		
I–WESTERN	3237	17.5
II–CENTRAL	2616	14.3
III–NORTH EAST	4836	17.1
IV–METRO WEST	2711	22.8
V–SOUTH EAST	4898	19.4
VI–BOSTON	2261	8.8

* 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 = 3237
Region 2 N = 2616
Region 3 N = 4836
Region 4 N = 2711
Region 5 N = 4898
Region 6 N = 2261
Total N = 20559

Executive Office of Health and Human Services Regions

SUMMARY OF RESULTS

The 2008 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 to examine potential disparities in health status and access to health care among these groups. For most indicators, comparisons between subgroups remain the same as described in the 2007 Annual Report. A selected list of statistically significant results for these groups is presented below, including a separate section on topics related to health care access and utilization.

GENDER

Description of overall health:

- Females reported having experienced sexual violence at significantly higher rates (14%) than males (4%).

See table 6.3

Health risk factors:
In general, females were less likely than males to report unhealthy behaviors such as drinking and being overweight.

- Females were less likely (35%) than males (39%) to report that they were exposed to environmental tobacco smoke, were much less likely than males to report engaging in binge drinking (13% vs. 23%) and drinking and driving (1% vs. 4%), and were less likely to report being overweight (49% vs. 68%) or obese (20% vs. 23%).

See tables 3.3, 3.4, 3.5, 6.4

Chronic health conditions:

- Females were more likely (12%) than males (7%) to report that they currently have asthma or had ever been diagnosed with asthma (17% vs. 13% for males), but were less likely than males to report that they had ever experienced a heart attack or angina (4% vs. 7%).

See tables 4.2, 4.3.1

Prevention measures:

- Females were less likely (76%) than males (80%) to report engaging in leisure time physical activity but were more likely to report always wearing their seatbelt (85% vs. 75%)
- Females age 65 and older were more likely to have ever received a pneumonia vaccination (69%) than males in the same age group (63%)
- Females age 50 and over were less likely (61%) than males of the same age group (66%) to report that they undergone a sigmoidoscopy or colonoscopy in the past five years.

See tables 3.6, 3.7.2, 5.1, 6.6

AGE

Discussed below are selected statistically significant differences in health and behavioral indicators observed in three broad age groups: young (18-34), middle-aged (35-64) and older (65+) respondents. Cancer screening and flu vaccination are recommended for people ages 50 and over and mammography is recommended for women ages 40 and over, and therefore the variables dealing with cancer prevention or flu/pneumonia vaccination 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 lower age groups.

ADULTS AGES 18-34:

Description of overall health:
Adults ages 18-34 were:

- less likely (7%) to report that their health was fair or poor than adults ages 35-64 (12%) or adults ages 65 and older (24%) and less likely to experience 15 or more days of poor physical health in the past month (5%) than adults ages 35-64 (9%) or adults ages 65 and older (16%)
- less likely to report a disability (15%) or a disability for which they needed help with activities (3%) than were adults ages 35-64 (21%, 6%) or adults ages 65 and older (34%, 10%).

See tables 1.1, 1.2, 1.3

Health risk factors:
Adults ages 18-34 were:

- more likely to report current smoking (20%) than adults ages 65 or older (8%) and more likely to engage in binge drinking (29%) than adults ages 35-64 (17%) or adults ages 65 and older (3%)
- less likely to be overweight (50%) than were adults ages 35-64 (62%) or adults ages 65 and older (60%).

See tables 3.1, 3.4, 3.5

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 (7%) or adults ages 65 or older (18%) but were more likely to report ever being diagnosed with asthma (18%) than were adults ages 35-64 (14%) or adults ages 65 and older (12%).

See tables 4.1, 4.2

Prevention measures:
Adults ages 18-34 were:

- more likely to report that they had ever been tested for HIV (46%) than adults ages 35-64 (37%) and more likely to engage in leisure time physical activity (83%) than were adults ages 35-64 (79%) or adults 65 and over (67%)
- less likely to report always wearing a seatbelt (76%) than were adults ages 35-64 or adults ages 65 and older (82% for both groups).

See tables 3.6, 6.2, 6.6

ADULTS AGES 65 AND OVER

Description of overall health:
Adults ages 65 and older were:

- more likely to report fair or poor health (24%) than adults ages 18-34 (7%) or 35-64 (12%) and more likely to report 15 or more days of poor physical health in the past month (16%) than were adults ages 18-34 (5%) or adults ages 35-64 (9%)
- less likely to report 15 or more days of poor mental health in the past month (6%) than adults in other age groups (10% for both groups).

See tables 1.1, 1.2

Health risk factors:

- Adults ages 65 and older were less likely to report current smoking (8%) than adults ages 18-34 (20%) or adults ages 35-64 (17%) and much less likely to report binge drinking (3%) than were adults ages 18-34 (29%) or ages 35-64 (17%).

See tables 3.1, 3.4

Chronic health conditions:

Adults ages 65 and older were:

- approximately eight times as likely (18%) to report that they had been diagnosed with diabetes as were adults ages 18-34 (2%) and approximately twice as likely as adults ages 35-64 (7%)
- more likely (10% for adults 65-74; 15% for adults 75 and over) than adults ages 55-64 (5%) to report that they had ever experienced a heart attack and more likely (5% for adults ages 65-74; 8% for adults ages 75 and older) than adults ages 55-64 (3%) to report that they had experienced a stroke.

See tables 4.1, 4.3.1, 4.3.2

Prevention measures:

- adults ages 65 and over were less likely to report engaging in leisure time physical activity (67%) than were adults ages 18-34 (83%) and adults 35-64 (79%)
- adults ages 60-69 (69%) and 70-79 (68%) were more likely than were adults ages 50-59 (60%) to have had a sigmoidoscopy or colonoscopy in the past five years
- men ages 60-69 and ages 70-79 (74% for both groups) were more likely to have had a PSA test in the past year than men ages 50-59 (51%)
- women ages 50-59 (90%), 60-69 (89%), and 70-79 (89%) were more likely to have had a mammogram in the past two years than were women ages 40-49 (80%)
- adults ages 65-74 were less likely to report ever having had a pneumonia vaccine (60%) than were adults ages 75 and older (73%).

See tables 3.6, 3.7.2, 5.1, 5.2, 5.3

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) reported a disability of any kind.

Description of overall health:

- Adults with a disability were over five times as likely to report fair or poor health (34%) as adults without a disability (6%), were more than three times as likely to report 15 or more days of poor mental health (20%) as adults without a disability (6%), and were six times as likely to report 15 or more days of being sad, blue or depressed (18%) as adults without a disability (3%).

See tables 1.1, 1.2

Health risk factors:

Tobacco-related risk factors were particularly elevated in among adults with a disability. Adults with a disability were:

- much more likely (23%) to report being current smokers than adults without a disability (14%) and more likely to report exposure to environmental tobacco smoke (43%) than adults without a disability (35%)
- more likely to be overweight (65%) or obese (31%) than adults without a disability (57% overweight, 19% obese)

- more than twice as likely to report an unintentional fall (25%) and injury due to an unintentional fall (9%) than adults without a disability (12%, 4% respectively).

See tables 3.1, 3.5, 6.5

Chronic health conditions:
Adults with a disability were:

- almost twice as likely (7%) to report being diagnosed with pre-diabetes as adults without a disability (4%) and almost three times as likely (14%) to report being diagnosed with diabetes as adults without a disability (5%)
- more likely to report ever being diagnosed with asthma (23%) as adults without a disability (13%) and more than twice as likely (17%) as adults without a disability (8%) to report that they currently have asthma
- more than three times as likely to report that they had ever experienced a heart attack (11%) as people without a disability (3%) and approximately six times as likely (6%) as adults without a disability (1%) to report that they had ever experienced a stroke.

See tables 4.1, 4.2, 4.3.1, 4.3.2

Prevention measures:

- Adults with a disability were less likely to report engaging in leisure time physical activity (65%) than adults without a disability (82%)

See table 3.6

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") due to the fact that in general, the middle two groups achieved health outcomes similar to their counterparts with four or more years of college education.

LESS THAN HIGH SCHOOL

Description of overall health:
Adults with less than a high school education reported:

- the highest percentage (35%) of fair or poor health adults at any educational level
- more than three times as likely (16%) to report poor physical health as those with four or more years of college education (5%) and were more likely (16%) 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.

See tables 1.1, 1.2

Health risk factors:
Adults with less than a high school education were:

- more likely to report current smoking (30%) and more likely to report being overweight (62%) and obese (24%) than adults with four or more years of college education (8% current smoker, 54% overweight, 18% obese)
- less likely to report binge drinking (11%) than adults with four or more years of college education (18%).

See tables 3.1, 3.4, 3.5

Chronic health conditions:
Adults with less than a high school education were:

- more likely to report current asthma (14%) and current diabetes (12%) than those with 4 or more years of college education (8% 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, 4.3.1, 4.3.2

Prevention measures:
Adults with less than a high school education were:

- less likely to report engaging in leisure time physical activity (55%) and always using a seatbelt (75%) than adults with 4 or more years of college education (88% for physical activity, 87% for seatbelt use)
- more likely (15%) to report having been tested for HIV in the past year than were adults with 4 or more years of college education (7%).

See tables 3.6, 6.2, 6.6

FOUR YEARS OF COLLEGE OR MORE

Description of overall health:
Adults with four or more years of college education:

- reported the lowest percentage of fair or poor health (6%), poor physical health (5%) and poor mental health (6%) of any education level
- were less likely to report that they had a disability (16%) than adults with lower levels of educational attainment.

See tables 1.1, 1.2, 1.3

Health risk factors:
Adults with four or more years of college education were:

- less likely to report current smoking (8%) and exposure to environmental tobacco smoke (29%) than adults with lower levels of educational attainment
- less likely to report being overweight (54%) or obese (18%) than adults with lower levels of educational attainment.

See tables 3.1, 3.3, 3.5

Chronic health conditions:
Adults with 4 or more years of college education:

- were less likely to report that they had ever been diagnosed with diabetes (5%) than adults at any other educational attainment level
- were less likely to report currently having asthma (8%) than were adults with less than a high school education (14%).

See tables 4.1, 4.2

Prevention measures:
Adults with 4 or more years of college education:

- were more likely (88%) to report engaging in leisure time physical activity than adults with lower levels of educational attainment
- who were over age 50 were more likely to report having had a sigmoidoscopy or colonoscopy in the past five years (69%) than adults in the same age group with lower levels of educational attainment
- who were over age 50 and male were more likely (67%) than men over age 50 with less than a high school education (54%) to report that they had had a PSA test in the past year
- who were female were more likely (91%) than women with less than a high school education (72%) to report having had a Pap smear within the past three years.

See tables 3.6, 5.1, 5.2, 5.4

HOUSEHOLD INCOME

Household income is a sensitive topic among survey respondents; approximately **13%** of respondents to the 2008 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 back of the report.

HOUSEHOLD INCOME LESS THAN $25,000 PER YEAR:

Description of overall health:

- Adults with a household income less than $25,000 a year reported the highest percentage of fair or poor health (29%), poor physical health (19%), poor mental health (17%) and disability (39%) of adults in all income brackets.

See tables 1.1, 1.2, 1.3

Health risk factors:

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

- were more likely to report being current smokers (25%) and exposure to environmental tobacco smoke (43%) than adults with a household income of $75,000 or higher (11% for current smoking, 31% for environmental tobacco smoke)
- were more likely to be obese (26%) than those with an annual household income of more than $75,000 (20%)
- were less likely to report engaging in binge drinking (11%) and heavy drinking (5%) than adults with a household income of $75,000 or higher (23% for binge drinking, 8% for heavy drinking).

See tables 3.1, 3.3, 3.4, 3.5

Chronic health conditions:

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

- were the most likely of all income groups to report that they had ever been diagnosed with diabetes (13%)
- were more likely to report having current asthma (13%) than adults with a household income of $75,000 or more (8%)
- were approximately six times as likely to report that they had experienced a heart attack (12%) or angina (9%) as adults with an income of $75,000 or above (2% for both heart attack and angina)
- were more likely to report having a stroke (7%) than adults in higher income groups.

See tables 4.1, 4.2, 4.3.1, 4.3.2

Prevention measures:

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

- were less likely to report always wearing a seatbelt (76%) but were more likely to report ever having been tested for HIV (47%) as compared to adults with a household income of $75,000 or more (84% for seatbelt use, 40% for ever tested for HIV)
- were less likely to report engaging in leisure time physical activity (63%) than were adults with a household income of $35,000 or higher.

See tables 3.6, 6.2, 6.6

HOUSEHOLD INCOME $75,000 OR HIGHER:

Description of overall health:

- Adults with a household income of $75,000 or more per year were least likely of all income groups to report fair or poor health (4%), poor physical health (4%) and poor mental health (5%).

See tables 1.1, 1.2

Health risk factors:

Adults with a household income of $75,000 or more were:

- less likely to report current smoking (11%) as compared to those with a household income less than $50,000
- more likely (23%) to report binge drinking as compared to those with a household income under $35,000.

See tables 3.1, 3.4

Chronic health conditions:

Adults with a household income of $75,000 or more per year were:

- approximately half as likely (3%) to be diagnosed with pre-diabetes and one-third as likely to be diagnosed with diabetes (4%) as adults with a household income under $25,000 (6% pre-diabetes, 13% diabetes)
- less likely to have ever been diagnosed with asthma (14%) and less likely to report current asthma (8%) than adults with a household income under $25,000 (18% ever asthma, 13% current asthma).

See tables 4.1, 4.2

Prevention measures:

- Adults with a household income of $75,000 or more per year were more likely than all other income groups to report engaging in leisure time physical activity (88%) and always wearing a seatbelt (84%).

See tables 3.6, 6.6

REGION

There were some regional differences in response to questions asked on the 2008 BRFSS. Below are some of the statistically significant differences among EOHHS regions.
These differences will be explored in greater detail in a special report to be released following the statewide annual report.

Description of overall health:

- Metro West residents were the least likely to report fair or poor health (8%) or poor mental health (6%) as compared to residents in any other region of the state.

See tables 1.1, 1.2

Health risk factors:

- Those living in the Metro West region (10%) 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 the Metro West region were more likely to report leisure time physical activity (83%) than residents in any other region of the state.

- Adults living in Boston were more likely to report ever having been tested for HIV (51%) and having been tested for HIV in the past year (16%) than adults living in any other region in the state.

See tables 3.6, 6.2

RACE/ETHNICITY

All figures and 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 1-6 of this report. See p.6 for more details. This does not include some preventive measure indicators where the age ranges were restricted.

Description of overall health:

- Hispanic adults (32%) and Black adults (19%) were more likely to report fair or poor health than were White adults (10%) or Asian adults (6%).
- Hispanic adults were more likely to report poor physical health (15%) than were White adults (8%).

See appendix for age-adjusted tables

Health risk factors:

- Asian adults were less likely to report current smoking (5%) than White (17%), Black (19%) or Hispanic (14%) adults.
- White adults were more likely to report binge drinking (20%) and heavy drinking (7%) than either Black adults (11% binge, 4% heavy drinking) or Hispanic adults (13% binge, 4% heavy drinking).
- Black (68%) and Hispanic (67%) adults were more likely to report being overweight than White (57%) adults.
- Black (29%) and Hispanic (28%) adults were more likely to report being obese than White (21%) adults.
- Black adults (73%) and Hispanic adults (59%) were less likely to report any leisure time physical activity than White adults (81%).

See appendix for age-adjusted tables

Chronic health conditions:

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

See appendix for age-adjusted tables

Prevention measures:

- Of those ages 65 and older, Black adults (58%) and Hispanic adults (61%) were less likely to report having had the flu vaccine in the past year as compared to White adults (73%); in addition, Black (50%) and Hispanic (34%) 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 (70%).
- White adults (40%) were less likely than Black adults (58%) and Hispanic adults (53%) to report ever having had an HIV test and were also less likely (8%) than Black adults (23%) or Hispanic adults (16%) to report that they had been tested for HIV in the past year.

See appendix and tables 3.7.1, 3.7.2

HEALTH CARE ACCESS AND UTILIZATION

Recent reforms to the Massachusetts health care system make the topics of health care access and utilization of particular interest; this section focuses on data in this topic area. Overall, many indicators of health care access and utilization remained the same from 2007 to 2008. However, the overall statewide estimate of uninsured adults ages 18-64 decreased from 5% in 2007 to 3% in 2008. Data on health care access and utilization for selected subgroups is presented below. For more detailed information, see tables 2.1, 2.2 and 2.3

GENDER

Females were:

- less likely (2%) than males (5%) to report that they had no health insurance
- less likely (8%) than males (14%) to report not having a personal health care provider
- more likely (82%) than males (75%) to report they had had a regular checkup in the past year.

AGE

Many adults ages 65 and over are insured through Medicare, thus they were less likely in general to report health care access issues than were younger adults.

Adults ages 18-34 were:

- more likely to report being uninsured (5%) than were adults ages 35-64 (2%)
- more likely to report the lack of a personal health care provider (21%) than were adults ages 35-64 (8%) or adults ages 65 and older (4%)
- more likely to report inability to see a doctor due to cost (8%) than were adults ages 65 and older (3%)
- less likely to report they had had a regular checkup in the past year (73%) than were adults ages 35-64 (78%) or adults ages 65 or older (92%).

EDUCATION

Adults with less than a high school education were:

- more likely to report no insurance (9%) than adults with a high school education or some college combined (5%) and much more likely than adults with four or more years of college (1%)
- more than twice as likely (20%) to report lack of a personal health care provider than adults with four or more years of college education (8%)
- more than four times as likely (14%) to report that they were not able to see a doctor at some point in the past year due to cost as compared to adults with four or more years of college education (3%).

HOUSEHOLD INCOME

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

- more likely to report lack of a personal health care provider (17%) inability to see a doctor due to the cost (13%) as compared to adults with reported household incomes of $35,000 and higher.
- less likely to report a dental visit in the past year (61%) than adults with a reported household incomes of $35,000 and higher.

Adults with a household income of $75,000 or more per year were:

- least likely of all income groups to report not being able to see a doctor due to cost (2%)
- most likely to report a dental visit in the past year (88%) than all other income groups.

RACE/ETHNICITY

All figures and 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. See p.6 for more details.

- Hispanic adults (10%) were over four times as likely as White adults (2%) to report being uninsured, and Black adults (8%) were also more likely than White adults to report being uninsured.
- Hispanic (20%) and Black (17%) adults were more likely than White (10%) adults to report that they did not have a personal doctor.
- Hispanic (16%) and Black (12%) adults were more likely than White (5%) adults to report that they could not see a doctor due to cost at some point in the past year.

See appendix for age-adjusted tables

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. General health status is useful in determining unmet health needs, identifying disparities among subpopulations, and characterizing the burden of chronic diseases within a population [3].

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, 2008

	FAIR OR POOR HEALTH		
	N	%	95% CI
OVERALL	20501	12.3	11.6 - 13.0
GENDER			
MALE	7509	12.0	10.9 - 13.0
FEMALE	12992	12.6	11.7 - 13.5
AGE GROUP			
18–24	753	6.3	3.6 - 8.9
25–34	1985	7.4	5.6 - 9.2
35–44	3384	7.8	6.6 - 8.9
45–54	4386	11.7	10.4 - 13.0
55–64	4125	16.2	14.6 - 17.8
65–74	2814	21.4	19.3 - 23.6
75 AND OLDER	2802	26.0	23.8 - 28.2
RACE-ETHNICITY*			
WHITE	16598	10.7	10.1 - 11.4
BLACK	1085	18.3	14.4 - 22.2
HISPANIC	1949	25.7	22.4 - 29.1
ASIAN	346	4.0	1.9 - 6.1
DISABILITY¶			
DISABILITY	4808	34.1	31.9 - 36.2
NO DISABILITY	13400	6.1	5.4 - 6.7
EDUCATION			
< HIGH SCHOOL	2220	35.4	31.1 - 39.7
HIGH SCHOOL	5643	16.9	15.4 - 18.3
COLLEGE 1–3 YRS	4737	11.5	10.2 - 12.8
COLLEGE 4+ YRS	7779	6.0	5.2 - 6.7
HOUSEHOLD INCOME			
<$25,000	5224	29.2	27.1 - 31.2
$25,000–34,999	1839	16.2	13.6 - 18.8
$35,000–49,999	2322	13.1	10.9 - 15.4
$50,000–74,999	2746	7.2	5.9 - 8.5
$75,000+	5718	3.7	3.1 - 4.3
REGION			
I–WESTERN	3228	13.6	11.8 - 15.4
II–CENTRAL	2608	11.8	9.7 - 13.8
III–NORTH EAST	4826	14.2	12.5 - 15.8
IV–METRO WEST	2708	8.3	7.1 - 9.5
V–SOUTH EAST	4877	12.9	11.5 - 14.3
VI–BOSTON	2254	16.0	13.8 - 18.1

* 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 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. Healthy People 2010 identified quality of life as a central public health goal. Perceived quality of life can help guide public health policies and interventions to improve health and fulfill unmet health needs [4].

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; (2) the number of days during the past month they would describe their mental health as not good, and; (3) the number of days that they had felt sad, blue, or depressed during the past month. Presented here are the percentages of respondents who reported that (1) they had experienced at least 15 days of poor physical health in the previous month; (2) their mental health was not good for at least 15 days during the past month; and (3) they felt sad, blue, or depressed for at least 15 days in the past month.

TABLE 1.2 – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2008

	15+ DAYS OF POOR PHYSICAL HEALTH		
	N	%	95% CI
OVERALL	20134	8.8	8.2 - 9.4
GENDER			
MALE	7396	7.8	7.0 - 8.6
FEMALE	12738	9.7	8.9 - 10.5
AGE GROUP			
18–24	746	4.5	2.3 - 6.7
25–34	1965	5.0	3.5 - 6.5
35–44	3353	6.1	5.0 - 7.2
45–54	4348	9.6	8.4 - 10.9
55–64	4066	11.5	10.2 - 12.9
65–74	2751	15.1	13.2 - 17.0
75 AND OLDER	2667	16.0	14.1 - 17.9
RACE-ETHNICITY*			
WHITE	16306	8.8	8.1 - 9.4
BLACK	1066	9.1	6.6 - 11.6
HISPANIC	1912	11.4	9.1 - 13.8
ASIAN	†		
DISABILITY¶			
DISABILITY	4658	26.4	24.3 - 28.4
NO DISABILITY	13268	4.0	3.5 - 4.5
EDUCATION			
< HIGH SCHOOL	2106	15.6	12.8 - 18.4
HIGH SCHOOL	5528	12.2	11.0 - 13.4
COLLEGE 1–3 YRS	4659	9.4	8.1 - 10.8
COLLEGE 4+ YRS	7724	5.2	4.5 - 5.9
HOUSEHOLD INCOME			
<$25,000	5082	18.6	16.9 - 20.4
$25,000–34,999	1791	11.2	8.7 - 13.7
$35,000–49,999	2292	8.8	7.0 - 10.5
$50,000–74,999	2733	6.5	5.2 - 7.8
$75,000+	5679	4.0	3.3 - 4.7
REGION			
I–WESTERN	3172	10.4	8.8 - 12.0
II–CENTRAL	2559	8.4	7.0 - 9.9
III–NORTH EAST	4738	9.2	7.8 - 10.6
IV–METRO WEST	2675	6.8	5.6 - 8.0
V–SOUTH EAST	4766	9.8	8.6 - 11.1
VI–BOSTON	2224	8.2	6.5 - 9.9

* 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.

TABLE 1.2 (CONTINUED) – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2008

	15+ DAYS OF POOR MENTAL HEALTH			15+ DAYS OF SAD, BLUE OR DEPRESSED		
	N	%	95% CI	N	%	95% CI
OVERALL	20196	9.1	8.4 - 9.8	6180	6.7	5.9 - 7.6
GENDER						
MALE	7400	8.1	7.1 - 9.2	2229	5.6	4.3 - 6.9
FEMALE	12796	10.0	9.1 - 10.9	3951	7.7	6.6 - 8.9
AGE GROUP						
18–24	743	8.5	5.3 - 11.8	227	3.6	1.5 - 5.6
25–34	1964	11.5	9.4 - 13.6	607	7.2	4.0 - 10.3
35–44	3344	9.0	7.7 - 10.3	1064	5.9	4.3 - 7.5
45–54	4346	10.6	9.4 - 11.9	1308	8.9	6.8 - 11.1
55–64	4055	9.2	8.0 - 10.4	1235	6.4	4.7 - 8.1
65–74	2777	7.2	5.9 - 8.5	842	8.5	5.9 - 11.1
75 AND OLDER	2722	4.6	3.5 - 5.7	836	4.9	3.0 - 6.8
RACE-ETHNICITY*						
WHITE	16356	8.7	7.9 - 9.4	5003	6.2	5.4 - 7.1
BLACK	1074	13.9	10.0 - 17.9	324	11.5	6.7 - 16.3
HISPANIC	1918	12.9	9.9 - 15.9	595	11.7	6.8 - 16.6
ASIAN	†			†		
DISABILITY¶						
DISABILITY	4705	20.4	18.5 - 22.4	1530	18.4	15.3 - 21.5
NO DISABILITY	13265	5.9	5.2 - 6.7	4323	3.3	2.6 - 4.0
EDUCATION						
< HIGH SCHOOL	2150	16.2	12.7 - 19.8	667	19.2	13.1 - 25.3
HIGH SCHOOL	5540	11.6	10.2 - 12.9	1736	11.0	8.8 - 13.2
COLLEGE 1–3 YRS	4682	10.6	9.0 - 12.2	1408	6.5	4.9 - 8.1
COLLEGE 4+ YRS	7707	5.7	4.8 - 6.5	2353	2.7	2.0 - 3.5
HOUSEHOLD INCOME						
<$25,000	5106	16.5	14.8 - 18.2	1550	17.8	14.9 - 20.7
$25,000–34,999	1813	11.2	8.5 - 13.9	540	7.7	4.0 - 11.3
$35,000–49,999	2295	10.6	8.3 - 12.9	748	7.1	4.7 - 9.5
$50,000–74,999	2728	8.3	6.3 - 10.3	836	3.6	2.1 - 5.2
$75,000+	5679	5.0	4.3 - 5.8	1799	2.9	1.9 - 3.8
REGION						
I–WESTERN	3182	9.8	8.1 - 11.6	923	6.9	5.1 - 8.8
II–CENTRAL	2570	10.0	8.1 - 11.9	797	8.2	5.1 - 11.3
III–NORTH EAST	4756	8.8	7.5 - 10.2	1489	6.6	4.9 - 8.4
IV–METRO WEST	2666	6.1	4.9 - 7.3	797	3.9	2.4 - 5.5
V–SOUTH EAST	4805	11.2	9.4 - 13.1	1499	7.3	5.3 - 9.2
VI–BOSTON	2217	9.9	7.7 - 12.1	675	10.0	6.9 - 13.2

* 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 1.3: Disability

Healthy People 2010 defines disability as “the interaction between an individual’s health condition and barriers in their environment.” These barriers may include limited access to programs, services, and activities aimed at promoting healthy living. Approximately 50 million people (19%) in the United States, ages five and over, have a disability. Thus a major goal of *Healthy People 2010* is to “promote the health of people with disabilities, prevent secondary conditions, and eliminate disparities between people with and without disabilities” [5, 6].

In 2008, 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, 2008

	HAVE DISABILITY			DISABILITY / NEED HELP WITH ACTIVITY		
	N	%	95% CI	N	%	95% CI
OVERALL	18252	21.5	20.5 - 22.4	18230	5.5	5.1 - 6.0
GENDER						
MALE	6650	21.0	19.5 - 22.6	6643	4.7	4.0 - 5.5
FEMALE	11602	21.8	20.6 - 23.0	11587	6.2	5.7 - 6.8
AGE GROUP						
18–24	667	16.6	12.1 - 21.2	†		
25–34	1792	14.3	11.9 - 16.7	1792	3.2	2.0 - 4.5
35–44	3068	15.1	13.3 - 16.9	3065	4.1	3.1 - 5.2
45–54	3952	21.3	19.5 - 23.0	3950	6.4	5.3 - 7.5
55–64	3695	28.2	26.2 - 30.3	3690	7.0	5.9 - 8.1
65–74	2533	30.4	27.9 - 32.9	2531	7.9	6.5 - 9.4
75 AND OLDER	2374	37.2	34.5 - 39.8	2365	11.9	10.2 - 13.6
RACE-ETHNICITY*						
WHITE	14931	21.8	20.8 - 22.9	14913	5.2	4.7 - 5.7
BLACK	938	19.5	15.8 - 23.3	936	7.3	5.0 - 9.6
HISPANIC	1657	22.0	18.4 - 25.6	1656	8.8	6.4 - 11.1
ASIAN	286	9.0	5.1 - 13.0	†		
DISABILITY¶						
DISABILITY	4824	100.0	100 - 100	4802	25.8	23.8 - 27.8
NO DISABILITY						
EDUCATION						
< HIGH SCHOOL	1870	35.8	30.9 - 40.7	1868	14.7	11.5 - 17.9
HIGH SCHOOL	4966	24.9	22.8 - 26.9	4964	7.0	6.0 - 7.9
COLLEGE 1–3 YRS	4274	22.7	20.8 - 24.7	4261	6.0	4.9 - 7.0
COLLEGE 4+ YRS	7096	16.4	15.2 - 17.7	7091	2.9	2.5 - 3.4
HOUSEHOLD INCOME						
<$25,000	4555	39.0	36.4 - 41.6	4549	15.3	13.6 - 17.1
$25,000–34,999	1646	25.6	21.8 - 29.4	1642	6.5	4.7 - 8.3
$35,000–49,999	2127	22.4	19.8 - 25.1	2125	4.6	3.5 - 5.8
$50,000–74,999	2515	17.9	15.4 - 20.4	2513	3.2	2.2 - 4.2
$75,000+	5320	13.5	12.2 - 14.7	5318	1.8	1.4 - 2.2
REGION						
I–WESTERN	2709	23.8	21.0 - 26.6	2706	6.3	5.1 - 7.5
II–CENTRAL	2353	21.0	18.5 - 23.4	2350	5.7	4.2 - 7.1
III–NORTH EAST	4317	21.0	19.0 - 22.9	4314	5.6	4.5 - 6.7
IV–METRO WEST	2455	20.1	18.1 - 22.2	2453	4.5	3.6 - 5.4
V–SOUTH EAST	4404	22.8	20.6 - 25.0	4397	6.0	5.0 - 7.0
VI–BOSTON	2014	19.3	17.0 - 21.6	2010	5.2	4.0 - 6.4

* 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 [7,8].

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, 2008

	NO HEALTH INSURANCE		
	N	%	95% CI
OVERALL	14630	3.3	2.8 - 3.9
GENDER			
MALE	5549	4.8	3.7 - 5.8
FEMALE	9081	1.9	1.5 - 2.4
AGE GROUP			
18–24	745	5.1	3.1 - 7.1
25–34	1984	5.4	3.6 - 7.2
35–44	3385	2.4	1.4 - 3.4
45–54	4388	2.4	1.7 - 3.1
55–64	4128	1.9	1.2 - 2.7
RACE-ETHNICITY*			
WHITE	11431	2.2	1.7 - 2.7
BLACK	847	7.5	3.5 - 11.4
HISPANIC	1673	11.0	7.5 - 14.5
ASIAN	†		
DISABILITY¶			
DISABILITY	3059	2.5	1.6 - 3.5
NO DISABILITY	10094	3.2	2.5 - 3.8
EDUCATION			
< HIGH SCHOOL	1257	9.4	5.6 - 13.2
HIGH SCHOOL	3609	6.3	4.7 - 7.9
COLLEGE 1–3 YRS	3499	2.9	2.0 - 3.8
COLLEGE 4+ YRS	6203	1.1	0.5 - 1.7
HOUSEHOLD INCOME			
<$25,000	3008	9.4	7.4 - 11.4
$25,000–34,999	1118	9.9	5.4 - 14.3
$35,000–49,999	1678	2.8	1.5 - 4.1
$50,000–74,999	2273	1.2	0.6 - 1.7
$75,000+	†		
REGION			
I–WESTERN	2314	3.8	2.4 - 5.1
II–CENTRAL	1915	3.4	1.8 - 5.1
III–NORTH EAST	3535	3.8	2.6 - 5.1
IV–METRO WEST	1864	1.4	0.6 - 2.2
V–SOUTH EAST	3344	4.5	2.8 - 6.2
VI–BOSTON	1658	3.7	2.2 - 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

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 whether they had visited a medical provider for a checkup in the past year. Presented here are the percentages of respondents who reported that they did not have a personal health care provider, the percentages of respondents who reported that cost had prevented them from seeing a doctor at some point in the past year, and the percentages of respondents who had visited a medical provider for a checkup in the past year.

TABLE 2.2 HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2008

	NO PERSONAL HEALTH CARE PROVIDER			COULD NOT SEE DOCTOR DUE TO COST		
	N	%	95% CI	N	%	95% CI
OVERALL	20515	10.9	10.0 - 11.8	20504	6.3	5.7 - 6.9
GENDER						
MALE	7507	14.2	12.7 - 15.7	7502	6.0	5.1 - 6.8
FEMALE	13008	7.9	7.0 - 8.8	13002	6.6	5.9 - 7.4
AGE GROUP						
18–24	748	25.5	20.7 - 30.2	750	7.3	4.7 - 9.8
25–34	1982	17.9	15.3 - 20.4	1981	9.1	7.2 - 11.0
35–44	3380	9.8	8.3 - 11.2	3379	6.9	5.7 - 8.1
45–54	4389	7.1	6.1 - 8.2	4387	6.4	5.4 - 7.4
55–64	4128	4.8	3.6 - 6.0	4131	5.0	4.1 - 5.9
65–74	2828	3.8	2.8 - 4.8	2819	3.5	2.4 - 4.7
75 AND OLDER	2808	4.8	3.6 - 5.9	2806	3.1	2.1 - 4.1
RACE-ETHNICITY*						
WHITE	16618	9.0	8.1 - 9.9	16617	5.0	4.5 - 5.6
BLACK	1084	18.6	13.3 - 23.9	1081	11.5	8.0 - 15.0
HISPANIC	1945	22.8	19.2 - 26.4	1937	16.3	13.3 - 19.4
ASIAN	342	18.2	10.4 - 26.0	342	4.5	2.0 - 6.9
DISABILITY¶						
DISABILITY	4814	7.7	6.2 - 9.3	4806	10.6	9.1 - 12.0
NO DISABILITY	13408	11.5	10.5 - 12.5	13401	5.0	4.3 - 5.6
EDUCATION						
< HIGH SCHOOL	2227	19.9	15.8 - 24.0	2219	13.7	10.0 - 17.4
HIGH SCHOOL	5645	13.1	11.2 - 15.0	5642	8.1	6.9 - 9.4
COLLEGE 1–3 YRS	4734	11.8	9.8 - 13.9	4738	7.5	6.3 - 8.7
COLLEGE 4+ YRS	7787	7.5	6.5 - 8.4	7784	3.3	2.8 - 3.9
HOUSEHOLD INCOME						
<$25,000	5227	16.9	14.6 - 19.2	5225	13.3	11.6 - 15.0
$25,000–34,999	1840	12.3	9.1 - 15.5	1839	10.2	7.8 - 12.7
$35,000–49,999	2322	10.6	8.2 - 13.0	2319	9.2	7.3 - 11.2
$50,000–74,999	2748	9.5	7.2 - 11.8	2747	4.4	3.3 - 5.6
$75,000+	5717	7.2	6.1 - 8.4	5723	1.7	1.3 - 2.1
REGION						
I–WESTERN	3233	12.4	10.1 - 14.8	3230	8.7	7.0 - 10.4
II–CENTRAL	2607	10.9	8.3 - 13.6	2610	6.8	4.9 - 8.7
III–NORTH EAST	4831	10.4	8.4 - 12.3	4820	6.6	5.3 - 7.9
IV–METRO WEST	2704	9.2	7.5 - 11.0	2706	3.9	2.8 - 4.9
V–SOUTH EAST	4888	10.3	8.6 - 12.0	4885	5.5	4.6 - 6.4
VI–BOSTON	2252	14.4	11.7 - 17.0	2253	8.4	6.6 - 10.1

* 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.

TABLE 2.2 (CONTINUED) HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2008

	HAVE HAD A CHECKUP IN THE PAST YEAR		
	N	%	95% CI
OVERALL	20402	79.0	78.0 - 80.0
GENDER			
MALE	7466	75.4	73.7 - 77.0
FEMALE	12936	82.3	81.1 - 83.5
AGE GROUP			
18–24	740	74.2	69.3 - 79.1
25–34	1962	71.6	68.6 - 74.5
35–44	3371	74.1	72.0 - 76.3
45–54	4370	76.9	75.1 - 78.7
55–64	4111	85.7	84.2 - 87.2
65–74	2805	90.4	88.9 - 91.9
75 AND OLDER	2798	92.7	91.4 - 94.1
RACE-ETHNICITY*			
WHITE	16540	78.8	77.8 - 79.9
BLACK	1080	79.9	75.0 - 84.8
HISPANIC	1924	83.3	80.2 - 86.3
ASIAN	341	72.3	64.8 - 79.8
DISABILITY¶			
DISABILITY	4785	83.9	82.0 - 85.8
NO DISABILITY	13351	76.9	75.7 - 78.2
EDUCATION			
< HIGH SCHOOL	2202	80.9	76.7 - 85.2
HIGH SCHOOL	5621	82.0	80.1 - 83.8
COLLEGE 1–3 YRS	4707	77.5	75.2 - 79.8
COLLEGE 4+ YRS	7753	77.8	76.4 - 79.3
HOUSEHOLD INCOME			
<$25,000	5205	80.8	78.7 - 82.9
$25,000–34,999	1836	82.1	78.9 - 85.3
$35,000–49,999	2309	80.7	77.8 - 83.6
$50,000–74,999	2735	78.5	75.9 - 81.0
$75,000+	5697	77.2	75.5 - 78.8
REGION			
I–WESTERN	3200	77.1	74.5 - 79.6
II–CENTRAL	2601	80.0	77.3 - 82.7
III–NORTH EAST	4802	80.7	78.6 - 82.9
IV–METRO WEST	2696	78.2	76.0 - 80.4
V–SOUTH EAST	4862	78.7	76.4 - 81.0
VI–BOSTON	2241	80.3	77.6 - 83.0

* 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 2.3: Dental Health Care

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 60 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 [9].

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.

TABLE 2.3– DENTAL HEALTH CARE AMONG MASSACHUSETTS ADULTS, 2008

	Dental Visit in Past Year			Six or more Teeth Missing		
	N	%	95% CI	N	%	95% CI
Overall	20400	77.8	76.9 - 78.8	20049	14.4	13.7 - 15.0
Gender						
male	7464	76.5	75.0 - 78.1	7352	13.6	12.6 - 14.6
female	12936	79.0	77.8 - 80.2	12697	15.1	14.3 - 15.9
Age Group						
18–24	746	77.3	72.7 - 81.9	†		
25–34	1978	73.9	71.0 - 76.8	1976	2.5	1.6 - 3.4
35–44	3376	80.0	78.0 - 82.0	3363	4.5	3.5 - 5.5
45–54	4375	81.9	80.3 - 83.5	4343	11.5	10.2 - 12.9
55–64	4114	81.7	80.0 - 83.3	4042	22.2	20.4 - 24.0
65–74	2805	73.7	71.4 - 76.0	2720	39.4	36.8 - 42.0
75 and older	2761	69.6	67.3 - 72.0	2630	48.4	45.8 - 51.0
Race-ethnicity*						
white	16533	79.2	78.1 - 80.2	16231	14.7	14.0 - 15.4
black	1078	70.5	65.7 - 75.3	1060	18.8	15.1 - 22.4
hispanic	1925	71.6	67.9 - 75.4	1916	12.1	10.2 - 14.1
asian	341	71.3	63.3 - 79.2	†		
Disability¶						
disability	4780	70.6	68.5 - 72.8	4687	28.0	26.0 - 29.9
no disability	13356	80.3	79.2 - 81.4	13157	10.3	9.6 - 10.9
Education						
< high school	2184	55.8	51.2 - 60.4	2153	33.1	29.4 - 36.8
high school	5609	71.2	69.2 - 73.2	5478	22.0	20.4 - 23.5
college 1–3 yrs	4717	78.3	76.3 - 80.4	4626	14.6	13.2 - 16.0
college 4+ yrs	7770	85.3	84.0 - 86.6	7682	6.5	5.8 - 7.2
Household Income						
<$25,000	5173	60.8	58.3 - 63.2	5050	31.0	28.9 - 33.1
$25,000–34,999	1831	68.4	64.5 - 72.3	1805	23.4	20.4 - 26.5
$35,000–49,999	2311	75.8	72.8 - 78.8	2282	17.9	15.7 - 20.0
$50,000–74,999	2746	80.3	77.7 - 82.9	2723	10.9	9.4 - 12.3
$75,000+	5712	87.7	86.2 - 89.1	5667	5.0	4.3 - 5.7
Region						
I–Western	3208	74.7	72.1 - 77.2	3156	15.2	13.6 - 16.8
II–Central	2592	77.2	74.4 - 79.9	2539	13.3	11.8 - 14.9
III–North East	4796	79.3	77.3 - 81.4	4725	14.9	13.4 - 16.5
IV–Metro West	2700	80.8	78.6 - 83.0	2650	11.6	10.3 - 13.0
V–South East	4858	77.5	75.4 - 79.5	4783	17.4	15.8 - 18.9
VI–Boston	2246	75.3	72.4 - 78.2	2196	13.9	12.2 - 15.6

* 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 2.4: Health Care Reform

Since 2007, Massachusetts law has required that all residents have personal health insurance, either through an employer or other source. In the summer of 2007, the Health Survey Program at MDPH worked with the Commissioner's Office, the EOHHS Secretary's Office, and the Commonwealth Connector to develop a set of questions to track the implementation of the health care reform legislation. Beginning September 1, 2007, 6 questions were added to the ongoing Behavioral Risk Factor Surveillance System (BRFSS) survey. These questions were continued in 2008 and the data from 3 of these 6 questions are presented here.

The 2008 Massachusetts BRFSS Survey included:

3 questions for uninsured respondents:

1. Earlier you said that you do not currently have health insurance. What are the reasons you do not have health insurance? *

2. Have you heard of the Commonwealth Connector, a state program that can help you to obtain health insurance?

3. Where did you learn about this program? *

2 questions for insured respondents:

4. For how long have you had your current coverage?

For those who responded to question 4 with a value less than 10 months:

5. Did you obtain your current health care coverage due to the recent changes in Massachusetts law which requires Massachusetts residents to have health insurance as of July 1, 2007?

And 1 question for those who had a routine check-up in the past 12 months:

6. Where did you go for the check up? *
    - A doctor's office
    - Community health center or clinic
    - Some other kind of place

***** due to the small number of respondents and variety of response categories, analysis of the data from the other three questions was not possible in 2008.

TABLE 2.4 - HEALTH CARE REFORM AMONG MASSACHUSETTS ADULTS, 2008			
	N	%	95% CI
UNINSURED: HAVE HEARD OF COMMONWEALTH CONNECTOR	103	38.3	23.3 - 53.4
INSURED: LENGTH OF TIME HAVE HAD CURRENT HEALTH CARE COVERAGE			
6 MONTHS OR FEWER	285	8.8	7.3 - 10.3
7 -12 MONTHS	266	7.7	6.2 - 9.3
MORE THAN ONE YEAR	346	83.5	81.4 - 85.5
INSURED FOR LESS THAN 10 MONTHS: OBTAINED COVERAGE AS RESULT OF HEALTH CARE REFORM LAW	354	29.4	21.3 - 37.5

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 440,000 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 [10]. 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 [11].

A current smoker was defined as someone who has smoked at least 100 cigarettes in their 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.

TABLE 3.1 – TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2008

	CURRENT SMOKER			FORMER SMOKER		
	N	%	95% CI	N	%	95% CI
OVERALL	20436	16.1	15.2 - 17.0	20436	28.1	27.2 - 29.1
GENDER						
MALE	7488	16.9	15.4 - 18.4	7488	28.6	27.1 - 30.1
FEMALE	12948	15.4	14.3 - 16.5	12948	27.7	26.5 - 28.9
AGE GROUP						
18–24	751	20.9	16.3 - 25.4	751	6.5	3.5 - 9.4
25–34	1977	19.1	16.5 - 21.7	1977	17.8	15.5 - 20.2
35–44	3375	16.6	14.8 - 18.5	3375	22.8	20.7 - 24.8
45–54	4365	18.2	16.6 - 19.8	4365	29.7	27.8 - 31.7
55–64	4121	14.8	13.2 - 16.3	4121	41.7	39.6 - 43.9
65–74	2808	10.8	9.2 - 12.4	2808	46.4	43.8 - 49.0
75 AND OLDER	2790	5.6	4.3 - 6.9	2790	45.9	43.3 - 48.4
RACE-ETHNICITY*						
WHITE	16548	16.2	15.2 - 17.2	16548	31.0	29.9 - 32.0
BLACK	1082	18.7	14.3 - 23.2	1082	14.1	11.3 - 16.9
HISPANIC	1940	14.9	11.9 - 17.9	1940	15.6	12.7 - 18.6
ASIAN	345	5.4	2.5 - 8.3	345	10.2	6.3 - 14.2
DISABILITY¶						
DISABILITY	4796	23.0	20.8 - 25.3	4796	34.6	32.4 - 36.8
NO DISABILITY	13360	13.6	12.6 - 14.6	13360	26.6	25.5 - 27.8
EDUCATION						
< HIGH SCHOOL	2216	29.5	24.8 - 34.1	2216	22.4	19.0 - 25.9
HIGH SCHOOL	5633	23.8	21.7 - 25.9	5633	27.8	25.9 - 29.6
COLLEGE 1–3 YRS	4718	18.7	16.8 - 20.6	4718	28.8	26.7 - 30.8
COLLEGE 4+ YRS	7752	7.7	6.8 - 8.7	7752	28.9	27.5 - 30.4
HOUSEHOLD INCOME						
<$25,000	5216	24.9	22.6 - 27.2	5216	25.6	23.7 - 27.5
$25,000–34,999	1827	19.6	16.2 - 23.0	1827	27.4	24.1 - 30.7
$35,000–49,999	2316	20.1	17.4 - 22.9	2316	27.6	25.0 - 30.3
$50,000–74,999	2739	14.5	12.3 - 16.7	2739	32.7	30.0 - 35.4
$75,000+	5698	11.4	10.0 - 12.8	5698	28.8	27.2 - 30.4
REGION						
I–WESTERN	3221	17.4	15.2 - 19.6	3221	27.3	24.9 - 29.7
II–CENTRAL	2594	22.2	19.0 - 25.4	2594	25.6	23.2 - 28.1
III–NORTH EAST	4804	15.3	13.4 - 17.2	4804	26.6	24.6 - 28.7
IV–METRO WEST	2699	10.3	8.7 - 11.8	2699	30.4	28.3 - 32.6
V–SOUTH EAST	4871	17.9	15.9 - 19.9	4871	31.2	29.0 - 33.4
VI–BOSTON	2247	16.2	13.5 - 18.9	2247	24.0	21.5 - 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 3.2: Smoking Cessation

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 CURRENT SMOKERS, 2008

	QUIT ATTEMPT			PLANNING TO QUIT		
	N	%	95% CI	N	%	95% CI
OVERALL	3416	59.9	56.8 - 62.9	2984	44.2	41.0 - 47.4
GENDER						
MALE	1305	59.9	55.1 - 64.6	1125	45.5	40.3 - 50.6
FEMALE	2111	59.9	56.1 - 63.7	1859	43.0	39.0 - 46.9
AGE GROUP						
18–24	169	63.6	51.6 - 75.6	149	43.2	30.5 - 56.0
25–34	422	62.6	55.2 - 70.1	369	41.3	33.4 - 49.3
35–44	626	58.8	52.7 - 64.8	542	47.3	40.7 - 54.0
45–54	955	59.2	54.5 - 63.8	853	45.9	40.8 - 50.9
55–64	715	59.0	53.5 - 64.4	618	44.3	38.4 - 50.2
65–74	328	54.9	47.1 - 62.8	280	39.2	31.0 - 47.3
75 AND OLDER	167	47.5	35.6 - 59.4	146	40.2	26.8 - 53.6
RACE-ETHNICITY*						
WHITE	2746	58.9	55.6 - 62.2	2414	41.6	38.1 - 45.1
BLACK	209	67.9	54.8 - 81.0	182	58.2	44.4 - 71.9
HISPANIC	309	65.3	54.0 - 76.5	261	61.4	51.6 - 71.3
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1094	62.3	56.9 - 67.8	1015	47.1	41.3 - 52.9
NO DISABILITY	1922	59.4	55.5 - 63.3	1815	41.4	37.4 - 45.5
EDUCATION						
< HIGH SCHOOL	532	56.0	46.2 - 65.8	449	50.5	39.5 - 61.5
HIGH SCHOOL	1262	57.9	52.8 - 62.9	1106	40.4	35.3 - 45.6
COLLEGE 1–3 YRS	950	63.7	58.3 - 69.1	850	44.2	38.3 - 50.1
COLLEGE 4+ YRS	658	61.6	55.5 - 67.8	576	47.1	41.0 - 53.2
HOUSEHOLD INCOME						
<$25,000	1259	58.6	53.3 - 64.0	1095	45.7	39.9 - 51.5
$25,000–34,999	367	59.3	49.5 - 69.1	319	49.1	39.5 - 58.7
$35,000–49,999	455	62.3	54.6 - 70.1	409	44.7	36.6 - 52.8
$50,000–74,999	419	59.9	52.2 - 67.6	382	41.1	33.7 - 48.4
$75,000+	592	61.3	54.8 - 67.7	536	42.8	36.0 - 49.5
REGION						
I–WESTERN	572	61.4	54.8 - 68.1	479	41.6	34.1 - 49.2
II–CENTRAL	492	66.3	58.7 - 74.0	439	42.2	33.7 - 50.6
III–NORTH EAST	751	56.7	50.0 - 63.4	659	44.6	37.1 - 52.0
IV–METRO WEST	276	62.3	55.0 - 69.6	248	41.1	32.8 - 49.3
V–SOUTH EAST	968	57.4	50.9 - 63.8	846	46.1	39.4 - 52.7
VI–BOSTON	357	50.3	40.9 - 59.7	313	54.7	45.9 - 63.5

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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 3.3: Environmental Tobacco Smoke

Environmental tobacco smoke (ETS) is also referred to as secondhand smoke. 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 [12].

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 respondents 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 SMOKE EXPOSURE AMONG MASSACHUSETTS ADULTS, 2008

	LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED			EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE		
	N	%	95% CI	N	%	95% CI
OVERALL	18811	80.7	79.8 - 81.7	18548	36.7	35.4 - 37.9
GENDER						
MALE	6850	80.0	78.5 - 81.5	6730	39.0	37.1 - 40.9
FEMALE	11961	81.3	80.2 - 82.5	11818	34.6	33.0 - 36.1
AGE GROUP						
18–24	689	78.1	73.5 - 82.7	670	63.0	57.5 - 68.5
25–34	1850	83.3	80.8 - 85.9	1806	43.6	40.2 - 46.9
35–44	3141	83.6	81.7 - 85.5	3088	36.0	33.6 - 38.5
45–54	4071	80.4	78.7 - 82.0	3993	34.3	32.2 - 36.4
55–64	3785	77.8	75.9 - 79.6	3757	29.0	26.9 - 31.0
65–74	2606	79.7	77.6 - 81.8	2575	26.2	23.8 - 28.6
75 AND OLDER	2481	79.3	77.1 - 81.5	2477	17.2	15.1 - 19.4
RACE-ETHNICITY*						
WHITE	15327	80.4	79.3 - 81.4	15177	35.6	34.2 - 36.9
BLACK	964	77.5	73.2 - 81.8	921	44.0	38.3 - 49.7
HISPANIC	1765	86.8	83.9 - 89.7	1718	43.0	38.6 - 47.5
ASIAN	293	86.7	81.5 - 91.9	283	32.7	24.4 - 41.0
DISABILITY¶						
DISABILITY	4720	71.3	69.1 - 73.6	4641	43.0	40.5 - 45.6
NO DISABILITY	13161	83.3	82.2 - 84.3	13022	35.0	33.6 - 36.4
EDUCATION						
< HIGH SCHOOL	2003	74.0	69.6 - 78.4	1936	44.2	39.0 - 49.4
HIGH SCHOOL	5128	74.0	71.9 - 76.0	5005	41.6	39.1 - 44.0
COLLEGE 1–3 YRS	4390	76.6	74.4 - 78.8	4338	42.7	40.1 - 45.4
COLLEGE 4+ YRS	7243	88.0	87.0 - 89.1	7226	29.3	27.6 - 30.9
HOUSEHOLD INCOME						
<$25,000	4770	69.4	66.8 - 72.0	4647	43.4	40.6 - 46.2
$25,000–34,999	1715	75.0	71.3 - 78.7	1682	39.8	35.4 - 44.3
$35,000–49,999	2201	75.7	72.9 - 78.6	2171	42.6	39.1 - 46.1
$50,000–74,999	2572	80.8	78.3 - 83.3	2546	37.7	34.6 - 40.8
$75,000+	5384	87.9	86.6 - 89.1	5365	31.0	29.1 - 32.9
REGION						
I–WESTERN	2802	79.1	76.5 - 81.6	2762	41.3	38.1 - 44.4
II–CENTRAL	2421	77.9	75.2 - 80.5	2386	37.8	34.6 - 41.1
III–NORTH EAST	4475	80.3	78.2 - 82.5	4425	34.9	32.2 - 37.5
IV–METRO WEST	2501	85.2	83.3 - 87.1	2494	31.9	29.2 - 34.5
V–SOUTH EAST	4541	79.9	77.8 - 82.1	4464	37.3	34.5 - 40.0
VI–BOSTON	2071	79.1	76.5 - 81.8	2017	40.6	37.1 - 44.1

* 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 3.4: Alcohol Use

Excessive alcohol consumption is the third leading preventable cause of death in the United States [13]. 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 [14]. In 2005, driving while under the influence of alcohol accounted for 146 alcohol-related fatalities in Massachusetts – 35% of the total traffic fatalities for the year [15].

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, 2008

	BINGE DRINKING			HEAVY DRINKING**		
	N	%	95% CI	N	%	95% CI
OVERALL	19614	17.7	16.7 - 18.7	19405	6.7	6.0 - 7.3
GENDER						
MALE	7137	23.0	21.3 - 24.7	7055	6.7	5.7 - 7.7
FEMALE	12477	12.9	11.8 - 14.1	12350	6.6	5.9 - 7.4
AGE GROUP						
18–24	717	31.6	26.2 - 36.9	704	10.7	7.1 - 14.3
25–34	1908	26.8	23.9 - 29.7	1880	6.8	5.3 - 8.4
35–44	3240	20.9	18.9 - 23.0	3213	6.1	5.0 - 7.3
45–54	4193	16.2	14.6 - 17.8	4150	7.3	6.2 - 8.4
55–64	3939	10.8	9.4 - 12.3	3916	6.4	5.4 - 7.4
65–74	2712	4.5	3.4 - 5.6	2684	4.6	3.6 - 5.7
75 AND OLDER	2704	2.3	1.5 - 3.0	2667	3.3	2.4 - 4.3
RACE-ETHNICITY*						
WHITE	15944	18.6	17.4 - 19.7	15779	7.1	6.4 - 7.8
BLACK	1015	11.2	8.1 - 14.3	1002	3.3	1.9 - 4.6
HISPANIC	1846	15.6	11.8 - 19.4	1826	4.7	2.4 - 7.0
ASIAN	†			†		
DISABILITY¶						
DISABILITY	4779	14.1	12.2 - 16.0	4745	6.0	4.8 - 7.3
NO DISABILITY	13286	18.4	17.2 - 19.6	13134	6.4	5.7 - 7.2
EDUCATION						
< HIGH SCHOOL	2116	10.9	7.9 - 13.9	2091	5.5	2.9 - 8.1
HIGH SCHOOL	5387	16.7	14.7 - 18.7	5338	6.3	5.1 - 7.5
COLLEGE 1–3 YRS	4553	20.4	18.0 - 22.7	4498	7.8	6.2 - 9.3
COLLEGE 4+ YRS	7504	17.9	16.4 - 19.4	7426	6.5	5.6 - 7.3
HOUSEHOLD INCOME						
<$25,000	5035	11.0	9.2 - 12.8	4983	4.7	3.6 - 5.8
$25,000–34,999	1785	15.4	11.7 - 19.1	1766	5.9	3.5 - 8.3
$35,000–49,999	2251	18.0	15.1 - 20.8	2237	7.7	5.9 - 9.5
$50,000–74,999	2654	21.1	18.1 - 24.1	2634	8.4	6.2 - 10.5
$75,000+	5564	22.5	20.7 - 24.4	5524	7.8	6.7 - 8.9
REGION						
I–WESTERN	2900	16.6	14.4 - 18.8	2870	6.0	4.7 - 7.3
II–CENTRAL	2520	21.0	17.8 - 24.2	2490	7.1	5.3 - 9.0
III–NORTH EAST	4683	16.2	14.1 - 18.4	4629	6.3	4.9 - 7.6
IV–METRO WEST	2626	16.7	14.4 - 19.0	2596	4.8	3.9 - 5.8
V–SOUTH EAST	4714	17.7	15.4 - 19.9	4663	8.7	6.9 - 10.5
VI–BOSTON	2171	19.7	16.5 - 23.0	2157	8.0	5.2 - 10.8

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

† Insufficient data

** Rates may not be comparable to rates published prior to 2001 due to a change in the definition of heavy drinking.

¶ 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 [16].

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. For example, a person who is 5'6" would be considered overweight at 155 pounds (BMI = 25) and obese at 186 pounds (BMI = 30). Presented here are the percentages of respondents 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 obese respondents.

TABLE 3.5 – OVERWEIGHT AND OBESITY AMONG MASSACHUSETTS ADULTS, 2008

	OVERWEIGHT (BMI ≥ 25.0)			OBESE (BMI ≥ 30.0)		
	N	%	95% CI	N	%	95% CI
OVERALL	19366	58.1	56.9 - 59.3	19366	21.5	20.5 - 22.4
GENDER						
MALE	7337	68.0	66.1 - 69.8	7337	23.1	21.6 - 24.6
FEMALE	12029	48.6	47.1 - 50.1	12029	19.9	18.7 - 21.0
AGE GROUP						
18–24	718	41.2	35.7 - 46.6	718	14.9	10.9 - 18.8
25–34	1882	56.4	53.1 - 59.7	1882	20.3	17.7 - 22.9
35–44	3219	57.3	54.8 - 59.7	3219	22.8	20.7 - 24.9
45–54	4156	63.7	61.6 - 65.7	4156	24.7	22.8 - 26.6
55–64	3893	66.3	64.2 - 68.4	3893	25.2	23.3 - 27.1
65–74	2657	66.4	63.9 - 69.0	2657	24.5	22.2 - 26.9
75 AND OLDER	2670	54.2	51.6 - 56.8	2670	15.0	13.1 - 16.8
RACE-ETHNICITY*						
WHITE	15771	57.5	56.2 - 58.8	15771	21.1	20.1 - 22.2
BLACK	1001	66.4	60.8 - 72.0	1001	27.9	23.4 - 32.4
HISPANIC	1789	66.0	61.9 - 70.2	1789	27.3	23.3 - 31.4
ASIAN	330	38.2	30.1 - 46.4	†		
DISABILITY¶						
DISABILITY	4602	65.1	62.6 - 67.7	4602	31.0	28.8 - 33.3
NO DISABILITY	12820	56.5	55.1 - 58.0	12820	18.9	17.8 - 20.0
EDUCATION						
< HIGH SCHOOL	2045	62.0	57.0 - 67.1	2045	23.5	20.3 - 26.8
HIGH SCHOOL	5316	59.8	57.3 - 62.2	5316	23.7	21.8 - 25.6
COLLEGE 1–3 YRS	4505	62.3	59.8 - 64.9	4505	24.7	22.6 - 26.9
COLLEGE 4+ YRS	7452	54.0	52.3 - 55.7	7452	18.0	16.6 - 19.3
HOUSEHOLD INCOME						
<$25,000	4991	59.6	56.9 - 62.2	4991	25.7	23.6 - 27.8
$25,000–34,999	1768	60.0	55.5 - 64.4	1768	24.4	20.9 - 28.0
$35,000–49,999	2237	60.6	57.2 - 64.1	2237	23.5	20.6 - 26.3
$50,000–74,999	2640	60.7	57.5 - 63.8	2640	21.5	19.2 - 23.8
$75,000+	5547	57.0	55.0 - 58.9	5547	19.5	17.9 - 21.1
REGION						
I–WESTERN	2898	59.2	56.1 - 62.3	2898	24.1	21.6 - 26.6
II–CENTRAL	2487	62.2	58.9 - 65.6	2487	24.3	21.6 - 27.0
III–NORTH EAST	4583	58.8	56.1 - 61.5	4583	22.0	19.8 - 24.2
IV–METRO WEST	2602	53.2	50.6 - 55.8	2602	17.4	15.4 - 19.4
V–SOUTH EAST	4645	58.2	55.6 - 60.9	4645	21.7	19.6 - 23.7
VI–BOSTON	2151	60.0	56.6 - 63.4	2151	21.2	18.5 - 23.8

* 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 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 [17].

All respondents were asked if they had participated in any physical activity, other than their regular job, in the past month. Presented here is the percentage of respondents who reported any leisure time physical activity. It is important to note that the following statistics do not specify the length of time respondents were active per bout of physical activity, the number of days per week they were active, nor how intense the activity was.

TABLE 3.6 – ANY LEISURE TIME PHYSICAL ACTIVITY AMONG MASSACHUSETTS ADULTS, 2008

	ANY LEISURE TIME PHYSICAL ACTIVITY		
	N	%	95% CI
OVERALL	20547	77.9	77.0 - 78.9
GENDER			
MALE	7521	80.0	78.7 - 81.4
FEMALE	13026	76.1	74.9 - 77.2
AGE GROUP			
18–24	752	86.4	82.9 - 89.9
25–34	1985	79.5	76.7 - 82.2
35–44	3385	82.6	80.9 - 84.4
45–54	4392	77.7	75.9 - 79.5
55–64	4136	75.5	73.6 - 77.4
65–74	2827	72.2	69.9 - 74.6
75 AND OLDER	2819	62.7	60.3 - 65.2
RACE-ETHNICITY*			
WHITE	16637	79.7	78.7 - 80.6
BLACK	1087	73.7	69.4 - 78.0
HISPANIC	1950	62.7	58.7 - 66.7
ASIAN	346	79.3	73.3 - 85.2
DISABILITY¶			
DISABILITY	4821	65.3	63.1 - 67.4
NO DISABILITY	13422	81.9	80.9 - 83.0
EDUCATION			
< HIGH SCHOOL	2233	54.5	50.0 - 59.0
HIGH SCHOOL	5660	69.0	67.0 - 71.0
COLLEGE 1–3 YRS	4741	77.7	75.8 - 79.7
COLLEGE 4+ YRS	7791	87.7	86.6 - 88.7
HOUSEHOLD INCOME			
<$25,000	5243	62.9	60.6 - 65.3
$25,000–34,999	1845	67.7	63.6 - 71.8
$35,000–49,999	2324	76.4	73.7 - 79.0
$50,000–74,999	2749	81.5	79.4 - 83.7
$75,000+	5721	87.6	86.4 - 88.8
REGION			
I–WESTERN	3236	77.4	75.3 - 79.6
II–CENTRAL	2615	76.3	73.7 - 79.0
III–NORTH EAST	4834	76.5	74.4 - 78.5
IV–METRO WEST	2708	82.5	80.6 - 84.4
V–SOUTH EAST	4895	76.3	74.2 - 78.4
VI–BOSTON	2259	76.4	73.7 - 79.0

* 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 3.7: 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. Every year in the United States, on average, between 5 and 20 percent of the population acquires the flu; more than 200,000 people are hospitalized from flu complications, and about 36,000 people die from the flu [18]. 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 2005 among adults 65 and older [19].

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, 2008

	AGES 50-64			AGES 65+		
	N	%	95% CI	N	%	95% CI
OVERALL	6142	46.0	44.2 - 47.8	5444	72.4	70.7 - 74.0
GENDER						
MALE	2337	45.7	42.8 - 48.5	1822	73.6	70.8 - 76.4
FEMALE	3805	46.4	44.1 - 48.6	3622	71.5	69.4 - 73.5
AGE GROUP						
50–64	6142	46.0	44.2 - 47.8			
65-74				2733	69.5	67.1 - 72.0
75 AND OLDER				2711	75.1	72.9 - 77.4
RACE-ETHNICITY*						
WHITE	5238	45.9	44.0 - 47.8	4858	73.2	71.5 - 74.9
BLACK	274	44.5	35.1 - 53.9	201	58.1	46.6 - 69.7
HISPANIC	448	49.9	41.7 - 58.1	240	61.0	51.0 - 70.9
ASIAN	56	40.7	22.7 - 58.7	†		
DISABILITY¶						
DISABILITY	1703	50.8	47.3 - 54.3	1716	75.8	73.0 - 78.6
NO DISABILITY	4018	44.5	42.3 - 46.7	3173	70.6	68.4 - 72.8
EDUCATION						
< HIGH SCHOOL	549	39.7	32.6 - 46.9	915	60.7	55.8 - 65.6
HIGH SCHOOL	1488	41.7	38.0 - 45.5	1909	71.2	68.3 - 74.1
COLLEGE 1–3 YRS	1480	43.5	39.9 - 47.1	1146	74.1	70.5 - 77.6
COLLEGE 4+ YRS	2613	49.8	47.2 - 52.5	1447	76.7	73.9 - 79.5
HOUSEHOLD INCOME						
<$25,000	1305	39.4	35.3 - 43.5	2122	69.9	66.9 - 72.8
$25,000–34,999	464	44.0	37.2 - 50.8	701	66.2	61.1 - 71.3
$35,000–49,999	719	44.7	39.2 - 50.2	619	77.2	72.9 - 81.6
$50,000–74,999	1014	45.0	40.8 - 49.3	450	74.5	69.5 - 79.6
$75,000+	2016	48.9	45.9 - 51.8	527	76.3	71.9 - 80.7
REGION						
I–WESTERN	940	45.4	41.1 - 49.6	791	70.5	66.2 - 74.8
II–CENTRAL	767	41.6	36.6 - 46.5	655	73.9	69.5 - 78.4
III–NORTH EAST	1416	42.3	38.1 - 46.5	1215	68.6	64.5 - 72.6
IV–METRO WEST	894	51.1	47.2 - 55.0	793	78.1	74.7 - 81.4
V–SOUTH EAST	1490	42.5	38.6 - 46.5	1444	70.4	66.8 - 74.0
VI–BOSTON	635	55.8	50.5 - 61.1	546	69.2	63.7 - 74.7

* 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.

TABLE 3.7.2 – PNEUMONIA VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2008

	EVER HAD PNEUMONIA VACCINE		
	N	%	95% CI
OVERALL	5215	66.9	65.1 - 68.7
GENDER			
MALE	1716	63.2	60.1 - 66.4
FEMALE	3499	69.4	67.3 - 71.5
AGE GROUP			
65–74	2608	60.2	57.5 - 62.8
75 AND OLDER	2607	73.4	71.1 - 75.8
RACE-ETHNICITY*			
WHITE	4665	69.3	67.5 - 71.1
BLACK	187	49.8	38.2 - 61.5
HISPANIC	221	33.8	24.2 - 43.4
ASIAN	†		
DISABILITY¶			
DISABILITY	1642	74.0	71.0 - 77.0
NO DISABILITY	3071	63.6	61.2 - 66.0
EDUCATION			
< HIGH SCHOOL	860	56.2	51.2 - 61.3
HIGH SCHOOL	1839	70.1	67.1 - 73.1
COLLEGE 1–3 YRS	1111	70.4	66.7 - 74.1
COLLEGE 4+ YRS	1380	64.9	61.6 - 68.2
HOUSEHOLD INCOME			
<$25,000	2032	66.9	63.8 - 70.0
$25,000–34,999	690	72.2	67.7 - 76.8
$35,000–49,999	600	70.2	65.3 - 75.2
$50,000–74,999	425	69.2	63.7 - 74.7
$75,000+	499	61.2	55.9 - 66.4
REGION			
I–WESTERN	764	66.9	62.4 - 71.4
II–CENTRAL	626	67.9	63.1 - 72.8
III–NORTH EAST	1163	64.3	60.1 - 68.5
IV–METRO WEST	759	69.5	65.6 - 73.3
V–SOUTH EAST	1388	66.9	63.2 - 70.7
VI–BOSTON	515	63.1	57.4 - 68.7

* 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 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 [20]. 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 2007, diabetes was the ninth leading cause of death in Massachusetts [19]. Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age [21]. In Massachusetts, 9.9 percent of the Commonwealth's medical care costs are attributable to diabetes [22].

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 respondents who reported that a doctor had ever told them that they had diabetes and the percentage of respondents who reported that a doctor had ever told them that they have pre-diabetes.

TABLE 4.1 – DIABETES AMONG MASSACHUSETTS ADULTS, 2008

	PRE-DIABETES			DIABETES		
	N	%	95% CI	N	%	95% CI
OVERALL	18070	4.4	4.0 - 4.9	20531	7.2	6.7 - 7.6
GENDER						
MALE	6593	4.3	3.6 - 4.9	7511	7.9	7.1 - 8.7
FEMALE	11477	4.6	4.0 - 5.1	13020	6.5	5.9 - 7.0
AGE GROUP						
18–24	735	3.4	1.6 - 5.2	†		
25–34	1902	3.1	2.1 - 4.0	1987	2.7	1.6 - 3.8
35–44	3209	3.0	2.2 - 3.8	3384	2.9	2.2 - 3.7
45–54	4006	4.4	3.5 - 5.3	4389	6.8	5.6 - 7.9
55–64	3509	6.9	5.7 - 8.0	4132	11.5	10.2 - 12.9
65–74	2224	6.9	5.3 - 8.5	2823	18.2	16.2 - 20.2
75 AND OLDER	2268	5.4	4.2 - 6.6	2817	17.1	15.1 - 19.1
RACE-ETHNICITY*						
WHITE	14759	4.3	3.9 - 4.8	16627	6.7	6.2 - 7.2
BLACK	893	4.6	2.6 - 6.6	1086	11.1	8.6 - 13.6
HISPANIC	1652	5.8	3.5 - 8.1	1949	8.6	6.9 - 10.3
ASIAN	†			†		
DISABILITY¶						
DISABILITY	3802	7.2	6.0 - 8.3	4815	14.4	13.0 - 15.7
NO DISABILITY	12267	3.8	3.3 - 4.2	13416	5.1	4.6 - 5.6
EDUCATION						
< HIGH SCHOOL	1735	4.9	3.2 - 6.7	2225	12.4	10.4 - 14.4
HIGH SCHOOL	4856	5.0	4.0 - 5.9	5660	9.4	8.3 - 10.5
COLLEGE 1–3 YRS	4195	4.9	3.9 - 5.9	4736	7.3	6.4 - 8.3
COLLEGE 4+ YRS	7179	3.8	3.2 - 4.3	7789	4.8	4.2 - 5.4
HOUSEHOLD INCOME						
<$25,000	4232	6.3	4.9 - 7.7	5236	12.6	11.3 - 13.9
$25,000–34,999	1602	5.8	4.0 - 7.7	1841	9.3	7.4 - 11.2
$35,000–49,999	2051	4.8	3.6 - 5.9	2321	8.6	6.8 - 10.4
$50,000–74,999	2528	4.3	3.2 - 5.3	2749	5.7	4.6 - 6.9
$75,000+	5365	3.2	2.6 - 3.9	5718	4.2	3.6 - 4.9
REGION						
I–WESTERN	2827	5.0	3.9 - 6.0	3235	7.6	6.5 - 8.8
II–CENTRAL	2294	3.8	2.8 - 4.8	2609	7.6	6.3 - 8.9
III–NORTH EAST	4215	4.6	3.6 - 5.6	4834	8.1	6.9 - 9.3
IV–METRO WEST	2483	3.4	2.6 - 4.3	2707	5.3	4.3 - 6.3
V–SOUTH EAST	4237	5.3	4.0 - 6.5	4888	7.8	6.8 - 8.9
VI–BOSTON	2014	4.7	3.2 - 6.2	2258	7.1	5.8 - 8.3

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

† Insufficient data

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Section 4.2: Asthma

Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness [23]. 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 [24]. The prevalence of asthma in the state of Massachusetts is one of the highest reported for a state across the nation, and the costs 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. [25].

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 adult respondents who reported ever having asthma and those who reported currently having asthma.

TABLE 4.2 – ASTHMA AMONG MASSACHUSETTS ADULTS, 2008

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	20498	14.8	14.0 - 15.6	20429	9.6	9.0 - 10.3
GENDER						
MALE	7506	12.6	11.3 - 13.9	7484	7.2	6.3 - 8.2
FEMALE	12992	16.8	15.8 - 17.9	12945	11.8	10.9 - 12.7
AGE GROUP						
18–24	750	19.5	15.3 - 23.8	747	11.1	7.8 - 14.3
25–34	1983	17.4	15.1 - 19.8	1974	10.5	8.7 - 12.4
35–44	3384	13.2	11.7 - 14.7	3377	8.3	7.1 - 9.5
45–54	4383	14.5	13.0 - 15.9	4365	10.0	8.7 - 11.3
55–64	4122	14.0	12.5 - 15.4	4109	9.6	8.4 - 10.8
65–74	2818	13.9	12.1 - 15.7	2809	10.8	9.2 - 12.4
75 AND OLDER	2809	10.2	8.6 - 11.7	2800	7.2	5.9 - 8.4
RACE-ETHNICITY*						
WHITE	16600	14.6	13.7 - 15.5	16543	9.4	8.7 - 10.2
BLACK	1086	15.3	11.3 - 19.4	1084	11.2	7.5 - 15.0
HISPANIC	1947	17.9	14.9 - 21.0	1944	11.1	8.9 - 13.3
ASIAN	343	9.5	5.0 - 14.0	†		
DISABILITY¶						
DISABILITY	4802	23.2	21.1 - 25.2	4782	17.4	15.7 - 19.1
NO DISABILITY	13402	12.8	11.8 - 13.8	13364	7.7	6.9 - 8.5
EDUCATION						
< HIGH SCHOOL	2224	18.3	14.7 - 22.0	2215	14.2	10.6 - 17.7
HIGH SCHOOL	5646	15.0	13.2 - 16.7	5634	10.2	8.8 - 11.6
COLLEGE 1–3 YRS	4732	15.5	13.7 - 17.2	4717	10.2	8.8 - 11.6
COLLEGE 4+ YRS	7775	13.7	12.6 - 14.9	7742	8.2	7.3 - 9.0
HOUSEHOLD INCOME						
<$25,000	5226	17.9	16.0 - 19.7	5206	13.3	11.7 - 14.9
$25,000–34,999	1840	15.2	12.3 - 18.1	1835	9.5	7.1 - 11.8
$35,000–49,999	2317	15.3	13.0 - 17.5	2308	11.5	9.5 - 13.6
$50,000–74,999	2744	13.0	10.9 - 15.0	2735	8.1	6.6 - 9.5
$75,000+	5714	13.9	12.5 - 15.2	5692	7.9	6.9 - 8.9
REGION						
I–WESTERN	3229	14.8	12.8 - 16.8	3220	10.3	8.6 - 12.1
II–CENTRAL	2609	15.6	13.2 - 18.0	2596	9.3	7.5 - 11.2
III–NORTH EAST	4820	14.2	12.3 - 16.0	4805	9.6	8.0 - 11.1
IV–METRO WEST	2706	14.4	12.6 - 16.2	2695	9.0	7.7 - 10.4
V–SOUTH EAST	4878	14.8	12.8 - 16.8	4862	9.3	7.9 - 10.7
VI–BOSTON	2256	15.8	13.5 - 18.1	2251	10.9	9.0 - 12.9

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† Insufficient data

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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 are the principal causes of more than 910,000 cardiovascular disease deaths each year in the United States [26]. They are also major causes of disability. In 2007, heart disease and stroke were the second (after cancer-related deaths) and third leading causes of death, respectively, in Massachusetts [19].

All respondents ages 35 and older were asked about 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 a stroke. Presented here are the percentages of adults 35 and older who reported being told that they had experienced a heart attack, angina, or a stroke.

TABLE 4.3.1 – HEART DISEASE AMONG MASSACHUSETTS ADULTS, AGES 35 YEARS AND OLDER, 2008

	MYOCARDIAL INFARCTION			ANGINA		
	N	%	95% CI	N	%	95% CI
OVERALL	17485	4.9	4.5 - 5.3	17418	4.9	4.5 - 5.4
GENDER						
MALE	6357	6.3	5.5 - 7.0	6325	6.5	5.7 - 7.2
FEMALE	11128	3.7	3.3 - 4.2	11093	3.6	3.1 - 4.0
AGE GROUP						
35–44	3377	0.8	0.4 - 1.3	3380	1.0	0.5 - 1.5
45–54	4378	2.0	1.4 - 2.6	4370	2.3	1.7 - 3.0
55–64	4124	5.0	4.0 - 6.0	4108	4.9	4.0 - 5.8
65–74	2817	9.8	8.2 - 11.3	2792	11.4	9.7 - 13.1
75 AND OLDER	2789	15.3	13.6 - 17.1	2768	13.0	11.3 - 14.8
RACE-ETHNICITY*						
WHITE	14644	4.9	4.5 - 5.4	14594	5.1	4.6 - 5.6
BLACK	841	5.6	3.2 - 8.0	838	4.4	2.6 - 6.3
HISPANIC	1354	5.6	3.1 - 8.1	1348	4.9	3.1 - 6.7
ASIAN	†			†		
DISABILITY¶						
DISABILITY	4373	10.6	9.3 - 11.9	4347	11.0	9.6 - 12.3
NO DISABILITY	11187	3.0	2.6 - 3.4	11163	3.0	2.6 - 3.4
EDUCATION						
< HIGH SCHOOL	1918	13.4	10.6 - 16.2	1892	9.4	7.4 - 11.5
HIGH SCHOOL	4841	6.2	5.3 - 7.1	4818	6.1	5.1 - 7.1
COLLEGE 1–3 YRS	3935	4.7	3.8 - 5.5	3923	5.9	4.9 - 6.9
COLLEGE 4+ YRS	6695	3.1	2.6 - 3.5	6687	3.1	2.6 - 3.6
HOUSEHOLD INCOME						
<$25,000	4451	11.7	10.1 - 13.2	4415	9.3	8.0 - 10.6
$25,000–34,999	1578	8.5	6.6 - 10.4	1566	9.1	7.1 - 11.2
$35,000–49,999	1958	5.3	4.0 - 6.5	1956	5.2	3.8 - 6.5
$50,000–74,999	2337	3.3	2.4 - 4.2	2329	4.4	3.3 - 5.5
$75,000+	4908	1.7	1.3 - 2.1	4910	2.3	1.8 - 2.8
REGION						
I–WESTERN	2692	5.4	4.4 - 6.3	2690	5.0	4.0 - 6.1
II–CENTRAL	2212	5.0	3.9 - 6.1	2205	4.8	3.7 - 5.9
III–NORTH EAST	4086	4.7	3.8 - 5.5	4073	4.7	3.7 - 5.6
IV–METRO WEST	2414	4.7	3.7 - 5.7	2406	4.4	3.5 - 5.3
V–SOUTH EAST	4227	5.4	4.4 - 6.3	4198	6.1	5.0 - 7.1
VI–BOSTON	1854	4.1	3.1 - 5.1	1846	4.3	3.2 - 5.3

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† Insufficient data

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TABLE 4.3.2 – STROKE AMONG MASSACHUSETTS ADULTS, AGES 35 YEARS AND OLDER, 2008

	STROKE		
	N	%	95% CI
OVERALL	17514	2.6	2.3 - 2.9
GENDER			
MALE	6366	2.6	2.2 - 3.1
FEMALE	11148	2.6	2.2 - 3.0
AGE GROUP			
35–44	3382	0.2	0.1 - 0.4
45–54	4381	1.2	0.8 - 1.6
55–64	4128	2.5	1.8 - 3.2
65–74	2816	5.4	4.3 - 6.6
75 AND OLDER	2807	8.2	6.8 - 9.6
RACE-ETHNICITY*			
WHITE	14668	2.6	2.2 - 2.9
BLACK	839	4.5	3.0 - 6.0
HISPANIC	1360	2.3	1.1 - 3.5
ASIAN	†		
DISABILITY¶			
DISABILITY	4386	6.3	5.4 - 7.3
NO DISABILITY	11194	1.2	1.0 - 1.5
EDUCATION			
< HIGH SCHOOL	1933	4.4	3.0 - 5.7
HIGH SCHOOL	4847	3.6	2.9 - 4.3
COLLEGE 1–3 YRS	3936	3.2	2.4 - 3.9
COLLEGE 4+ YRS	6699	1.4	1.1 - 1.7
HOUSEHOLD INCOME			
<$25,000	4470	6.9	5.8 - 8.0
$25,000–34,999	1574	4.0	2.7 - 5.2
$35,000–49,999	1963	2.2	1.4 - 3.0
$50,000–74,999	2338	1.4	0.8 - 1.9
$75,000+	4914	0.9	0.6 - 1.2
REGION			
I–WESTERN	2700	3.1	2.3 - 3.8
II–CENTRAL	2215	2.2	1.5 - 2.9
III–NORTH EAST	4095	2.6	1.9 - 3.3
IV–METRO WEST	2419	2.4	1.8 - 3.0
V–SOUTH EAST	4232	2.6	1.9 - 3.2
VI–BOSTON	1853	3.2	2.3 - 4.0

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SECTION 5: CANCER SCREENING

SECTION 5: CANCER SCREENING

Section 5.1: Colorectal Cancer Screening

Cancer of the colon or rectum is the second leading cause of cancer-related deaths in the United States and it is estimated that there will be 49,920 deaths due to colorectal cancer in 2009, accounting for almost 9% of all cancer deaths [27, 28]. It is estimated that at least one-third of colorectal cancer deaths could be prevented if everyone 50 years and older were screened. Fecal occult blood tests, sigmoidoscopy, and colonoscopy are screening procedures that are performed to detect colorectal cancer in the early stages [29].

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 ever had had a sigmoidoscopy or colonoscopy, tests that examine the bowel for signs of cancer or other health problems. Presented here is the percentage of those respondents who reported that they had had a blood stool test using a home test kit in the past two years and the percentage of respondents who reported that they had had a sigmoidoscopy or colonoscopy in the past five years.

TABLE 5.1 – COLORECTAL CANCER SCREENING AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2008

	BLOOD STOOL TEST IN THE PAST TWO YEARS			SIGMOIDOSCOPY OR COLONOSCOPY IN PAST FIVE YEARS		
	N	%	95% CI	N	%	95% CI
OVERALL	11145	24.3	23.2 - 25.5	11195	63.5	62.2 - 64.8
GENDER						
MALE	4006	23.7	21.9 - 25.5	4018	66.3	64.3 - 68.4
FEMALE	7139	24.9	23.5 - 26.3	7177	61.2	59.6 - 62.8
AGE GROUP						
50-59	4069	16.8	15.2 - 18.4	4103	60.4	58.2 - 62.6
60-69	3349	29.8	27.5 - 32.0	3376	69.0	66.8 - 71.2
70-79	2242	31.9	29.2 - 34.6	2252	68.4	65.7 - 71.1
80 AND OLDER	1485	27.7	24.6 - 30.7	1464	54.3	50.7 - 57.8
RACE-ETHNICITY*						
WHITE	9738	24.8	23.6 - 25.9	9783	64.3	63.0 - 65.6
BLACK	456	29.4	22.2 - 36.7	443	59.7	52.1 - 67.3
HISPANIC	642	16.1	11.1 - 21.0	661	56.6	50.1 - 63.1
ASIAN	†			74	55.7	39.1 - 72.3
DISABILITY¶						
DISABILITY	3328	26.5	24.3 - 28.6	3341	64.0	61.7 - 66.4
NO DISABILITY	7058	23.4	22.0 - 24.7	7110	63.7	62.1 - 65.3
EDUCATION						
< HIGH SCHOOL	1373	25.8	21.9 - 29.7	1367	53.0	48.6 - 57.3
HIGH SCHOOL	3268	25.9	23.7 - 28.1	3249	58.7	56.3 - 61.2
COLLEGE 1–3 YRS	2548	24.9	22.6 - 27.2	2569	62.2	59.6 - 64.9
COLLEGE 4+ YRS	3922	22.7	21.0 - 24.4	3979	69.1	67.1 - 71.1
HOUSEHOLD INCOME						
<$25,000	3273	27.1	24.8 - 29.4	3273	55.2	52.6 - 57.8
$25,000–34,999	1145	28.3	24.6 - 32.1	1138	62.4	58.4 - 66.5
$35,000–49,999	1305	26.4	23.0 - 29.9	1306	61.2	57.3 - 65.0
$50,000–74,999	1416	23.2	20.3 - 26.1	1437	68.1	64.9 - 71.4
$75,000+	2469	21.3	19.3 - 23.4	2499	69.9	67.5 - 72.3
REGION						
I–WESTERN	1659	22.8	20.1 - 25.5	1677	60.9	57.8 - 64.1
II–CENTRAL	1362	27.4	24.1 - 30.7	1370	65.3	61.8 - 68.8
III–NORTH EAST	2525	27.5	24.7 - 30.3	2541	62.7	59.7 - 65.8
IV–METRO WEST	1630	22.0	19.6 - 24.3	1632	65.3	62.5 - 68.0
V–SOUTH EAST	2840	25.3	22.9 - 27.7	2851	61.8	58.9 - 64.6
VI–BOSTON	1129	20.6	17.7 - 23.5	1124	66.7	63.0 - 70.4

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† Insufficient data

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Section 5.2: Prostate Cancer Screening

Prostate cancer is the leading diagnosed cancer among men in the United States, the second leading cause of cancer deaths among men in the United States, and the sixth leading cause of death for men overall [30]. More than 70% of all diagnosed prostate cancers are found in men aged 65 and older [30, 31].

Men aged 50 and older were asked if they ever had had a prostate-specific antigen test (PSA), a blood test used to indicate an increased risk of prostate cancer. The percentages of those who reported that they had had a PSA test in the past year are presented.

Men age 50 and older also were asked if they had had a digital rectal exam (DRE) in the past year. A 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.

TABLE 5.2 – PROSTATE CANCER SCREENING AMONG MASSACHUSETTS MEN AGES 50 AND OLDER, 2008

	PSA IN THE PAST YEAR			DRE IN THE PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	3797	62.2	60.0 - 64.3	4007	63.1	61.0 - 65.2
AGE GROUP						
50-59	1462	51.3	47.7 - 54.9	1539	56.8	53.4 - 60.3
60-69	1178	74.1	70.7 - 77.4	1235	70.7	67.2 - 74.1
70-79	741	74.0	69.8 - 78.2	780	70.1	65.7 - 74.4
80 AND OLDER	416	57.9	51.2 - 64.5	453	59.0	52.6 - 65.3
RACE-ETHNICITY*						
WHITE	3321	63.3	61.0 - 65.5	3512	64.7	62.6 - 66.9
BLACK	140	60.6	48.4 - 72.9	147	54.6	42.1 - 67.1
HISPANIC	205	55.2	43.2 - 67.2	211	48.0	36.5 - 59.6
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1122	60.3	56.3 - 64.3	1186	63.3	59.5 - 67.1
NO DISABILITY	2408	63.1	60.3 - 65.8	2536	63.4	60.8 - 66.1
EDUCATION						
< HIGH SCHOOL	436	53.8	46.1 - 61.5	449	45.3	37.7 - 52.9
HIGH SCHOOL	978	57.7	53.2 - 62.2	1038	59.1	54.8 - 63.3
COLLEGE 1–3 YRS	780	59.7	54.9 - 64.5	832	60.0	55.4 - 64.6
COLLEGE 4+ YRS	1592	67.0	63.8 - 70.1	1676	69.5	66.5 - 72.5
HOUSEHOLD INCOME						
<$25,000	907	56.7	51.6 - 61.7	965	52.9	48.0 - 57.8
$25,000–34,999	377	59.6	52.4 - 66.7	401	55.9	49.1 - 62.8
$35,000–49,999	476	57.6	51.3 - 63.9	499	62.0	56.0 - 68.0
$50,000–74,999	550	65.4	60.1 - 70.8	571	66.3	61.1 - 71.6
$75,000+	1122	65.7	62.1 - 69.4	1169	69.0	65.4 - 72.5
REGION						
I–WESTERN	554	60.1	54.8 - 65.5	580	55.3	50.0 - 60.6
II–CENTRAL	493	59.6	53.7 - 65.5	525	64.9	59.3 - 70.4
III–NORTH EAST	847	63.9	58.9 - 69.0	900	62.6	57.6 - 67.5
IV–METRO WEST	570	64.9	60.2 - 69.6	604	68.9	64.5 - 73.4
V–SOUTH EAST	947	63.7	59.0 - 68.4	984	63.2	58.6 - 67.7
VI–BOSTON	386	53.0	46.3 - 59.8	414	57.1	50.6 - 63.5

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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 2007, breast cancer was the second leading cause of cancer death among Massachusetts women [19]. 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 and before it is big enough to feel or to cause symptoms [32].

All female respondents were asked about breast cancer screening. Those women who reported that they ever had had a mammogram were asked how long it had been since their last mammogram. One Healthy People 2010 objective is to have 70% of women age 40 and older reporting that they have had a mammogram in the past two years; 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, 2008

	MAMMOGRAM IN PAST TWO YEARS, AGES 40 AND OLDER		
	N	%	95% CI
OVERALL	9628	84.9	83.8 - 85.9
AGE GROUP			
40–49	2335	79.5	77.1 - 81.8
50-59	2575	90.0	88.3 - 91.6
60-69	2155	89.2	87.3 - 91.1
70-79	1508	89.2	87.0 - 91.3
80 AND OLDER	1055	72.5	68.9 - 76.2
RACE-ETHNICITY*			
WHITE	8190	84.8	83.6 - 85.9
BLACK	440	86.6	82.2 - 91.1
HISPANIC	740	88.6	85.0 - 92.2
ASIAN	74	85.7	76.5 - 94.9
DISABILITY¶			
DISABILITY	2673	82.3	80.1 - 84.4
NO DISABILITY	6319	85.8	84.6 - 87.1
EDUCATION			
< HIGH SCHOOL	1135	82.1	78.6 - 85.7
HIGH SCHOOL	2791	82.0	79.8 - 84.2
COLLEGE 1–3 YRS	2341	85.0	83.0 - 87.1
COLLEGE 4+ YRS	3334	87.2	85.6 - 88.7
HOUSEHOLD INCOME			
<$25,000	2803	80.1	77.8 - 82.3
$25,000–34,999	921	84.5	81.2 - 87.8
$35,000–49,999	1080	82.3	79.0 - 85.6
$50,000–74,999	1245	87.9	85.3 - 90.5
$75,000+	2213	86.8	84.9 - 88.8
REGION			
I–WESTERN	1416	83.4	80.8 - 86.1
II–CENTRAL	1170	83.7	80.6 - 86.8
III–NORTH EAST	2271	84.0	81.5 - 86.5
IV–METRO WEST	1358	86.8	84.7 - 88.8
V–SOUTH EAST	2408	85.7	83.6 - 87.9
VI–BOSTON	1005	83.6	80.2 - 87.0

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

† Insufficient Data

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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 [33]. Women who have been sexually active should have regular Pap tests every three years because the chances of being cured are higher if cervical cancer is detected early [34].

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, 2008

	PAP SMEAR TEST WITHIN PAST 3 YEARS		
	N	%	95% CI
OVERALL	12133	83.5	82.4 - 84.7
AGE GROUP			
18–24	402	73.3	66.6 - 80.1
25–34	1178	93.5	91.3 - 95.6
35–44	2036	93.8	92.3 - 95.3
45–54	2597	90.7	89.2 - 92.3
55–64	2378	86.4	84.5 - 88.3
65–74	1721	74.3	71.4 - 77.1
75 AND OLDER	1687	50.6	47.4 - 53.9
RACE-ETHNICITY*			
WHITE	9809	83.5	82.2 - 84.7
BLACK	653	79.3	73.6 - 84.9
HISPANIC	1244	86.1	82.4 - 89.8
ASIAN	157	82.4	72.0 - 92.8
DISABILITY¶			
DISABILITY	3030	77.6	75.3 - 79.9
NO DISABILITY	8347	85.5	84.1 - 86.8
EDUCATION			
< HIGH SCHOOL	1335	71.8	66.0 - 77.5
HIGH SCHOOL	3318	75.1	72.5 - 77.7
COLLEGE 1–3 YRS	3001	82.4	79.9 - 84.8
COLLEGE 4+ YRS	4449	91.1	89.9 - 92.3
HOUSEHOLD INCOME			
<$25,000	3426	73.1	70.5 - 75.7
$25,000–34,999	1139	80.3	77.1 - 83.6
$35,000–49,999	1355	83.6	80.3 - 87.0
$50,000–74,999	1612	89.9	87.7 - 92.2
$75,000+	3039	92.5	90.9 - 94.1
REGION			
I–WESTERN	1813	83.2	80.4 - 85.9
II–CENTRAL	1508	86.6	84.0 - 89.2
III–NORTH EAST	2911	84.1	81.6 - 86.5
IV–METRO WEST	1599	83.6	80.6 - 86.5
V–SOUTH EAST	2959	81.7	79.3 - 84.0
VI–BOSTON	1343	82.5	79.1 - 85.8

* 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 6.1: 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 [35].

All women ages 18-44 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 18-44, 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.

TABLE 6.1 – FAMILY PLANNING AMONG MASSACHUSETTS WOMEN, AGES 18-44, 2008

	UNPLANNED PREGNANCY			USE BIRTH CONTROL		
	N	%	95% CI	N	%	95% CI
OVERALL	434	19.7	14.6 - 24.7	997	78.4	74.9 - 81.9
AGE GROUP						
18–24	†			121	63.4	50.3 - 76.5
25–34	196	21.0	13.5 - 28.4	329	79.7	73.6 - 85.8
35–44	193	13.6	7.5 - 19.7	547	81.1	77.0 - 85.2
RACE-ETHNICITY*						
WHITE	292	15.6	10.0 - 21.3	711	80.4	76.5 - 84.3
BLACK	†			68	77.1	65.7 - 88.4
HISPANIC	84	33.1	17.2 - 49.0	167	66.9	55.9 - 77.9
ASIAN	†			†		
DISABILITY¶						
DISABILITY	†			172	74.9	65.8 - 84.1
NO DISABILITY	360	19.9	14.3 - 25.6	794	78.8	75.0 - 82.7
EDUCATION						
< HIGH SCHOOL	†			63	71.3	54.1 - 88.6
HIGH SCHOOL	91	27.4	14.7 - 40.1	226	76.3	68.7 - 83.8
COLLEGE 1–3 YRS	102	23.2	11.7 - 34.8	269	72.5	64.5 - 80.5
COLLEGE 4+ YRS	205	12.9	7.4 - 18.4	438	82.5	77.9 - 87.1
HOUSEHOLD INCOME						
<$25,000	101	33.4	18.9 - 47.8	233	65.8	56.2 - 75.4
$25,000–34,999	†			78	63.3	48.5 - 78.1
$35,000–49,999	†			115	68.3	55.9 - 80.7
$50,000–74,999	†			157	85.3	78.1 - 92.5
$75,000+	160	13.8	7.2 - 20.4	344	84.8	79.8 - 89.8
REGION						
I–WESTERN	61	32.9	15.7 - 50.1	155	79.1	70.6 - 87.7
II–CENTRAL	†			105	85.2	78.1 - 92.2
III–NORTH EAST	†			270	79.0	72.2 - 85.7
IV–METRO WEST	60	17.5	7.6 - 27.4	118	73.8	64.7 - 83.0
V–SOUTH EAST	101	19.4	8.9 - 29.9	220	80.7	73.5 - 87.8
VI–BOSTON	†			129	73.6	63.5 - 83.6

* 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 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. One-fourth 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 [36].

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 respondents who report ever having been tested for HIV and the percentage of those who had been tested in the past year.

TABLE 6.2 – HIV TESTING AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2008

	EVER TESTED FOR HIV			TESTED FOR HIV IN PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	13534	40.6	39.2 - 42.0	12097	8.8	7.9 - 9.7
GENDER						
MALE	5084	38.9	36.8 - 41.0	4557	8.9	7.6 - 10.3
FEMALE	8450	42.2	40.4 - 44.0	7540	8.7	7.5 - 9.9
AGE GROUP						
18–24	701	33.9	28.6 - 39.3	649	14.6	10.7 - 18.5
25–34	1860	55.8	52.5 - 59.1	1628	14.6	12.2 - 16.9
35–44	3147	54.6	52.1 - 57.1	2742	8.8	7.3 - 10.3
45–54	4053	30.9	28.9 - 32.9	3660	4.5	3.6 - 5.4
55–64	3773	22.7	20.8 - 24.6	3418	3.2	2.4 - 4.0
RACE-ETHNICITY*						
WHITE	10620	37.8	36.3 - 39.4	9654	6.9	6.0 - 7.8
BLACK	776	57.7	51.7 - 63.7	660	24.4	18.3 - 30.5
HISPANIC	1544	55.5	50.9 - 60.1	1260	17.8	14.1 - 21.4
ASIAN	264	27.0	19.3 - 34.7	†		
DISABILITY¶						
DISABILITY	2987	46.7	43.5 - 49.9	2620	11.3	9.2 - 13.4
NO DISABILITY	9888	38.6	37.1 - 40.2	8932	8.1	7.2 - 9.1
EDUCATION						
< HIGH SCHOOL	1146	47.2	40.7 - 53.6	961	14.6	9.6 - 19.6
HIGH SCHOOL	3335	36.2	33.4 - 39.1	2977	8.8	7.0 - 10.5
COLLEGE 1–3 YRS	3273	42.3	39.4 - 45.3	2922	10.5	8.4 - 12.6
COLLEGE 4+ YRS	5763	41.1	39.2 - 43.0	5222	7.2	6.1 - 8.3
HOUSEHOLD INCOME						
<$25,000	2794	47.2	43.6 - 50.7	2393	15.3	12.6 - 17.9
$25,000–34,999	1046	43.3	37.5 - 49.1	932	13.5	9.4 - 17.6
$35,000–49,999	1577	39.6	35.6 - 43.7	1411	9.7	7.2 - 12.3
$50,000–74,999	2133	38.3	34.8 - 41.7	1941	6.0	4.5 - 7.6
$75,000+	4803	40.4	38.4 - 42.5	4399	6.8	5.5 - 8.1
REGION						
I–WESTERN	2029	39.5	36.1 - 43.0	1797	9.4	7.0 - 11.8
II–CENTRAL	1791	42.6	38.8 - 46.5	1599	6.4	4.6 - 8.2
III–NORTH EAST	3307	38.9	35.8 - 42.0	2957	9.5	7.2 - 11.9
IV–METRO WEST	1735	39.1	36.0 - 42.1	1558	6.5	4.7 - 8.3
V–SOUTH EAST	3118	38.4	35.2 - 41.5	2832	8.7	6.9 - 10.5
VI–BOSTON	1554	50.7	46.8 - 54.5	1354	16.2	13.0 - 19.4

* 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 [37]. Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse [38, 39].

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, 2008

	SEXUAL VIOLENCE, WOMEN			SEXUAL VIOLENCE, MEN		
	N	%	95% CI	N	%	95% CI
OVERALL	3567	14.2	12.5 - 15.9	2044	3.7	2.6 - 4.7
AGE GROUP						
18–24	131	16.0	7.7 - 24.3	†		
25–34	359	15.1	9.8 - 20.3	†		
35–44	597	18.0	14.0 - 22.0	†		
45–54	807	16.4	12.8 - 19.9	450	6.0	2.9 - 9.0
55–64	694	15.5	11.9 - 19.0	456	4.9	2.3 - 7.5
65–74	†			†		
75 AND OLDER	†			†		
RACE-ETHNICITY*						
WHITE	2932	14.5	12.6 - 16.4	1704	3.3	2.2 - 4.4
BLACK	173	12.0	6.3 - 17.7	†		
HISPANIC	344	13.8	7.8 - 19.9	†		
ASIAN	†			†		
DISABILITY¶						
DISABILITY	908	21.7	17.4 - 26.0	508	10.2	6.1 - 14.4
NO DISABILITY	2521	11.9	10.1 - 13.7	1442	2.0	1.2 - 2.9
EDUCATION						
< HIGH SCHOOL	†			†		
HIGH SCHOOL	949	9.9	7.0 - 12.9	526	3.9	1.7 - 6.1
COLLEGE 1–3 YRS	876	16.2	12.6 - 19.8	419	3.6	1.5 - 5.7
COLLEGE 4+ YRS	1378	16.0	13.3 - 18.7	921	3.6	2.0 - 5.2
HOUSEHOLD INCOME						
<$25,000	959	15.4	11.9 - 19.0	381	8.6	3.7 - 13.5
$25,000–34,999	314	15.1	8.3 - 21.9	†		
$35,000–49,999	424	13.8	9.2 - 18.4	†		
$50,000–74,999	493	14.5	10.4 - 18.5	†		
$75,000+	969	15.6	12.4 - 18.7	765	3.4	1.8 - 5.0
REGION						
I–WESTERN	540	14.8	10.7 - 18.9	†		
II–CENTRAL	438	12.4	8.1 - 16.8	†		
III–NORTH EAST	881	16.7	12.4 - 21.0	†		
IV–METRO WEST	483	15.7	11.8 - 19.7	†		
V–SOUTH EAST	845	10.9	7.6 - 14.3	†		
VI–BOSTON	380	13.1	8.2 - 17.9	†		

* 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.

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

Section 6.4: Drinking and Driving

Alcohol-related motor vehicle crashes killed 13,470 people in 2006, representing an average of one alcohol-related fatality every 39 minutes. In the same year, 32 percent of all traffic-related deaths in the United States were caused by alcohol-related motor vehicle crashes [40]. 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 after drinking too much.

TABLE 6.4 – DRINKING AND DRIVING AMONG MASSACHUSETTS ADULTS, 2008

	DRINKING AND DRIVING		
	N	%	95% CI
OVERALL	19649	2.5	2.0 - 2.9
GENDER			
MALE	7150	3.8	3.0 - 4.6
FEMALE	12499	1.2	0.9 - 1.6
AGE GROUP			
18–24	715	5.7	3.0 - 8.4
25–34	1904	3.1	2.1 - 4.1
35–44	3244	2.3	1.6 - 3.0
45–54	4196	2.6	1.9 - 3.3
55–64	3945	1.4	0.9 - 1.8
65-74	†		
75 AND OLDER	†		
RACE-ETHNICITY*			
WHITE	15977	2.5	2.1 - 3.0
BLACK	1022	1.3	0.6 - 2.1
HISPANIC	†		
ASIAN	†		
DISABILITY¶			
DISABILITY	4810	2.3	1.2 - 3.3
NO DISABILITY	13392	2.4	2.0 - 2.9
EDUCATION			
< HIGH SCHOOL	2131	0.7	0.3 - 1.1
HIGH SCHOOL	5402	3.1	2.0 - 4.2
COLLEGE 1–3 YRS	4561	2.3	1.4 - 3.2
COLLEGE 4+ YRS	7501	2.5	1.9 - 3.0
HOUSEHOLD INCOME			
<$25,000	5047	1.6	0.7 - 2.6
$25,000–34,999	†		
$35,000–49,999	2264	2.1	1.2 - 2.9
$50,000–74,999	2656	2.8	1.8 - 3.7
$75,000+	5549	3.5	2.6 - 4.3
REGION			
I–WESTERN	2914	2.7	1.5 - 3.9
II–CENTRAL	2531	2.0	1.1 - 2.8
III–NORTH EAST	4681	2.8	1.7 - 3.9
IV–METRO WEST	2629	2.4	1.6 - 3.2
V–SOUTH EAST	4717	2.4	1.4 - 3.4
VI–BOSTON	†		

* 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.

In 2007, there were 363 fall deaths, 20,052 hospital stays (hospital discharges and observation stays), and 37,453 emergency department discharges associated with nonfatal fall injuries among Massachusetts residents ages 65 years and older. Twenty-seven percent of all fall-related hospital stays among Massachusetts adults ages 45 and older were associated with a hip fracture; approximately 10% of all fall-related hospital stays involved a traumatic brain injury [41, 42, 43, 44].

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, 2008

	UNINTENTIONAL FALLS			INJURED BY UNINTENTIONAL FALL		
	N	%	95% CI	N	%	95% CI
OVERALL	13504	15.5	14.6 - 16.4	13491	5.1	4.6 - 5.6
GENDER						
MALE	4877	15.5	14.1 - 16.9	4873	4.3	3.5 - 5.0
FEMALE	8627	15.5	14.4 - 16.6	8618	5.8	5.1 - 6.5
AGE GROUP						
45-54	4172	15.4	13.9 - 17.0	4168	5.3	4.4 - 6.2
55-64	3937	15.6	14.0 - 17.1	3935	4.8	3.9 - 5.7
65-74	2719	12.9	11.1 - 14.8	2717	4.4	3.2 - 5.6
75-84	2022	17.4	15.0 - 19.8	2019	5.2	3.8 - 6.6
85 AND OLDER	654	21.2	16.9 - 25.6	652	8.2	5.2 - 11.1
RACE-ETHNICITY*						
WHITE	11647	15.6	14.6 - 16.5	11637	5.0	4.5 - 5.6
BLACK	592	12.6	9.3 - 16.0	591	5.3	3.1 - 7.5
HISPANIC	860	16.0	12.0 - 20.0	858	5.6	3.6 - 7.6
ASIAN	†			†		
DISABILITY¶						
DISABILITY	3864	25.1	23.1 - 27.1	3856	9.1	7.8 - 10.4
NO DISABILITY	8643	11.7	10.8 - 12.7	8642	3.6	3.0 - 4.1
EDUCATION						
< HIGH SCHOOL	1589	19.2	15.9 - 22.5	1585	8.9	6.3 - 11.5
HIGH SCHOOL	3899	15.2	13.5 - 16.9	3895	4.9	3.9 - 5.9
COLLEGE 1–3 YRS	3101	17.0	15.1 - 18.9	3099	5.3	4.2 - 6.4
COLLEGE 4+ YRS	4876	14.3	13.0 - 15.7	4873	4.4	3.7 - 5.2
HOUSEHOLD INCOME						
<$25,000	3770	19.9	17.9 - 22.0	3764	8.5	7.1 - 9.9
$25,000–34,999	1312	17.4	14.4 - 20.4	1311	5.3	3.5 - 7.1
$35,000–49,999	1553	15.7	13.1 - 18.3	1552	4.8	3.3 - 6.3
$50,000–74,999	1755	14.1	11.9 - 16.3	1754	4.1	2.8 - 5.3
$75,000+	3342	13.4	11.9 - 14.9	3341	4.1	3.2 - 5.0
REGION						
I–WESTERN	1998	18.7	16.3 - 21.0	1997	5.5	4.1 - 6.9
II–CENTRAL	1699	13.8	11.7 - 16.0	1696	4.0	2.9 - 5.2
III–NORTH EAST	3100	14.4	12.3 - 16.5	3098	5.0	3.7 - 6.2
IV–METRO WEST	1947	15.3	13.5 - 17.2	1945	5.0	4.0 - 6.1
V–SOUTH EAST	3372	16.0	14.0 - 18.0	3370	6.0	4.7 - 7.3
VI–BOSTON	1388	13.7	11.4 - 16.0	1385	4.1	3.0 - 5.2

* 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 second leading cause of unintentional injury death in Massachusetts [19]. In 2007, there were 272 motor vehicle occupant fatalities among Massachusetts residents, and there were an additional 3,160 hospital stays and 64,551 emergency department visits at MA acute care hospitals associated with nonfatal motor vehicle occupant injuries [45]. 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 [46]. 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, 2008

	SEATBELT USE		
	N	%	95% CI
OVERALL	19500	80.4	79.4 - 81.4
GENDER			
MALE	7105	75.1	73.5 - 76.8
FEMALE	12395	85.1	84.1 - 86.2
AGE GROUP			
18–24	710	70.7	65.5 - 75.8
25–34	1900	80.6	78.1 - 83.2
35–44	3235	82.8	81.0 - 84.6
45–54	4171	81.4	79.6 - 83.1
55–64	3925	81.7	80.0 - 83.4
65–74	2695	80.4	78.3 - 82.6
75 AND OLDER	2660	84.0	82.0 - 86.0
RACE-ETHNICITY*			
WHITE	15904	80.4	79.3 - 81.5
BLACK	1005	76.1	71.1 - 81.1
HISPANIC	1795	80.9	77.4 - 84.4
ASIAN	316	91.4	87.1 - 95.7
DISABILITY¶			
DISABILITY	4768	76.6	74.7 - 78.6
NO DISABILITY	13371	81.7	80.5 - 82.8
EDUCATION			
< HIGH SCHOOL	2050	74.7	70.8 - 78.7
HIGH SCHOOL	5358	74.2	72.1 - 76.4
COLLEGE 1–3 YRS	4545	77.6	75.3 - 79.8
COLLEGE 4+ YRS	7496	86.6	85.4 - 87.8
HOUSEHOLD INCOME			
<$25,000	4949	76.0	73.8 - 78.3
$25,000–34,999	1777	77.4	73.9 - 81.0
$35,000–49,999	2252	78.0	75.3 - 80.8
$50,000–74,999	2658	78.8	76.0 - 81.5
$75,000+	5553	84.1	82.6 - 85.6
REGION			
I–WESTERN	2905	81.3	79.0 - 83.7
II–CENTRAL	2502	79.1	76.1 - 82.1
III–NORTH EAST	4646	79.7	77.6 - 81.9
IV–METRO WEST	2624	84.4	82.4 - 86.4
V–SOUTH EAST	4679	77.5	75.3 - 79.7
VI–BOSTON	2144	78.1	74.8 - 81.4

* 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: Gambling

All respondents were asked about their gambling activity in the past year. Gambling was defined as playing lottery games such as scratch tickets, numbers or Keno; bingo, video poker machines, or card games for money; horse or dog races; sports pools; or going to a casino. Those who reported gambling within the last 12 months were asked if gambling had ever created problems with their family, work or personal life. Presented below are the percentages of adults who reported that they had gambled in the past year and that gambling had caused problems in their family, work or personal life at any time.

TABLE 6.7 – GAMBLING AMONG MASSACHUSETTS ADULTS, 2008

	GAMBLED IN PAST YEAR			EVER HAD A GAMBLING PROBLEM		
	N	%	95% CI	N	%	95% CI
OVERALL	6062	40.2	38.2 - 42.1	6059	1.1	0.8 - 1.5
GENDER						
MALE	2223	45.0	41.9 - 48.2	2222	1.4	0.8 - 2.0
FEMALE	3839	35.8	33.5 - 38.1	3837	0.9	0.4 - 1.3
AGE GROUP						
18–24	199	44.3	33.7 - 55.0	†		
25–34	591	40.7	34.9 - 46.6	†		
35–44	991	39.6	35.4 - 43.9	†		
45–54	1296	42.0	38.1 - 46.0	†		
55–64	1229	39.5	35.6 - 43.5	†		
65–74	873	42.1	37.4 - 46.7	†		
75 AND OLDER	822	32.2	27.7 - 36.7	†		
RACE-ETHNICITY*						
WHITE	4974	41.9	39.8 - 44.0	4971	1.2	0.8 - 1.6
BLACK	309	36.3	27.4 - 45.2	†		
HISPANIC	568	25.8	19.1 - 32.5	†		
ASIAN	75	29.2	13.5 - 44.9	†		
DISABILITY¶						
DISABILITY	1559	39.8	36.0 - 43.7	1560	2.2	1.1 - 3.4
NO DISABILITY	4187	40.8	38.5 - 43.1	4185	0.8	0.4 - 1.2
EDUCATION						
< HIGH SCHOOL	650	33.6	26.8 - 40.4	†		
HIGH SCHOOL	1596	45.1	41.1 - 49.1	1595	2.0	0.9 - 3.2
COLLEGE 1–3 YRS	1457	46.9	42.9 - 50.9	1459	0.9	0.4 - 1.4
COLLEGE 4+ YRS	2345	34.9	32.2 - 37.7	†		
HOUSEHOLD INCOME						
<$25,000	1612	31.3	27.6 - 35.0	†		
$25,000–34,999	587	36.3	30.1 - 42.5	†		
$35,000–49,999	659	46.4	40.3 - 52.5	†		
$50,000–74,999	841	48.3	43.4 - 53.3	†		
$75,000+	1669	41.3	38.0 - 44.6	†		
REGION						
I–WESTERN	886	39.1	34.4 - 43.8	†		
II–CENTRAL	783	39.6	34.4 - 44.9	†		
III–NORTH EAST	1436	43.1	38.6 - 47.6	†		
IV–METRO WEST	832	34.3	30.2 - 38.4	†		
V–SOUTH EAST	1435	46.6	42.2 - 51.0	†		
VI–BOSTON	690	38.6	33.2 - 43.9	†		

* 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.

APPENDIX

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008												
	FAIR OR POOR HEALTH		POOR MENTAL HEALTH		SAD, BLUE, OR DEPRESSED		POOR PHYSICAL HEALTH		DISABILITY			
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI		
OVERALL	11.8	11.1 - 12.5	9.0	8.3 - 9.8	6.3	5.4 - 7.2	8.6	7.9 - 9.2	21.1	20.1	-	22.0
GENDER												
MALE	12.0	11.0 - 13.0	8.1	7.1 - 9.1	5.5	4.2 - 6.8	7.8	7.0 - 8.7	21.0	19.5	-	22.5
FEMALE	12.1	11.2 - 12.9	10.2	9.2 - 11.2	7.5	6.4 - 8.6	9.4	8.6 - 10.2	21.1	19.9	-	22.3
RACE-ETHNICITY*												
WHITE	10.0	9.3 - 10.7	8.8	8.0 - 9.6	5.8	4.9 - 6.7	8.3	7.6 - 9.0	21.0	19.9	-	22.1
BLACK	19.4	15.7 - 23.1	13.7	10.2 - 17.3	11.2	6.7 15.8	9.8	7.2 - 12.4	21.2	17.5	-	25.0
HISPANIC	32.3	29.1 - 35.5	13.5	10.8 - 16.3	12.1	8.4 - 15.7	14.5	12.0 - 17.0	26.3	22.8	-	29.8
ASIAN	5.8	2.4 - 9.3	†		†		†		14.9	9.2		20.6
DISABILITY												
DISABILITY	31.3	28.7 - 33.8	22.2	19.7 - 24.7	18.7	15.1 - 22.2	24.6	22.2 - 27.1				
NO DISABILITY	6.3	5.6 - 6.9	5.9	5.2 - 6.6	3.3	2.6 - 4.0	4.1	3.6 - 4.6				
EDUCATION												
< HIGH SCHOOL	35.5	31.2 - 39.7	17.6	14.1 - 21.1	20.6	13.7 - 27.5	16.0	13.2 - 18.7	36.3	31.6	-	41.0
HIGH SCHOOL	16.2	14.8 - 17.7	12.5	11.0 - 14.0	11.0	8.6 - 13.4	11.7	10.5 - 12.9	23.7	21.7	-	25.7
COLLEGE 1–3 YRS	11.7	10.5 - 13.0	10.8	9.3 - 12.4	6.1	4.6 - 7.6	9.6	8.2 - 11.0	23.1	21.2	-	25.0
COLLEGE 4+ YRS	6.2	5.2 - 7.3	5.9	4.6 - 7.3	2.8	2.0 - 3.6	5.6	4.5 - 6.7	16.8	15.2	-	18.4
HOUSEHOLD INCOME												
<$25,000	29.5	27.4 - 31.6	19.7	17.6 - 21.7	19.4	15.9 - 22.8	19.6	17.6 - 21.5	40.3	37.6	-	43.0
$25,000–34,999	15.6	13.0 - 18.1	12.2	9.4 - 15.1	7.6	4.0 - 11.2	10.9	8.3 - 13.4	24.1	20.4	-	27.9
$35,000–49,999	12.4	10.2 - 14.5	10.4	8.2 - 12.6	6.8	4.5 - 9.1	7.9	6.4 - 9.5	20.9	18.5	-	23.3
$50,000–74,999	7.3	5.9 - 8.6	8.2	6.0 - 10.5	3.6	2.1 - 5.1	6.5	5.2 - 7.7	18.7	15.9	-	21.4
$75,000+	4.3	3.6 - 5.1	4.8	4.0 - 5.6	2.7	1.7 - 3.7	4.4	3.6 - 5.3	14.5	12.9	-	16.1
REGION												
I–WESTERN	13.5	11.8 - 15.3	9.9	8.1 - 11.6	6.9	5.0 - 8.8	10.4	8.8 - 11.9	23.7	21.0	-	26.4
II–CENTRAL	11.8	9.8 - 13.8	10.0	8.0 - 11.9	8.1	4.9 11.2	8.7	7.3 - 10.2	21.1	18.7	-	23.5
III–NORTH EAST	13.8	12.1 - 15.6	8.9	7.5 - 10.3	6.3	4.7 - 7.8	8.8	7.4 - 10.1	20.3	18.4	-	22.3
IV–METRO WEST	7.8	6.6 - 8.9	6.0	4.8 - 7.3	3.9	2.1 - 5.6	6.5	5.2 - 7.7	19.4	17.1	-	21.6
V–SOUTH EAST	12.2	10.8 - 13.5	11.6	9.7 - 13.6	7.2	5.2 - 9.2	9.6	8.3 - 10.8	22.1	19.8	-	24.4
VI–BOSTON	16.8	14.7 - 18.9	9.9	7.9 - 11.8	10.0	6.9 - 13.1	8.7	7.0 - 10.3	20.2	18.0	-	22.4

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008										
	DISABILITY/NEED HELP		NO HEALTH INSURANCE		NO PERSONAL DOCTOR		NO DOCTOR DUE TO COST		CHECKUP IN PAST YEAR	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	5.4	4.9 - 5.9	3.1	2.5 - 3.7	11.0	10.1 - 12.0	6.2	5.6 - 6.8	78.1	77.0 - 79.2
GENDER										
MALE	4.7	4.0 - 5.5	4.9	3.8 - 6.0	14.3	12.8 - 15.7	6.0	5.1 - 6.8	75.4	73.7 - 77.0
FEMALE	6.0	5.4 - 6.5	2.0	1.5 - 2.4	8.3	7.3 - 9.3	6.9	6.1 - 7.7	81.7	80.5 - 83.0
RACE-ETHNICITY*										
WHITE	5.0	4.5 - 5.4	2.3	1.8 - 2.9	9.8	8.8 - 10.8	5.2	4.6 - 5.8	77.9	76.7 - 79.1
BLACK	7.9	5.5 - 10.2	7.5	3.5 - 11.6	17.1	12.5 - 21.7	11.8	8.3 - 15.2	80.8	76.3 - 85.2
HISPANIC	10.8	8.4 - 13.2	9.9	7.0 - 12.9	19.9	16.8 - 23.1	16.3	13.4 - 19.1	84.9	82.1 - 87.6
ASIAN	†		†		15.7	9.6 - 21.8	3.4	1.6 - 5.2	74.6	67.2 - 82.0
DISABILITY										
DISABILITY	24.8	22.5 - 27.2	2.8	1.6 - 3.9	9.6	7.5 - 11.8	11.8	9.9 - 13.8	82.3	79.9 - 84.7
NO DISABILITY			3.2	2.5 - 3.8	11.4	10.4 - 12.4	4.9	4.3 - 5.5	77.3	76.0 - 78.5
EDUCATION										
< HIGH SCHOOL	16.4	12.6 - 20.1	9.5	5.8 - 13.2	22.3	17.9 - 26.8	15.9	12.0 - 19.9	79.9	75.7 - 84.0
HIGH SCHOOL	6.7	5.8 - 7.7	6.5	4.9 - 8.2	13.6	11.7 - 15.4	8.9	7.5 - 10.2	80.4	78.5 - 82.4
COLLEGE 1–3 YRS	6.2	5.1 - 7.3	2.8	2.0 - 3.7	11.2	9.5 - 12.9	7.8	6.6 - 9.1	77.7	75.6 - 79.7
COLLEGE 4+ YRS	3.0	2.6 - 3.5	1.1	0.5 - 1.7	8.0	6.7 - 9.3	3.1	2.5 - 3.7	77.9	76.1 - 79.8
HOUSEHOLD INCOME										
<$25,000	16.7	14.6 - 18.8	9.5	7.4 - 11.5	18.1	15.7 - 20.4	15.5	13.5 - 17.5	78.4	76.0 - 80.8
$25,000–34,999	6.5	4.6 - 8.3	10.1	5.8 - 14.5	13.9	10.3 - 17.4	12.0	9.1 - 15.0	79.8	76.2 - 83.3
$35,000–49,999	4.4	3.3 - 5.5	2.9	1.6 - 4.1	10.6	8.2 - 13.0	9.4	7.4 - 11.4	80.5	77.6 - 83.5
$50,000–74,999	3.3	2.2 - 4.3	1.2	0.6 - 1.7	10.0	7.5 - 12.4	4.3	3.1 - 5.5	78.9	76.1 - 81.6
$75,000+	2.0	1.5 - 2.5	†		7.7	6.2 - 9.1	1.6	1.2 - 2.0	78.4	76.5 - 80.3
REGION										
I–WESTERN	6.3	5.1 - 7.4	3.8	2.4 - 5.2	12.5	10.3 - 14.7	8.7	7.0 - 10.4	76.8	74.3 - 79.3
II–CENTRAL	5.9	4.4 - 7.4	3.5	1.8 - 5.2	10.7	8.2 - 13.1	6.6	4.7 - 8.4	80.6	78.0 - 83.2
III–NORTH EAST	5.4	4.3 - 6.5	3.9	2.6 - 5.2	11.0	9.0 - 13.0	6.7	5.4 - 8.0	80.2	77.9 - 82.4
IV–METRO WEST	4.2	3.3 - 5.2	†		9.8	7.9 - 11.8	4.0	2.8 - 5.2	77.5	75.0 - 80.0
V–SOUTH EAST	5.8	4.8 - 6.8	4.6	2.8 - 6.5	10.9	9.0 - 12.8	5.6	4.6 - 6.5	77.7	75.2 - 80.1
VI–BOSTON	5.7	4.4 - 6.9	3.6	2.2 - 4.9	13.4	11.1 - 15.7	8.4	6.7 - 10.1	81.0	78.5 - 83.4

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008												
	DENTAL VISIT IN PAST YEAR		6+ TEETH MISSING		CURRENT SMOKER		FORMER SMOKER		QUIT ATTEMPT	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	78.0	77.0 - 79.1	13.7	13.1 - 14.3	15.6	14.7 - 16.6	27.7	26.7 - 28.6	59.5	56.4 - 62.6
GENDER										
MALE	76.2	74.6 - 77.8	14.0	13.1 - 14.8	16.8	15.3 - 18.3	28.7	27.3 - 30.0	59.5	55.0 - 64.0
FEMALE	79.0	77.8 - 80.3	13.9	13.2 - 14.6	15.6	14.5 - 16.8	26.6	25.4 - 27.8	59.1	55.5 - 62.8
RACE-ETHNICITY*										
WHITE	79.0	77.9 - 80.2	13.3	12.7 - 13.9	16.7	15.5 - 17.8	29.4	28.3 - 30.4	58.0	54.8 - 61.2
BLACK	69.7	65.0 - 74.4	22.3	18.6 - 26.0	19.3	15.1 - 23.4	16.1	13.1 - 19.0	68.7	57.2 - 80.2
HISPANIC	69.4	65.9 - 73.0	19.5	17.1 - 21.8	14.0	11.5 - 16.5	19.4	16.1 - 22.6	65.5	56.8 - 74.2
ASIAN	73.9	66.7 - 81.0	†		4.9	2.3 - 7.6	14.9	9.0 - 20.7	46.1	30.4 - 61.7
DISABILITY										
DISABILITY	70.7	68.1 - 73.4	22.0	20.4 - 23.6	26.3	23.4 - 29.2	30.1	27.6 - 32.6	60.9	55.1 - 66.7
NO DISABILITY	80.1	78.9 - 81.2	11.2	10.5 - 11.8	13.4	12.4 - 14.3	26.9	25.9 - 28.0	58.6	54.8 - 62.3
EDUCATION										
< HIGH SCHOOL	55.5	50.9 - 60.0	31.2	27.7 - 34.6	31.7	27.3 - 36.1	20.8	17.7 - 23.9	56.6	48.7 - 64.6
HIGH SCHOOL	71.6	69.5 - 73.7	19.6	18.3 - 20.8	25.3	23.1 - 27.5	26.5	24.8 - 28.2	56.8	52.1 - 61.5
COLLEGE 1–3 YRS	77.9	75.9 - 79.9	15.0	13.8 - 16.2	19.2	17.3 - 21.1	29.5	27.5 - 31.4	62.3	56.9 - 67.7
COLLEGE 4+ YRS	84.3	82.4 - 86.2	7.2	6.3 - 8.1	8.0	6.6 - 9.5	28.0	26.5 - 29.6	61.4	54.3 - 68.5
HOUSEHOLD INCOME										
<$25,000	61.3	58.7 - 63.9	26.4	24.6 - 28.1	28.8	26.3 - 31.3	22.3	20.5 - 24.1	57.5	52.5 - 62.6
$25,000–34,999	68.2	64.0 - 72.4	20.9	17.9 - 23.9	21.6	17.9 - 25.4	25.5	22.4 - 28.7	59.3	50.3 - 68.4
$35,000–49,999	75.7	72.6 - 78.8	16.2	14.5 - 18.0	20.2	17.4 - 23.0	25.7	23.3 - 28.0	63.6	56.7 - 70.5
$50,000–74,999	79.9	77.1 - 82.8	11.5	10.1 - 12.9	13.9	11.5 - 16.2	32.8	30.2 - 35.4	57.4	49.9 - 64.9
$75,000+	87.4	85.7 - 89.2	6.5	5.6 - 7.4	11.4	9.7 - 13.1	29.6	27.8 - 31.3	59.7	53.0 - 66.5
REGION										
I–WESTERN	74.5	72.0 - 77.0	15.3	13.9 - 16.8	17.3	15.1 - 19.5	27.2	24.8 - 29.5	58.5	52.2 - 64.8
II–CENTRAL	77.1	74.3 - 79.8	14.5	13.2 - 15.9	22.0	19.0 - 24.9	25.8	23.6 - 28.0	64.1	57.5 - 70.7
III–NORTH EAST	79.2	77.1 - 81.3	14.0	12.7 - 15.3	15.2	13.3 - 17.2	25.8	23.8 - 27.7	56.6	49.9 - 63.3
IV–METRO WEST	80.3	77.8 - 82.7	10.5	9.3 - 11.6	10.4	8.7 - 12.1	28.3	26.1 - 30.4	61.6	53.1 - 70.0
V–SOUTH EAST	77.5	75.3 - 79.7	15.8	14.5 - 17.1	18.2	16.1 - 20.4	29.5	27.4 - 31.6	57.4	51.4 - 63.5
VI–BOSTON	75.1	72.3 - 77.8	15.8	14.3 - 17.3	16.1	13.7 - 18.5	25.6	23.3 - 27.9	52.0	44.7 - 59.4

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008												
	PLANNING TO QUIT		NO SMOKING IN HOUSE		ENVIRONMENTAL SMOKE		BINGE DRINKING		HEAVY DRINKING	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	42.8	39.6 - 46.0	80.9	79.9 - 81.8	37.2	36.0 - 38.4	18.0	16.9 - 19.1	6.4	5.7 - 7.0
GENDER										
MALE	46.4	41.5 - 51.4	80.0	78.5 - 81.5	39.2	37.3 - 41.1	23.1	21.4 - 24.8	6.7	5.7 - 7.7
FEMALE	41.9	38.1 - 45.7	81.6	80.4 - 82.8	35.5	34.0 - 37.0	13.7	12.5 - 15.0	6.7	5.9 - 7.5
RACE-ETHNICITY*										
WHITE	41.1	37.7 - 44.4	80.6	79.5 - 81.7	36.9	35.5 - 38.3	20.0	18.8 - 21.3	7.3	6.5 - 8.1
BLACK	60.6	48.8 - 72.5	76.4	72.2 - 80.6	42.5	37.5 - 47.5	10.9	8.0 - 13.9	3.5	2.0 - 4.9
HISPANIC	58.5	49.6 - 67.3	87.1	84.5 - 89.8	39.0	35.0 - 43.0	12.9	10.1 - 15.7	3.9	2.3 - 5.6
ASIAN	49.5	33.5 - 65.4	83.8	76.8 - 90.7	30.1	21.9 - 38.3	†		†	
DISABILITY										
DISABILITY	45.7	40.2 - 51.1	70.3	67.4 - 73.2	47.8	44.9 - 50.7	17.6	15.0 - 20.1	6.8	5.1 - 8.5
NO DISABILITY	41.3	37.5 - 45.1	83.3	82.2 - 84.3	34.7	33.4 - 36.1	18.2	17.0 - 19.4	6.4	5.7 - 7.1
EDUCATION										
< HIGH SCHOOL	51.9	43.1 - 60.8	73.1	68.9 - 77.2	43.5	39.0 - 48.0	12.1	9.1 - 15.1	5.6	3.4 - 7.9
HIGH SCHOOL	40.3	35.3 - 45.3	73.9	71.8 - 76.0	42.7	40.2 - 45.2	17.9	15.9 - 20.0	6.5	5.3 - 7.6
COLLEGE 1–3 YRS	42.8	37.1 - 48.5	76.7	74.6 - 78.8	42.2	39.8 - 44.7	20.2	18.0 - 22.3	7.5	6.1 - 8.9
COLLEGE 4+ YRS	46.9	40.0 - 53.8	87.7	86.4 - 89.0	31.3	29.1 - 33.4	19.9	17.8 - 21.9	6.7	5.4 - 8.0
HOUSEHOLD INCOME										
<$25,000	45.6	40.2 - 51.1	68.6	66.0 - 71.3	46.1	43.3 - 48.9	12.1	10.3 - 13.9	5.0	3.7 - 6.2
$25,000–34,999	50.3	41.1 - 59.5	74.3	70.3 - 78.4	42.7	38.0 - 47.3	16.6	13.0 - 20.3	6.3	4.0 - 8.6
$35,000–49,999	44.9	36.5 - 53.3	75.8	72.8 - 78.9	43.6	39.9 - 47.3	18.7	15.6 - 21.8	7.5	5.7 - 9.4
$50,000–74,999	37.1	29.2 - 45.1	80.9	78.0 - 83.8	38.2	35.0 - 41.4	21.4	18.4 - 24.5	8.6	6.2 - 11.1
$75,000+	43.3	36.2 - 50.4	87.6	86.2 - 89.0	32.0	29.7 - 34.2	23.0	20.9 - 25.0	8.3	6.9 - 9.8
REGION										
I–WESTERN	40.1	32.7 - 47.5	79.1	76.6 - 81.7	41.1	38.3 - 44.0	16.7	14.4 - 18.9	6.1	4.8 - 7.3
II–CENTRAL	42.2	34.8 - 49.6	77.8	75.1 - 80.4	38.1	34.9 - 41.2	20.8	17.8 - 23.7	7.1	5.3 - 8.9
III–NORTH EAST	44.9	37.7 - 52.1	80.7	78.5 - 82.9	36.2	33.4 - 38.9	17.3	15.1 - 19.6	6.4	5.0 - 7.8
IV–METRO WEST	42.1	32.9 - 51.2	85.5	83.4 - 87.5	33.0	30.0 - 35.9	18.2	15.6 - 20.7	4.6	3.6 - 5.6
V–SOUTH EAST	46.7	40.6 - 52.8	80.0	77.8 - 82.2	38.6	36.1 - 41.1	18.8	16.4 - 21.1	8.9	7.1 - 10.8
VI–BOSTON	53.5	44.8 - 62.2	79.1	76.6 - 81.6	39.0	36.1 - 42.0	18.5	15.9 - 21.1	7.4	5.3 - 9.4

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008												
	OVERWEIGHT		OBESITY		ANY LEISURE TIME PHYSICAL ACTIVITY		SEATBELT USE		PRE-DIABETES	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	58.0	56.8 - 59.3	21.5	20.4 - 22.5	78.5	77.5 - 79.5	80.5	79.5 - 81.6	4.3	3.9 - 4.8
GENDER										
MALE	67.7	65.9 - 69.5	23.1	21.5 - 24.6	80.0	78.6 - 81.3	75.1	73.4 - 76.8	4.3	3.6 - 4.9
FEMALE	48.1	46.5 - 49.6	19.7	18.5 - 20.9	76.6	75.4 - 77.8	85.2	84.0 - 86.3	4.4	3.9 - 5.0
RACE-ETHNICITY*										
WHITE	56.8	55.4 - 58.2	21.0	19.9 - 22.1	80.5	79.5 - 81.5	80.3	79.1 - 81.4	4.2	3.7 - 4.6
BLACK	68.4	63.7 - 73.0	29.4	25.1 - 33.7	73.4	69.4 - 77.4	76.6	72.2 - 80.9	4.7	2.9 - 6.5
HISPANIC	66.5	62.7 - 70.4	27.7	24.2 - 31.3	59.4	55.8 - 62.9	82.8	79.9 - 85.7	6.2	3.8 - 8.6
ASIAN	39.8	31.6 - 48.0	†		75.9	69.1 - 82.7	91.7	86.8 - 96.6	†	
DISABILITY										
DISABILITY	63.3	60.3 - 66.3	30.8	28.1 - 33.5	68.4	66.0 - 70.7	75.6	73.2 - 78.0	6.7	5.4 - 7.9
NO DISABILITY	56.5	55.1 - 57.9	18.9	17.8 - 20.0	81.7	80.7 - 82.8	81.7	80.5 - 82.8	3.7	3.3 - 4.2
EDUCATION										
< HIGH SCHOOL	65.0	60.6 - 69.5	25.8	22.2 - 29.3	52.3	48.0 - 56.7	74.1	70.1 - 78.1	5.0	3.2 - 6.9
HIGH SCHOOL	60.5	58.2 - 62.9	24.3	22.3 - 26.3	69.7	67.7 - 71.7	73.7	71.5 - 75.8	4.7	3.9 - 5.6
COLLEGE 1–3 YRS	63.2	60.8 - 65.5	25.4	23.3 - 27.5	77.3	75.4 - 79.3	78.1	76.0 - 80.1	4.8	3.9 - 5.7
COLLEGE 4+ YRS	52.2	50.1 - 54.4	17.9	16.1 - 19.8	87.8	86.6 - 89.0	85.8	84.0 - 87.6	3.5	3.0 - 4.1
HOUSEHOLD INCOME										
<$25,000	60.9	58.2 - 63.5	27.5	25.2 - 29.8	62.9	60.5 - 65.3	75.7	73.4 - 78.1	6.0	4.8 - 7.2
$25,000–34,999	61.1	56.8 - 65.5	26.1	22.3 - 29.8	67.1	63.0 - 71.3	77.5	74.0 - 81.0	6.2	4.1 - 8.2
$35,000–49,999	59.9	56.3 - 63.6	23.5	20.4 - 26.6	77.4	74.9 - 79.8	78.2	75.4 - 81.1	4.4	3.3 - 5.5
$50,000–74,999	59.7	56.5 - 62.9	20.9	18.6 - 23.3	82.1	80.0 - 84.2	78.9	75.9 - 81.8	4.1	3.1 - 5.2
$75,000+	56.2	53.9 - 58.5	19.0	17.2 - 20.8	87.5	86.1 - 88.8	83.3	81.4 - 85.2	3.4	2.6 - 4.2
REGION										
I–WESTERN	59.3	56.4 - 62.1	24.3	21.8 - 26.7	77.3	75.3 - 79.3	81.2	78.9 - 83.6	5.0	4.0 - 6.0
II–CENTRAL	62.3	59.3 - 65.3	24.3	21.6 - 26.9	75.9	73.2 - 78.5	79.2	76.4 - 82.0	4.0	3.0 - 4.9
III–NORTH EAST	58.7	56.0 - 61.4	21.8	19.6 - 24.0	77.1	75.0 - 79.2	79.7	77.5 - 81.9	4.5	3.5 - 5.5
IV–METRO WEST	52.0	49.1 - 55.0	17.0	14.8 - 19.2	83.0	80.9 - 85.0	84.6	82.4 - 86.8	3.3	2.4 - 4.1
V–SOUTH EAST	57.7	55.0 - 60.5	21.6	19.5 - 23.7	76.9	74.7 - 79.0	77.1	74.7 - 79.5	5.0	3.8 - 6.3
VI–BOSTON	60.6	57.6 - 63.6	21.6	19.2 - 24.1	75.7	73.1 - 78.3	79.5	77.0 - 81.9	4.6	3.3 - 6.0

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008												
	DIABETES		EVER HAD ASTHMA		CURRENT ASTHMA		PAP SMEAR, PAST 3 YEARS		EVER TESTED FOR HIV	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	6.8	6.4 - 7.3	15.1	14.2 - 16.1	9.8	9.0 - 10.5	84.3	83.1 - 85.4	41.5	40.1 - 42.9
GENDER										
MALE	7.9	7.2 - 8.7	12.6	11.3 - 13.9	7.3	6.3 - 8.2			39.9	37.8 - 42.0
FEMALE	5.9	5.4 - 6.4	17.1	15.9 - 18.2	11.8	10.9 - 12.8			43.9	42.1 - 45.7
RACE-ETHNICITY*										
WHITE	6.0	5.6 - 6.4	14.9	13.9 - 15.9	9.5	8.7 - 10.3	84.7	83.4 - 86.0	39.8	38.3 - 41.4
BLACK	12.6	10.0 - 15.2	14.4	11.1 - 17.7	10.5	7.4 - 13.7	80.2	75.4 - 85.1	57.7	52.2 - 63.3
HISPANIC	13.0	10.7 - 15.3	17.7	15.0 - 20.3	11.4	9.4 - 13.5	86.1	82.8 - 89.3	53.3	49.1 - 57.5
ASIAN	†		9.9	5.2 - 14.5	†		84.0	74.7 - 93.4	25.7	18.5 - 32.9
DISABILITY										
DISABILITY	11.6	10.3 - 12.8	24.6	21.9 - 27.2	18.2	16.1 - 20.3	81.9	79.2 - 84.6	51.4	47.9 - 54.9
NO DISABILITY	5.3	4.8 - 5.8	12.8	11.8 - 13.8	7.7	6.9 - 8.4	85.2	83.9 - 86.5	39.3	37.8 - 40.8
EDUCATION										
< HIGH SCHOOL	11.0	9.3 - 12.6	17.6	14.6 - 20.6	13.3	10.6 - 16.1	78.0	73.9 - 82.2	47.7	42.3 - 53.1
HIGH SCHOOL	8.5	7.4 - 9.5	14.9	13.2 - 16.6	10.4	9.0 - 11.8	79.0	76.5 - 81.4	38.5	35.8 - 41.3
COLLEGE 1–3 YRS	7.4	6.5 - 8.4	15.6	13.9 - 17.2	10.3	8.9 - 11.6	83.8	81.6 - 86.0	44.9	42.1 - 47.6
COLLEGE 4+ YRS	4.6	4.1 - 5.2	13.8	12.3 - 15.2	7.8	7.0 - 8.7	89.6	88.1 - 91.1	40.6	38.2 - 43.0
HOUSEHOLD INCOME										
<$25,000	11.1	9.8 - 12.4	18.5	16.6 - 20.4	13.9	12.2 - 15.6	79.9	77.5 - 82.2	49.9	46.6 - 53.1
$25,000–34,999	8.5	6.8 - 10.2	15.7	12.6 - 18.7	9.1	6.8 - 11.3	84.3	81.6 - 87.0	44.3	39.2 - 49.5
$35,000–49,999	7.8	6.2 - 9.4	15.0	12.6 - 17.4	11.3	9.1 - 13.4	84.4	80.9 - 87.9	39.7	35.8 - 43.7
$50,000–74,999	5.8	4.7 - 6.9	13.1	10.8 - 15.4	8.0	6.5 - 9.5	88.4	85.8 - 91.1	39.5	35.7 - 43.3
$75,000+	5.4	4.5 - 6.3	14.2	12.5 - 15.8	7.8	6.7 - 8.9	89.6	87.1 - 92.2	40.6	38.2 - 43.1
REGION										
I–WESTERN	7.5	6.4 - 8.6	14.8	12.9 - 16.8	10.4	8.7 - 12.1	83.8	81.3 - 86.3	40.4	37.0 - 43.8
II–CENTRAL	8.0	6.7 - 9.3	15.6	13.2 - 18.0	9.4	7.5 - 11.2	86.5	84.0 - 89.0	42.9	39.2 - 46.6
III–NORTH EAST	7.4	6.4 - 8.5	14.4	12.5 - 16.3	9.6	8.0 - 11.2	84.6	82.1 - 87.1	40.8	37.7 - 43.9
IV–METRO WEST	4.7	3.7 - 5.6	14.6	12.7 - 16.6	9.0	7.5 - 10.4	84.0	80.9 - 87.0	40.9	37.8 - 44.0
V–SOUTH EAST	7.0	6.1 - 8.0	15.1	13.0 - 17.2	9.2	7.7 - 10.7	82.8	80.2 - 85.3	39.6	36.4 - 42.7
VI–BOSTON	7.6	6.3 - 8.9	15.6	13.5 - 17.7	10.8	9.1 - 12.6	83.7	80.9 - 86.5	51.3	47.7 - 54.9

AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008									
	TESTED FOR HIV PAST YEAR			SEXUAL VIOLENCE - WOMEN			SEXUAL VIOLENCE - MEN		
	%	95% CI		%	95% CI		%	95% CI	
OVERALL	9.1	8.2	- 10.1	13.9	12.0	- 15.8	3.8	2.7	- 4.9
GENDER									
MALE	9.3	7.9	- 10.6						
FEMALE	9.2	8.0	- 10.4						
RACE-ETHNICITY*									
WHITE	7.5	6.5	- 8.5	14.8	12.6	- 17.1	3.2	2.1	- 4.2
BLACK	23.0	17.4	- 28.5	13.7	7.0	- 20.4	†		
HISPANIC	16.0	13.0	- 19.1	12.4	6.8	- 18.0	†		
ASIAN	†			†			†		
DISABILITY									
DISABILITY	13.3	10.6	- 15.9	25.4	19.7	- 31.1	10.7	6.1	- 15.3
NO DISABILITY	8.3	7.3	- 9.3	11.4	9.5	- 13.3	2.1	1.3	- 3.0
EDUCATION									
< HIGH SCHOOL	14.7	9.9	- 19.5	10.8	5.0	- 16.6	†		
HIGH SCHOOL	8.8	7.2	- 10.4	10.5	7.4	- 13.6	3.8	1.8	- 5.9
COLLEGE 1–3 YRS	10.7	8.8	- 12.7	18.1	13.6	- 22.6	†		
COLLEGE 4+ YRS	7.8	6.4	- 9.2	14.7	11.8	- 17.6	3.2	1.8	- 4.6
HOUSEHOLD INCOME									
<$25,000	15.8	13.2	- 18.4	18.8	14.4	- 23.2	†		
$25,000–34,999	13.8	9.5	- 18.2	20.2	11.9	- 28.5	†		
$35,000–49,999	9.7	7.1	- 12.2	13.4	8.9	- 17.9	†		
$50,000–74,999	6.5	4.7	- 8.3	12.4	8.9	- 15.8	†		
$75,000+	7.8	6.0	- 9.6	15.1	11.1	- 19.0	3.2	1.8	- 4.6
REGION									
I–WESTERN	9.6	7.2	- 12.1	14.1	10.3	- 18.0	†		
II–CENTRAL	6.6	4.7	- 8.5	13.9	8.5	- 19.2	†		
III–NORTH EAST	10.1	7.8	- 12.4	19.0	13.4	- 24.7	†		
IV–METRO WEST	7.0	5.0	- 9.0	14.4	10.7	- 18.2	†		
V–SOUTH EAST	9.1	7.2	- 11.0	11.2	7.6	- 14.8	†		
VI–BOSTON	15.7	12.8	- 18.6	13.7	8.4	- 19.0	†		

* White, Black, and Asian race categories refer to non-Hispanic; † Insufficient data

MASSACHUSETTS ESTIMATES, NATIONAL ESTIMATES, AND HP 2010^

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008				
VARIABLES	MA %	US MEDIAN¶ %	US RANGE¶ %	HP 2010^ %
OVERALL HEALTH MEASURES				
FAIR OR POOR HEALTH	12.3	15.0	10.7-32.2	X
15+ POOR MENTAL HEALTH DAYS	9.1	9.0	5.7-14.5	X
15+ DAYS SAD, BLUE OR DEPRESSED	6.7			X
15+ DAYS IN POOR PHYSICAL HEALTH	8.8	9.1	6.0-17.1	X
DISABILITY	21.5			X
DISABILITY / NEED HELP WITH ACTIVITIES	5.5			X
HEALTH CARE ACCESS AND UTILIZATION				
HAVE PERSONAL HEALTH CARE PROVIDER	89.1	80.9	65.8-89.6	85.0
COULD NOT SEE DOCTOR DUE TO COST	6.3	13.5	6.2-20.5	X
CHECKUP IN PAST YEAR (ADDED)	79.0	68.3	56.4-81.2	X
DENTAL VISIT PAST YEAR	77.8	69.9	56.7-78.6	X
SIX OR MORE TEETH MISSING	14.4	14.9	8.5-30.9	X
RISK FACTORS AND PREVENTIVE BEHAVIORS				
CURRENT SMOKER	16.1	18.3	6.4-27.4	12.0
FORMER SMOKER	28.1	24.4	22.1-26.7	X
QUIT ATTEMPT AMONG CURRENT SMOKERS	59.9	58.0	52.2-66.7	75.0
PLAN TO QUIT AMONG CURRENT SMOKERS	44.2			X
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT	80.7			X
EXPOSED TO ENVIRONMENTAL SMOKE	36.7			X
BINGE DRINKING	17.7	15.5	8.2-22.8	6.0
HEAVY DRINKING	6.7	5.1	2.9-8.2	X
OVERWEIGHT (BASED ON HP 2010)	58.1	63.4	55.1-68.8	X
OBESITY	21.5	26.6	19.1-33.4	15.0
ANY LEISURE TIME PHYSICAL ACTIVITY	77.9	75.2	52.7-81.9	70.0
FLU VACCINE IN PAST YEAR (50-64)	46.0	44.0	15.4-53.6	X
FLU VACCINE IN PAST YEAR (65+)	72.4	70.9	30.3-78.0	90.0
EVER HAD PNEUMONIA VACCINATION (65+)	66.9	66.9	28.4-73.0	90.0
CHRONIC HEALTH CONDITIONS				
DIABETES	7.2	8.4	6.0-12.4	2.5
EVER HAD ASTHMA	14.8	13.6	8.3-16.2	X
CURRENTLY HAVE ASTHMA	9.6	8.7	4.5-10.6	X
MYOCARDIAL INFARCTION (35+)	4.9	6.0	2.9-11.4	X
ANGINA (35+)	4.9	5.9	2.9-10.9	X
STROKE (35+)	2.6	2.6	1.9-4.3	X
CANCER SCREENING				
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	24.3	20.9	7.5-29.0	50.0
SIGMOID OR COLONOSCOPY PAST 5 YRS (50+)	63.5	52.0	32.1-64.6	X
PSA IN THE PAST YEAR (50+)	62.2	57.6	36.3-66.5	X
DRE IN THE PAST YEAR (50+)	63.1	48.0	24.9-69.3	X
MAMMOGRAPHY IN THE PAST 2 YEARS (40+)	84.9	76.0	63.8-84.9	70.0
PAP SMEAR PAST THREE YEARS	83.5	78.0	65.7-86.2	90.0
OTHER TOPICS				
UNPLANNED PREGNANCY (18-44)	19.7			X
USE BIRTH CONTROL (18-44)	78.4			X
EVER TESTED FOR HIV (18-64)	40.6	36.8	25.2-70.2	X
TESTED FOR HIV IN PAST YEAR (18-64)	8.8			X
SEXUAL VIOLENCE (WOMEN)	14.2			X
DRINKING WHILE DRIVING	2.5	2.1	0.6-5.6	X
SEATBELT USE	80.4	82.3	59.2-93.7	92.0
UNINTENTIONAL FALL PAST 3 MONTHS	15.5	16.6	11.6-23.2	X
INJURED FROM FALL PAST 3 MONTHS	5.1	5.4	4.0-7.9	X

¶ The US median percentage and range are based on data for all 50 states, District of Columbia, and Puerto Rico.
^ HP2010 = Health People 2010 Objectives.
X No applicable objective.

ITEM-SPECIFIC NON-RESPONSE

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2008	
OVERALL HEALTH MEASURES	PERCENTAGE OF NON-RESPONSE* %
FAIR OR POOR HEALTH	0.3
15+ DAYS IN POOR PHYSICAL HEALTH	2.1
15+ POOR MENTAL HEALTH DAYS	1.8
15+ DAYS SAD, BLUE OR DEPRESSED	1.0
DISABILITY	4.7
DISABILITY / NEED HELP WITH ACTIVITIES	4.7
HEALTH CARE ACCESS AND UTILIZATION	
NO HEALTH INSURANCE	0.2
HAVE PERSONAL HEALTH CARE PROVIDER	0.2
COULD NOT SEE DOCTOR DUE TO COST	0.3
HAD CHECKUP IN PAST YEAR	0.8
DENTAL VISIT IN PAST YEAR	0.8
SIX OR MORE TEETH MISSING	2.5
RISK FACTORS AND PREVENTIVE BEHAVIORS	
CURRENT SMOKER	0.6
FORMER SMOKER	12.8
QUIT ATTEMPT AMONG CURRENT SMOKERS	0.1
PLAN TO QUIT AMONG CURRENT SMOKERS	13.5
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT ALLOWED	8.5
EXPOSED TO ENVIRONMENTAL SMOKE	9.8
BINGE DRINKING	4.6
HEAVY DRINKING	5.6
OVERWEIGHT (BASED ON HP 2010)	5.8
OBESITY	5.8
ANY LEISURE TIME PHYSICAL ACTIVITY	0.1
FLU VACCINE IN THE PAST YEAR (50-64)	4.3
FLU VACCINE IN THE PAST YEAR (65+)	3.6
EVER HAD PNEUMONIA VACCINE(65+)	7.7
CHRONIC HEALTH CONDITIONS	
PRE-DIABETES	12.1
DIABETES	0.1
EVER HAD ASTHMA	0.3
CURRENTLY HAVE ASTHMA	0.6
HEART DISEASE (35+)	0.8
STROKE (35+)	0.3
CANCER SCREENING	
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	7.6
SIGMOIDOSCOPY OR COLONOSCOPY IN THE PAST 5 YRS (50+)	7.2
PSA IN THE PAST YEAR (50+)	12.5
DRE IN THE PAST YEAR (50+)	7.7
MAMMOGRAM IN THE PAST 2 YEARS (40+)	5.4
PAP SMEAR IN THE PAST THREE YEARS	6.9
OTHER TOPICS	
UNPLANNED PREGNANCY (18-44)	5.5
EVER TESTED FOR HIV (18-64)	7.7
TESTED FOR HIV IN PAST YEAR (18-64)	17.5
SEXUAL VIOLENCE EVER (WOMEN)	17.6
DRINKING WHILE DRIVING	4.4
SEATBELT USE	5.2
UNINTENTIONAL FALLS IN THE PAST 3 MONTHS (45+)	4.8
INJURED FROM FALL IN THE PAST 3 MONTHS (45+)	4.9
GAMBLED IN PAST YEAR	12.7

***** The item-specific unweighted non-response % was calculated using the number of respondents who had finished the demographic section of the 2008 BRFSS as the denominator and those who reported don't know or refused as the numerators.
†Non-response rate given is approximate for these 3 variables.

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.
- As noted above, respondents are identified through telephone-based methods.
- Telephone penetration in the United States is estimated at 95.0%; in Massachusetts, telephone penetration is estimated at 96.1%, meaning that only 3.9% of households do not have any telephone service [47].
- 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 2008, the MA BRFSS had an average CASRO rate of 48%, which is higher than the required BRFSS standard of 40%.
- Another factor to consider is the growth of cellular telephone only households. Preliminary results from the 2008 National Health Interview Survey indicate that almost 18% of American households had only wireless telephone service [48]. Cellular telephones were not included as part of the regular BRFSS sample in 2008. In order to increase the coverage and reduce sampling bias, interviews will be conducted with respondents who use only cellular telephones in addition to the landline survey starting in 2009.
- 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.

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