A Profile of Health Among Massachusetts Adults, 2011

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 RELEASE

The overall presentation style of the release remains the same as in previous years.

In 2008, Massachusetts BRFSS was among the first states to pilot a multimode survey in order to improve the coverage of the state's adult population including cell phone-only households. However, until 2011 the results for cell phone only households were not reported and were not included in the analytical files. In addition, the Centers for Disease Control developed and implemented a new weighting methodology for the BRFSS in order to account for socio-demographic differences in the population and improve the quality of the data.

This release is the first to include data based on the combined landline and cell phone samples and to utilize the new weighting methodology.

Due to these changes, data from 2011 are not comparable with data from previous years, thus data from 2011 should not be aggregated with data from previous years.

For more information on the changes in sample design and methodology, please refer to the FAQ section in this release. An addendum included at the end of this release shows estimates for selected indicators for the years 2010 and 2011 as well as CDC documentation and examples regarding these changes.

Two new topics have been added to this year's release:

- Adults diagnosed with Chronic Obstructive Pulmonary Disease (Section 5.3)
- Adults diagnosed with a depressive disorder (Section 5.7)

Frequently Asked Questions
Changes to the Behavioral Risk Factor Surveillance System[1]

Q: What is the BRFSS?
A: The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys established by the Centers for Disease Control and Prevention (CDC) in 1984. BRFSS completes more than 400,000 adult interviews each year, with approximately 15,000 interviews in Massachusetts, making it the largest ongoing telephone-based health survey in the world.

BRFSS surveys a representative sample of adults in each state to obtain information on health risk behaviors, preventive health practices, and healthcare access primarily related to chronic disease and injury.

For most states, BRFSS is their only source of population-based health behavior data about chronic disease prevalence and behavioral risk factors.

Q: What are the changes that have been made to BRFSS?
A: Two changes have been made to BRFSS in order to ensure its data remains valid and accurately represents its target population of adults ≥18 years of age who do not live in institutional settings.

- The first change is including and then increasing the number of interview calls made to cellular telephone numbers.
- The second change is to replace the "post-stratification" weighting method with a more advanced method called "iterative proportional fitting," also sometimes called "raking."

Q: Why is it necessary to increase the number of survey calls to cell phone numbers?
A: During 2003—2009, the proportion of U.S. adults who lived in cell phone-only households increased by more than 700%, and this trend is continuing. CDC estimates that currently 3 in 10 U.S. households have only cellular phones.

These households increasingly were left out of the population that BRFSS seeks to characterize—adults 18 years of age or older who do not live in institutional settings. Cell-phone-only use is especially strong in younger age groups and among persons in certain racial and ethnic minority groups.

Because of differences in the characteristics of people living in households with or without landlines, all telephone surveys in the United States have had to adapt their methods in response to the significant increase in cell-phone-only households.

Q: Why is it necessary to adopt a different method of data weighting?
A: For the past several decades, BRFSS used a statistical weighting method called "post-stratification." However, the advent of easily accessible ultra-fast computer processors and networks has allowed the BRFSS to adopt an advanced weighting method called iterative proportional fitting, also known by its nickname, "raking."

Raking differs from post-stratification because it incorporates adjustor variables one at a time in an iterative process, rather than imposing weights for demographic subgroups in a single process. A principle advantage of raking is that it allows the use of many more adjustor variables than post stratification. Ultimately, this yields a more accurate weighting process and more accurate estimates of the prevalence of health-related behaviors. The use of raking allows for consideration of demographic variables such as education level, marital status, renter or owner status, and phone source, in addition to the standard age, gender, and race and ethnicity variables.

Q: What steps were taken to implement these BRFSS changes?
A: In 2004 a panel of national survey experts recommended that CDC make the two changes to ensure BRFSS data remained valid and useful. Beginning in 2006, how to best design and implement the changes went through an extensive development process with experts,

collaboration with the state BRFSS coordinators to pilot test the new methods, and training to ensure that state BRFSS coordinators understood the changes and the rationale for them. The changes were discussed at the annual BRFSS Conferences in 2007, 2008, 2009, 2010 and 2011; with CDC and state members of the BRFSS Working Group; at training sessions; and at meetings of NACCHO, APHA, CSTE, and the American Association of Polling and Opinion Research (AAPOR) in 2009, 2010, and 2011.

Q: How will these two changes affect each state's dataset?
A: Including cell phone interviews and using the new weighting method will, together, improve the BRFSS data. Specifically, the BRFSS will better represent lower-income and minority populations, as well as populations with lower levels of formal education. The size and direction of the effects will vary by state, the behavior under study, and other factors. Although generalizing is perilous because of this variability, it is likely that the methodology changes will result in somewhat higher prevalence estimates for behaviors more common among younger adults.

Q: When will we first see BRFSS data that reflects the two changes?
A: The first data reflecting the changes is the BRFSS 2011 dataset that CDC releases in August 2012.

Q: Can the 2010 BRFSS dataset be compared with 2011 dataset?
A: While it is always difficult to discern long-term trends by comparing one year to the next, such comparisons will be especially difficult to make for 2010 and 2011, given the change in BRFSS methods.

Changes in the 2011 data are likely to show indications of somewhat higher occurrences of risk behaviors common to younger adults and to certain racial or ethnic minority groups. Such effects will vary for each state survey. If a state has a large young-adult population, it might see estimates in certain categories, such as tobacco use, increase notably. CDC anticipates small increases for other health-risk indicators such as obesity, binge drinking, HIV, asthma, and health status.

Shifts in observed prevalence from 2010 to 2011 for BRFSS measures will likely reflect improved methods of measuring risk factors, rather than true trends in risk-factor prevalence.

Q: Where can I learn more about the BRFSS changes?
A: The BRFSS changes are discussed in detail in the June 8, 2012, *MMWR* Policy Note "*Potential Effects on Prevalence Estimates from Improvements in Weighting and Data Collection Methods—Behavioral Risk Factor Surveillance System, 2011"* which is available online at http://www.cdc.gov/mmwr/PDF/wk/mm6122.pdf.

INTRODUCTION

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

Each year, the BRFSS includes a core set of questions developed by the CDC. In 2011, 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 other 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 2011, 20,492 landline interviews and 1,836 cell phone interviews were completed among Massachusetts adults. To increase the number of respondents who belong to racial and/or ethnic minority groups, the cities of Boston, Brockton, Lowell, Lynn, New Bedford, Quincy, Springfield, and Worcester were oversampled.

ABOUT THIS RELEASE

This release summarizes selected results from the combined landline and cell phone portions of the 2011 Massachusetts BRFSS. Some of the key findings are discussed in the Summary of Results. In each section of the release, 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 release in the form of crude percentages.

In the Appendix of the release, tables are presented detailing age-adjusted percentages for 2011 indicators and their 95% confidence intervals. United States (US) median data for all participating states and territories for variables with comparable national data are presented for 2011 in a separate table. The *Healthy People 2020* objectives are presented separately as a new challenging goal for public health.

All percentages in this release are weighted (see definition in next section) to the total Massachusetts population in 2011.

An addendum included at the end of this release shows estimates for selected indicators for the years 2010 and 2011 as well as CDC documentation and examples regarding these changes.

TERMS, DEFINITIONS, AND STATISTICAL METHODOLOGY USED IN THIS RELEASE

Massachusetts BRFSS utilizes a **complex sample design**, which allows for the collection of more data with a smaller sample size while obtaining more information about different population subgroups.

This report presents data from the **combined sample—**both landline and cell phone-only respondents except where specifically noted. The combined sample contained 22,328 respondents.

- **The landline component** contained 20,492 respondents (91.8% of the combined sample). Massachusetts landline sample design included three versions (or "splits"), to allow for an increase in the number of optional modules and Massachusetts-added questions asked without an increase in the length of the survey:
  - Split 1 contained 6,760 respondents,
  - Split 2 contained 6,820 respondents,
  - Split 3 contained 6,912 respondents.
  - In order to obtain more information about minorities, cities of Boston, Brockton, Lowell, Lynn, New Bedford, Quincy, Springfield, and Worcester were oversampled.
- **The cell phone component** contained 1,836 respondents (8.2% of the combined sample). The cell phone sample was designed without splits or oversampled cities. This survey was shorter than the landline survey, consisting of the CDC core questions and only a few Massachusetts-added questions.
- Both the landline and cell phone questionnaires can be found at http://www.mass.gov/eohhs/consumer/community-health/brfss/surveys.html

The BRFSS data were **weighted** to represent the adult population of Massachusetts. Weighting makes the sample representative in two ways:

- It adjusts for 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 reduce bias from non-response, non-coverage of households without landline telephones and differential participation by sex, age, race/ethnicity, marital status, education, and owner/renter status.

All the weighting factors were multiplied together to get the final weight for each respondent so that the weighted BRFSS data represent the adult population of Massachusetts. Weights were produced for the combined (landline and cell phone) sample, for the entire landline sample, and for each of the three versions of the landline questionnaire.

The underlying **sample size (N)** in each cell of the presented tables is the number of people who answered "yes" or "no" to the corresponding question. The crude proportion is a weighted ratio of those who answered "yes" to the corresponding question versus all who responded to the question. Those who responded "don't know" or refused to respond to a question were excluded from the analysis of that question. The underlying size of the sample used to produce particular estimates varies depending on whether the data come from the combined land line and cell phone sample or from one of the sample splits through which some of the optional modules and Massachusetts-added questions were administered.

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

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

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

The US median was calculated for the estimates from all participating states, the District of Columbia, and territories for each respective indicator when available. The values were 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 release 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.[2]

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

We considered the difference between two percentages to be statistically significant (with 95% probability) if the 95% confidence intervals surrounding the two percentages do not overlap, which is a conservative estimation for determining statistical significance.[3] 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: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) use special equipment or require help from others to get around. This definition is consistent with CDC criteria but **differs from the definition used in previous years’ reports.** Massachusetts historically has used more stringent criteria, requiring that the disability has persisted for at least one year. The question relating to duration of disability is state-added and was not asked on the cell phone survey.

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

Healthy People 2020 Objectives*:* *Healthy People 2020: National Health Promotion and Disease Prevention Objectives* is a national agenda that aims to significantly improve the health of Americans in the decade preceding the year 2020. Developed through an extensive governmental, professional, and public national process, Healthy People 2020 defined four overarching national goals to: attain high-quality, longer lives free of preventable disease, disability, injury, and premature death; achieve health equity, eliminate disparities, and improve the health of all groups; create social and physical environments that promote good health for all; and promote quality of life, healthy development, and healthy behaviors across all life stages. These goals are organized into 41 Objective Topic Areas, and each area contains specific numeric national targets for the year 2020.[4] For each health status indicator in this release that has a corresponding Healthy People 2020 Objective, the year 2020 target is shown in the summary table at the end of the document.

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

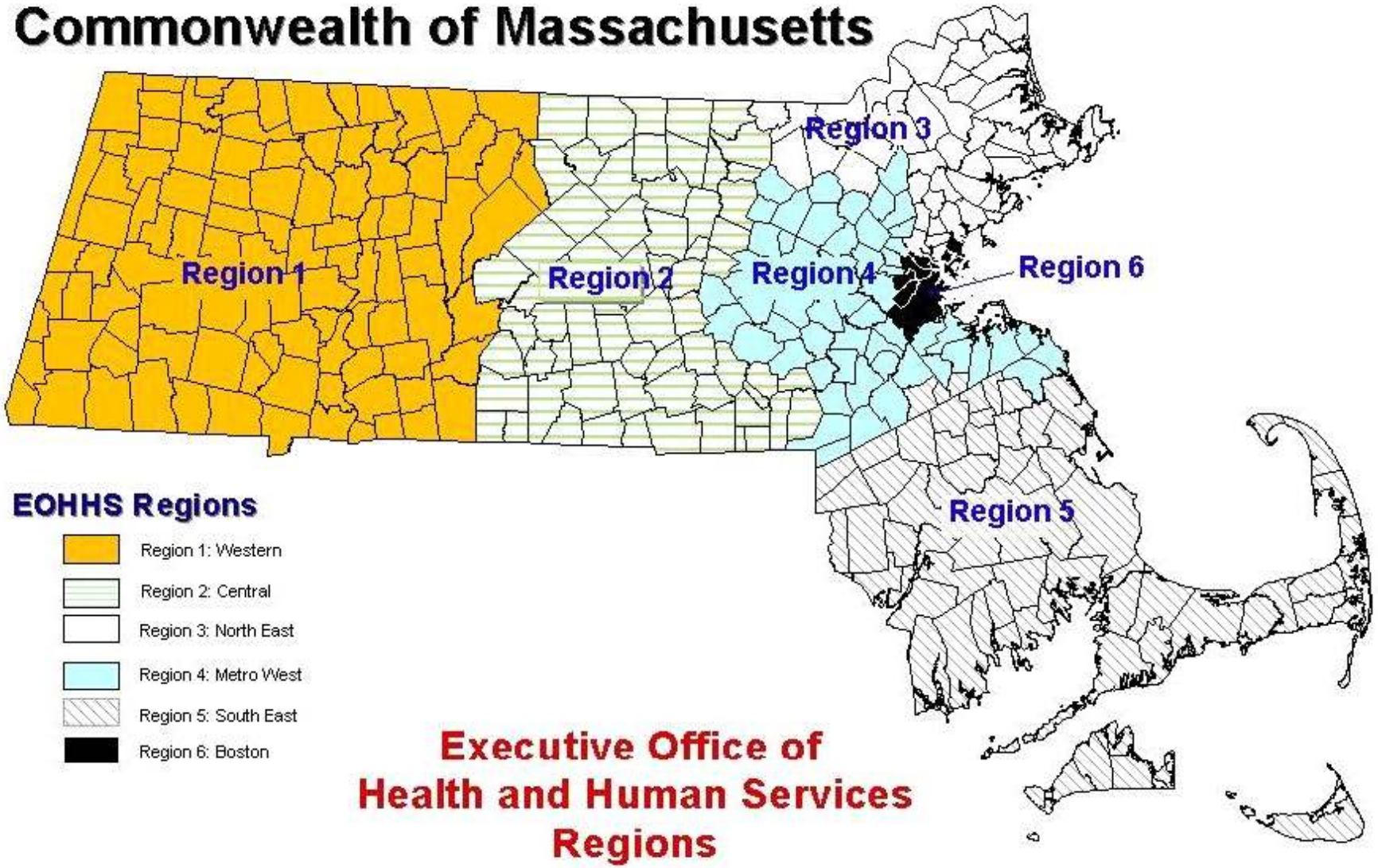
MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011

	UNWEIGHTED SAMPLE SIZE N	WEIGHTED PERCENT %†
OVERALL	22,328	100
GENDER		
MALE	8,479	47.9
FEMALE	13,849	52.1
AGE GROUP		
18–24	808	12.8
25–34	2,190	16.7
35–44	3,147	17.5
45–54	4,481	19.7
55–64	4,853	15.0
65–74	3,469	9.4
75 AND OLDER	2,970	8.7
RACE-ETHNICITY*		
WHITE	17,927	81.9
BLACK	1,408	5.4
HISPANIC	1,725	8.1
ASIAN	462	4.6
DISABILITY¶		
DISABILITY	5,772	23.0
NO DISABILITY	14,522	77.0
EDUCATION		
< HIGH SCHOOL	1,820	11.3
HIGH SCHOOL	5,743	27.0
COLLEGE 1–3 YRS	5,242	26.3
COLLEGE 4+ YRS	9,346	35.4
HOUSEHOLD INCOME		
<$25,000	5,175	24.0
$25,000–34,999	1,966	10.0
$35,000–49,999	2,502	13.4
$50,000–74,999	2,743	15.4
$75,000+	6,260	37.1
REGION		
I–WESTERN	2,981	15.7
II–CENTRAL	2,824	15.3
III–NORTH EAST	5,129	18.2
IV–METRO WEST	3,208	20.7
V–SOUTH EAST	5,359	20.5
VI–BOSTON	2,271	9.6

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

† See BRFSS methodology in "Terms, Definitions and Methodology Used in this Release"

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*


Commonwealth of Massachusetts
Region 1
Region 2
Region 3
Region 4
Region 5
Region 6
EOHHS Regions
Region 1: Western
Region 2: Central
Region 3: North East
Region 4: Metro West
Region 5: South East
Region 6: Boston
Executive Office of
Health and Human Services
Regions

SUMMARY OF RESULTS

The 2011 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 in order to examine potential disparities in health status and access to health care among these groups. A selected list of **statistically significant** results for these groups is presented below.

Note: Data presented in this release refer to the combined sample of landline and cell phone users unless noted otherwise.

SEX

Description of overall health:

- Females were more likely than males to report 15 or more days of poor physical health (11% vs. 8%) or 15 or more days of poor mental health (12% vs. 9%) in the past month.
- Females were more likely (25%) than males (21%) to report having any disability.
- Females were more likely than males to report ever experiencing sexual violence (20% vs. 5%).

See tables 1.2, 1.3 and 6.3.

Health care access and utilization:

- Females were less likely (3%) than males (6%) to report that they had no health insurance, were more likely (92%) than males (84%) to report having a personal health care provider, and were more likely (83%) than males (74%) to report that they had had a routine checkup in the past year.

See tables 2.1 and 2.2.

Health risk factors:

- Females (1%) were less likely than males (3%) to report using smokeless tobacco, were less likely than males (34% vs. 43%) to report that they were exposed to environmental tobacco smoke, were less likely than males to report engaging in binge drinking (16% vs. 25%), and were less likely to report being overweight (51% vs. 68%).

See tables 3.1, 3.3, 3.4, and 3.5.

Prevention measures:

- Females were less likely (28%) than males (36%) to report meeting recommendations for muscle strengthening activity.
- Females were more likely than males to report consuming 5 or more servings of fruits and vegetables daily (23% vs. 15%)
- Females were more likely (85%) than males (82%) to report having their cholesterol checked in the past five years.
- Females (28%) were less likely than males (31%) to report high blood pressure, but among those with high blood pressure, females were more likely (83%) than males (71%) to report taking medication to control their blood pressure.
- Females age 18-49 were more likely to have received a flu vaccination in the past year (39%) than males in the same age group (32%)
- Females ages 65 and older were more likely (75%) than males in the same age group (68%) to have ever received a pneumonia vaccination.
- Females were more likely than males to have ever received the Hepatitis B vaccine series (40% vs. 33%).

- Females ages 50 and older were more likely than males in the same age group to have ever received the shingles vaccine (12% vs. 9%).
- Females (85%) were more likely than males (74%) to report always wearing a seatbelt when driving or riding in a car.

See tables 3.6, 3.7, 3.8, 3.9, 4.1.1, 4.1.3, 4.3, 4.5, and 6.4.

Chronic health conditions:

- Females were more likely (13%) than males (8%) to report that they currently have asthma and to report ever being diagnosed with asthma (18% vs. 13%).
- Females were more likely than males to have ever been diagnosed with COPD (7% vs. 5%).
- Females were more likely than males to have ever been diagnosed with arthritis (27% vs. 20%).
- Females were more likely than males to have ever been diagnosed with cancer (12% vs. 9%).
- Females were more likely than males to have ever been diagnosed with depression (20% vs. 14%).
- Males were more likely than females to report that they had ever experienced a heart attack (7% vs. 3%) or angina (7% vs. 4%).

See tables 5.2, 5.3, 5.4.1, 5.5, 5.6 and 5.7.

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. Some preventive health measures are recommended for people ages 50 and over and therefore the variables dealing with these activities address only prevalence among the adult population in those age groups. Questions about certain health indicators were not asked of respondents 65 years and older; in these cases, comparisons were made between the two younger age groups.

Description of overall health:

Adults ages 18-34 were:

- Less likely (8%) to report that their health was fair or poor than adults ages 35-64 (14%) or adults ages 65 and older (24%)
- Less likely to experience 15 or more days of poor physical health in the past month (4%) than adults ages 35-64 (11%) or adults ages 65 and older (15%).

Adults ages 65 and older were:

- More likely to report a disability (36%) than were adults ages 18-34 (13%) or adults ages 35-64 (24%).

See tables 1.1, 1.2 and 1.3.

Health care access and utilization:

Adults ages 18-34 were:

- Less likely to report having a personal health care provider (77%) than adults ages 35-64 (92%) or adults ages 65 and older (96%).
- More likely to report not being able to see a doctor at some point in the past year due to cost (12%) than adults ages 65 and older (3%).
- Less likely to report having a routine checkup in the past year (69%) than adults ages 35-64 (80%) or adults ages 65 and older (93%).

See table 2.2.

Health risk factors:

Adults ages 18-34 were:

- More likely to report current smoking (25%) than adults ages 35-64 (18%) or adults ages 65 or older (9%).
- More likely to use smokeless tobacco (3%) than adults in any other age group.
- More likely to report exposure to environmental tobacco smoke (55%) than adults ages 35-64 (35%) or adults ages 65 or older (21%), and were less likely to report living in a home where smoking is not allowed (76%) than adults ages 35-64 (82%) or adults ages 65 and older (84%).
- More likely to report heavy drinking (11%) and binge drinking (35%) than adults ages 35-64 (7% heavy drinking, 18% binge drinking) or adults ages 65 and older (6% heavy drinking, 5% binge drinking).
- Less likely to be obese (17%) than adults ages 35-64 (27%) or adults ages 65 and older (23%).
- Less likely to report having high cholesterol (13%) than adults ages 35-64 (36%) or adults ages 65 and older (52%).
- Less likely to report always wearing a seatbelt when driving or riding in an automobile (73%) than adults ages 35-64 (82%) or adults ages 65 and older (84%).

See tables 3.1, 3.3, 3.4, 3.5, 3.8 and 6.4.

Prevention measures:

Adults ages 18-34 were:

- More likely to meet recommendations for muscle strengthening activity (40%) than adults ages 35-64 (30%) or adults ages 65 and older (25%).
- More likely to report receiving the Hepatitis B vaccine series (59%) than adults ages 35-64 (33%) or adults ages 65 and older (13%).
- More likely to report having received a tetanus shot in the past ten years (85%) than adults ages 35-64 (77%) or adults ages 65 and older (64%).
- More than three times as likely as adults ages 35-64 to have been tested for HIV in the past year (20% vs. 6%).

Adults ages 65 and older were:

- More likely to report ever receiving the shingles vaccine (20%) than adults ages 50-64 (5%)

See tables 3.6, 4.3, 4.4, 4.5, and 6.2.

Chronic health conditions:

Adults ages 18-34 were:

- More likely to report that they had ever been diagnosed with asthma (20%) and that they still have asthma (12%) than adults ages 65 and older (12% ever diagnosed, 8% current).
- More likely to report that they had ever been diagnosed with depression (18%) than adults ages 65 and older (12%).

Adults ages 65 and older were:

- More likely to report having high blood pressure (60%) than adults ages 18-34 (10%) or adults ages 35-64 (29%).
- More likely to report ever having been diagnosed with pre-diabetes (11%) or diabetes (18%) than adults ages 35-64 (6% pre-diabetes, 8% diabetes) or adults ages 18-34 (3% pre-diabetes, 2% diabetes).
- More likely to have been diagnosed with COPD (13%) than adults ages 18-34 (2%) or adults ages 35-64 (6%).
- More likely to have been diagnosed with a heart attack (11%), angina (12%), or a stroke (8%) than adults ages 35-64 (3% for both heart attack and angina, 2% for stroke).
- More likely to have been diagnosed with arthritis (51%) or have limitations due to arthritis (21%) than adults ages 18-34 (5% arthritis, 2% limitations) or adults ages 35-64 (25% arthritis, 12% limitations).
- More likely to report that they had ever been diagnosed with any type of cancer (30%) than adults ages 18-34 (2%) or adults ages 35-64 (10%).

See tables 3.9, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6 and 5.7.

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 and are presented in the Appendix (pp 95-104) (See p.9 for more details about the age adjustment). This does not include some preventive measure indicators where the age ranges were restricted.

Description of overall health:

- Hispanic adults (33%) and Black adults (20%) were more likely to report fair or poor health than White adults (12%) or Asian adults (10%).
- Hispanic adults were more likely than White adults to report poor physical health (15% vs. 9%) and poor mental health (14% vs. 11%)
- Hispanic women (13%) were less likely to report ever experiencing sexual violence than White women (21%).

See appendix for age-adjusted tables.

Health care access and utilization:

- Black adults (82%) and Hispanic adults (79%) were less likely to have a personal health care provider than White adults (90%).
- Hispanic adults (17%) and Black adults (17%) were more likely to report not being able to see a doctor at some point in the past year due to cost than White adults (9%) and Asian adults (5%).

See appendix for age-adjusted tables.

Health risk factors:

- White adults were more likely to report binge drinking (24%) than either Black adults (15%) or Hispanic adults (15%). Asian adults were the least likely of all racial/ethnic groups to report binge drinking (7%).
- Black (69%) and Hispanic (69%) adults were more likely to report being overweight than White (58%) adults. Asian adults were the least likely of all racial/ethnic groups to report being overweight (36%).
- Black (33%) and Hispanic (33%) adults were more likely to report being obese than White (22%) adults. Asian adults were the least likely of all racial/ethnic groups to report being obese (6%).
- Hispanic adults (73%) were less likely than White adults (84%) or Black adults (80%) to have had cholesterol checked in the past five years.

See appendix for age-adjusted tables.

Prevention measures:

- Hispanic adults (44%) were less likely than White adults (58%), Black adults (54%) or Asian adults (56%) to have met recommendations for aerobic activity in the past month.
- Of those ages 65 and older, Black adults (47%) were less likely to report having had the flu vaccine in the past year than White adults (68%); in addition, Black (47%) 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 (74%).
- Black adults (44%) and Asian adults (55%) were more likely than White adults (37%) to have received the Hepatitis B vaccine series.
- White adults (79%) were more likely than Black adults (73%) or Hispanic adults (69%) to report that they had received a tetanus vaccine in the past ten years.
- White adults (45%) and Asian adults (30%) were less likely than Black adults (70%) and Hispanic adults (64%) to report ever having had an HIV test and White adults (10%) and

Asian adults (5%) were also less likely than Black adults (27%) or Hispanic adults (20%) to report that they had been tested for HIV in the past year.

See appendix and tables 4.1.2 and 4.1.3.

Chronic health conditions:

- Black adults (37%) were more likely than White adults (27%) or Asian adults (19%) to report that they had been diagnosed with high blood pressure.
- Black adults (13%) and Hispanic adults (14%) were more likely than White adults (7%) to report that they had ever been diagnosed with diabetes.
- Hispanic adults (21%) were more likely than White adults (16%) or Asian adults (8%) to report that they had ever been diagnosed with asthma.
- Asian adults (10%) were less likely than White adults (22%), Black adults (21%) or Hispanic adults (25%) to report that they had been diagnosed with arthritis.
- Hispanic adults (15%) were more likely to report having limitations due to arthritis than White adults (9%).
- White adults (11%) were more likely than Black adults (7%) or Hispanic adults (7%) to report that they had ever been diagnosed with cancer.
- White adults (17%) and Hispanic adults (21%) were more likely than Black adults (13%) or Asian adults (10%) to report that they had ever been diagnosed with depression.

See appendix for age-adjusted tables.

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: (1) impairment or health problem that limited activities or caused cognitive difficulties or (2) used special equipment or required help from others to get around.

Description of overall health:

Adults with a disability were:

- Over five times as likely to report fair or poor health (38%) as adults without a disability (7%).
- More than three times as likely to report 15 or more days of poor mental health in the past month (22%) as adults without a disability (7%).
- Ten times as likely to report 15 or more days of poor physical health in the past month (31%) as adults without a disability (3%).

See tables 1.1 and 1.2.

Health care access and utilization

Adults with a disability were:

- More likely to report having a personal health care provider than adults without a disability (93% vs. 87%).
- More likely to report having a routine checkup in the past year (84%) than adults without a disability (78%).
- More likely than adults without a disability to report not being able to see a doctor at some point in the past year due to cost (14% vs. 8%).

See table 2.2.

Health risk factors:

Adults with a disability were:

- More likely (24%) to report being current smokers than adults without a disability (16%) and less likely to report living in a household where smoking is not allowed (74%) than adults without a disability (83%)

- Less likely to report binge drinking (14%) or heavy drinking (6%) than adults without a disability (23% binge drinking, 9% heavy drinking).
- More likely to be overweight (67%) or obese (34%) than adults without a disability (57% overweight, 20% obese)
- More likely to report having high cholesterol (47%) than adults without a disability (31%).

See tables 3.1, 3.3, 3.4, 3.5, and 3.8.

Prevention measures:

- Adults with a disability were less likely to report meeting recommendations for aerobic activity (45%) or meeting recommendations for muscle strengthening activity (26%) than adults without a disability (59% aerobic, 34% muscle strengthening).
- Adults with a disability (43%) were more likely than adults without a disability (25%) to report high blood pressure; among those with high blood pressure, adults with a disability were more likely (85%) than adults without a disability (73%) to report taking medication to control their blood pressure.
- Among adults 50-64 years of age, those with a disability were more likely to report receiving a flu shot in the past year (55%) than those without a disability (46%).
- Among those 65 years of age and older, those with a disability were more likely to report ever having received a pneumonia vaccination (78%) than those without a disability (69%).
- Adults with a disability were less likely to have received the Hepatitis B vaccine series than those without a disability (33% vs. 38%)
- Adults 18-64 years of age with a disability were more likely to report ever having been tested for HIV (53%) than those without a disability (44%).

See table 3.6, 3.9, 4.1.1, 4.1.3, 4.3 and 6.2.

Chronic health conditions:

Adults with a disability were:

- More likely (9%) to report being diagnosed with pre-diabetes than adults without a disability (5%) and almost three times as likely (16%) to report being diagnosed with diabetes as adults without a disability (6%)
- Twice as likely to report ever being diagnosed with asthma (25%) as adults without a disability (13%) and more than twice as likely (19%) as adults without a disability (8%) to report that they currently have asthma
- Five times as likely as adults without a disability to report ever having been diagnosed with COPD (15% vs. 3%).
- Three times as likely to report that they had ever experienced a heart attack or been diagnosed with angina or CHD (11%) as people without a disability (3%) and approximately four times as likely (7%) as adults without a disability (2%) to report that they had ever experienced a stroke.
- More than three times as likely to report ever having been diagnosed with arthritis as adults without a disability (54% vs. 15%) and ten times as likely to report limitations due to arthritis (37% vs. 4%).
- Twice as likely to report ever being diagnosed with cancer (18%) as those without a disability (9%)
- Nearly three times as likely to report ever being diagnosed with depression (33%) as adults without a disability (12%)

See tables 5.1, 5.2, 5.3, 5.4, 5.5, 5.6 and 5.7.

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”) as these show the greatest differences.

Description of overall health:

- Adults with less than a high school education reported the highest percentage (35%) of fair or poor health among adults at any educational level.
- Adults with less than a high school education were nearly four times as likely (21%) to report poor physical health as those with four or more years of college education (5%) and were three times more likely (18%) than adults with four or more years of college education (6%) to report 15 or more days of poor mental health in the past month.
- Adults with less than a high school education were more likely to report having a disability (35%) than adults with four or more years of college education (18%).

See tables 1.1, 1.2 and 1.3.

Health care access and utilization:

Adults with less than a high school education were:

- More likely than adults at any other educational level to report not having health insurance (9%).
- Less likely to report having a personal health care provider (80%) than adults with four or more years of college education (91%).
- More likely to report not being able to see a doctor at some point in the past year due to cost (17%) than adults with four or more years of college education (5%).

See tables 2.1 and 2.2.

Health risk factors:

Adults with less than a high school education were:

- More likely than adults with four or more years of college education to report current smoking (30% vs. 7%), less likely to live in a household where smoking is not allowed (73% vs. 89%), and more likely than adults with four or more years of college education to report being exposed to environmental tobacco smoke (42% vs. 31%).
- Less likely to report binge drinking (15%) than adults with four or more years of college education (22%)
- More likely to report being overweight (63%) or obese (31%) than adults with four or more years of college education (54% overweight, 17% obese).
- Less likely than adults with four or more years of college education to report having their cholesterol checked within the past five years (73% vs. 88%), but more likely to have been told their cholesterol was high (42% vs. 31%).

See tables 3.1, 3.3, 3.4, 3.5, and 3.8.

Prevention measures:

Adults with less than a high school education were:

- Less likely than adults with four or more years of college education to report meeting recommendations for aerobic activity (42% vs. 64%) or muscle strengthening activity (22% vs. 39%).
- Less likely (16%) than adults with four or more years of college education (23%) to report consuming five or more servings of fruits and vegetables daily.
- Only half as likely as adults with four or more years of college education to report having received the Hepatitis B vaccine series (22% vs. 44%).
- Less likely than adults with four or more years of college education to report having received a tetanus vaccine in the past ten years (69% vs. 80%).
- More likely (53%) to report ever having been tested for HIV than adults with 4 or more years of college education (45%).
- Among those aged 50 and older, adults with less than a high school education were less likely (6%) than adults with 4 or more years of college education (13%) to report ever having received a shingles vaccine.

See tables 3.6, 3.7, 4.3, 4.4, 4.5 and 6.2.

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

- More likely to report current asthma (15%), COPD (12%) and diabetes (14%) than those with 4 or more years of college education (9% for asthma, 3% for COPD, 5% for diabetes)
- More likely to report having been diagnosed with high blood pressure (37%), having experienced a heart attack (9%) or having had a stroke (7%) than those with 4 or more years of college education (22% for high blood pressure 3% for heart attack, 2% for stroke).
- More likely to report being diagnosed with arthritis (32%) and having limitations due to arthritis (18%) than those with 4 or more years of college education (17% for diagnosis, 7% for limitations)
- More than twice as likely as those with 4 or more years of college education to have ever been diagnosed with depression (27% vs. 13%)

See tables 3.9, 5.1, 5.2, 5.3, 5.4, 5.5, and 5.7.

HOUSEHOLD INCOME

Household income is a sensitive topic among survey respondents; approximately **16%** of respondents to the 2011 survey refused to answer questions about their household income levels. Thus, caution should be exercised when interpreting results based on income level. Results for the lowest level of household income ("less than $25,000") and the highest level of household income ("$75,000 or higher") are presented below; more detailed figures are contained in the tables in the report.

Description of overall health:
Adults with a household income less than $25,000 per year were:

- Almost six times more likely to report fair or poor health status (29%) than adults with a household income of $75,000 or higher (5%).
- More than four times as likely to report 15 or more days of poor physical health in the past month than adults with a household income of $75,000 or higher (19% vs. 4%).
- Three times more likely to report 15 or more days of poor mental health in the past month than adults with a household income of $75,000 or higher (19% vs. 5%).
- More likely to report having a disability (37%) than adults with a household income of $75,000 or higher (16%).

See tables 1.1, 1.2, and 1.3.

Health care access and utilization
Adults with a household income less than $25,000 per year were:

- More likely than adults with a household income of $75,000 or higher to report not having health insurance (8% vs. 2%).
- Less likely to have a personal health care provider (82%) than adults with a household income of $75,000 or higher (93%).
- More likely than adults with a household income of $75,000 or higher to report not being able to see a doctor at some point in the past year due to cost (17% vs. 4%).

See tables 2.1 and 2.2.

Health risk factors:
Adults with a household income less than $25,000 per year were:

- More likely to report being current smokers (29%) and exposure to environmental tobacco smoke (42%) than adults with a household income of $75,000 or higher (10% for current smoking, 33% for environmental tobacco smoke)
- Less likely to report living in a household where smoking is not allowed (71%) than adults with a household income of $75,000 or higher (89%).

- Less likely to report engaging in binge drinking (18%) than adults with a household income of $75,000 or higher (24%).
- More likely to be obese (27%) than those with an annual household income of more than $75,000 (19%)
- Less likely than adults with a household income of $75,000 or higher to report having their cholesterol checked within the past five years (76% vs. 90%), but more likely to have been told their cholesterol was high (39% vs. 30%).

See tables 3.1, 3.3, 3.4, 3.5 and 3.8.

Prevention measures:

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

- Less likely than adults with a household income of $75,000 or higher to report meeting recommendations for aerobic (48% vs. 64%) or muscle strengthening activity (26% vs. 37%).
- Less likely than adults with a household income of $75,000 or higher to report consuming five or more servings of fruits and vegetables daily (16% vs. 22%).
- More likely to report ever having been tested for HIV (57%) and being tested for HIV within the past year (19%) than adults with a household income of $75,000 or higher (43% for ever tested, 7% for tested in past year)
- Less likely to report always wearing a seatbelt when driving or riding in a car than adults with a household income of $75,000 or higher (74% vs. 85%)
- Among adults ages 18-49, those with a household income less than $25,000 per year were less likely to report receiving a flu vaccine in the past year than those with a household income of $75,000 or higher (31% vs. 43%)
- Adults with a household income less than $25,000 per year were less likely to report ever receiving the Hepatitis B vaccine series (36%) and receiving a tetanus vaccine in the past ten years (71%) than adults with a household income of $75,000 or higher (42% for Hepatitis B, 81% for tetanus)

See tables 3.6, 3.7, 4.1.1, 4.3, 4.4, 6.2 and 6.4.

Chronic health conditions:

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

- More likely to report having been diagnosed with high blood pressure (36%) than adults with a household income of $75,000 or higher (22%).
- More than twice as likely to report having been diagnosed with diabetes (12%) as adults with a household income of $75,000 or higher (5%).
- More likely to report having current asthma (16%) and COPD (11%) than adults with a household income of $75,000 or higher (8% for asthma, 2% for COPD)
- Approximately four times as likely to report that they had experienced a heart attack (9%) or angina (9%) as adults with an income of $75,000 or above (2% for heart attack, 3% for angina)
- More likely to report having a stroke (7%) than adults in higher income groups.
- Nearly twice as likely to report a diagnosis of arthritis (32%) as adults with a household income of $75,000 or higher (16%) and were three times more likely than adults with a household income of $75,000 or higher to report having activity limitations due to arthritis (18% vs. 6%).
- More likely to report ever being diagnosed with depression (27%) than adults in any other income group.

See tables 3.9, 5.1, 5.2, 5.3, 5.4, 5.5 and 5.7.

REGION

There were some regional differences in response to questions asked on the 2011 BRFSS. Below are some of the statistically significant differences among EOHHS regions.

Description of overall health:

- Metro West residents were the least likely to report fair or poor health (9%) as compared to residents in any other region of the state.

See table 1.1.

Health care access and utilization

- Those living in the Metro West region were the least likely to report not having health insurance (2%) as compared to residents in any other region of the state.

See table 2.1.

Health risk factors:

- Those living in the Metro West region were less likely to report being a current smoker (13%) than residents in any other region of the state.

See table 3.1.

Prevention measures:

- Adults living in Boston were more likely to report having been tested for HIV in the past year (17%) than adults living in any other region in the state.
- Among adults aged 50 and older, those living in the Metro West region were more likely to report ever having received the shingles vaccine (15%) than those living in any other region.

See table 6.2, 4.5.

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.[5] General health status is useful in determining unmet health needs, identifying disparities among subpopulations, and characterizing the burden of chronic diseases within a population.[6]

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, 2011

	FAIR OR POOR HEALTH		
	N	%	95% CI
OVERALL	22,253	14.0	13.3 - 14.8
GENDER			
MALE	8,448	13.9	12.7 - 15.0
FEMALE	13,805	14.2	13.3 - 15.1
AGE GROUP			
18–24	807	7.1	4.8 - 9.4
25–34	2,186	8.1	6.3 - 9.8
35–44	3,146	10.8	8.9 - 12.6
45–54	4,467	12.9	11.4 - 14.3
55–64	4,833	19.3	17.6 - 21.0
65–74	3,457	22.7	20.5 - 24.8
75 AND OLDER	2,951	26.9	24.4 - 29.4
RACE-ETHNICITY*			
WHITE	17,880	12.5	11.8 - 13.3
BLACK	1,398	17.9	14.5 - 21.3
HISPANIC	1,718	27.3	23.8 - 30.8
ASIAN	461	7.9	4.2 - 11.6
DISABILITY¶			
DISABILITY	5,747	37.8	35.7 - 39.9
NO DISABILITY	14,486	6.7	6.1 - 7.4
EDUCATION			
< HIGH SCHOOL	1,802	34.8	31.2 - 38.5
HIGH SCHOOL	5,724	17.7	16.2 - 19.3
COLLEGE 1–3 YRS	5,224	12.0	10.8 - 13.3
COLLEGE 4+ YRS	9,328	6.0	5.3 - 6.7
HOUSEHOLD INCOME			
<$25,000	5,151	29.0	26.8 - 31.1
$25,000–34,999	1,962	19.1	16.2 - 22.1
$35,000–49,999	2,495	11.8	9.9 - 13.7
$50,000–74,999	2,741	7.3	5.9 - 8.7
$75,000+	6,252	4.7	3.9 - 5.5
REGION			
I–WESTERN	2,970	16.6	14.7 - 18.5
II–CENTRAL	2,808	15.0	13.0 - 17.0
III–NORTH EAST	5,110	13.3	11.6 - 14.9
IV–METRO WEST	3,203	9.2	7.9 - 10.6
V–SOUTH EAST	5,348	15.9	14.1 - 17.6
VI–BOSTON	2,260	16.0	13.5 - 18.5

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 1.2: Quality of Life

A person's perceived physical and mental health is used to measure the effects of numerous disorders, short- and long-term disabilities, and diseases. An overarching goal of *Healthy People 2020* is to promote quality of life, healthy development, and healthy behaviors across all life stages.[4] Perceived quality of life can help guide public health policies and interventions to improve health and fulfill unmet health needs.[7]

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

(1) they had experienced at least 15 days of poor physical health in the previous month;
(2) their mental health was not good for at least 15 days during the past month.

TABLE 1.2 – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2011

	15+ DAYS OF POOR PHYSICAL HEALTH			15+ DAYS OF POOR MENTAL HEALTH		
	N	%	95% CI	N	%	95% CI
OVERALL	21,752	9.7	9.1 - 10.4	21,749	10.4	9.7 - 11.1
GENDER						
MALE	8,292	8.4	7.6 - 9.3	8,262	9.0	8.0 - 10.0
FEMALE	13,460	10.9	10.1 - 11.8	13,487	11.7	10.7 - 12.6
AGE GROUP						
18–24	787	3.6	1.8 - 5.4	798	10.7	7.9 - 13.5
25–34	2,156	4.8	3.4 - 6.1	2,147	9.5	7.6 - 11.3
35–44	3,093	8.8	7.1 - 10.6	3,095	12.4	10.4 - 14.3
45–54	4,411	10.9	9.5 - 12.3	4,393	12.3	10.9 - 13.7
55–64	4,734	13.2	11.8 - 14.7	4,697	11.1	9.7 - 12.4
65–74	3,370	15.1	13.2 - 17.0	3,374	7.9	6.5 - 9.3
75 AND OLDER	2,814	15.5	13.5 - 17.6	2,863	5.3	4.1 - 6.4
RACE-ETHNICITY*						
WHITE	17,495	9.7	9.0 - 10.4	17,486	10.5	9.7 - 11.3
BLACK	1,356	9.1	6.4 - 11.7	1,368	10.2	7.7 - 12.8
HISPANIC	1,676	12.6	10.1 - 15.1	1,665	12.8	10.2 - 15.4
ASIAN	453	2.5	1.2 - 3.9	†		.
DISABILITY¶						
DISABILITY	5,570	31.2	29.2 - 33.2	5,587	22.4	20.6 - 24.3
NO DISABILITY	14,248	3.2	2.7 - 3.7	14,225	6.7	6.0 - 7.4
EDUCATION						
< HIGH SCHOOL	1,729	20.9	17.8 - 24.1	1,739	18.2	15.0 - 21.4
HIGH SCHOOL	5,551	11.3	10.0 - 12.7	5,557	12.0	10.6 - 13.4
COLLEGE 1–3 YRS	5,124	9.6	8.5 - 10.7	5,107	11.8	10.4 - 13.2
COLLEGE 4+ YRS	9,178	5.2	4.5 - 5.8	9,178	5.7	5.0 - 6.4
HOUSEHOLD INCOME						
<$25,000	5,008	18.8	17.0 - 20.6	5,010	18.5	16.6 - 20.4
$25,000–34,999	1,915	12.0	9.6 - 14.4	1,917	11.4	9.1 - 13.8
$35,000–49,999	2,446	8.1	6.4 - 9.8	2,456	10.1	8.1 - 12.1
$50,000–74,999	2,706	6.7	5.2 - 8.1	2,699	8.8	6.9 - 10.8
$75,000+	6,182	4.4	3.7 - 5.1	6,165	5.4	4.6 - 6.3
REGION						
I–WESTERN	2,900	12.3	10.6 - 14.1	2,894	11.5	9.7 - 13.3
II–CENTRAL	2,746	9.8	8.1 - 11.5	2,755	10.4	8.5 - 12.3
III–NORTH EAST	5,007	8.2	7.0 - 9.3	4,983	10.2	8.6 - 11.9
IV–METRO WEST	3,144	7.2	6.0 - 8.3	3,143	7.7	6.3 - 9.1
V–SOUTH EAST	5,218	11.9	10.3 - 13.6	5,216	11.6	10.0 - 13.2
VI–BOSTON	2,197	9.3	7.4 - 11.3	2,218	11.7	9.6 - 13.8

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

† Insufficient Data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 1.3: Disability

According to the Census Bureau, in 2005, 54.4 million people (18.7% of the population) had some level of disability and 34.9 million (12% of the population) had a severe disability.[8] A major goal for *Healthy People 2020* is to promote the health and well-being of people with disabilities.[4]

In 2011, respondents to the Massachusetts BRFSS were asked about disabilities and activity limitations. Respondents were classified as having a disability if they answered "yes" to one or both of the following questions:

1. Are you limited in any way in any activities because of physical, mental, or emotional problems?

2. Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?

Please note that this differs from the definition used in previous years' reports in that there is no time restriction on the duration of the disability. This change in definition results in a slight increase in prevalence estimates. *See p.10 for a more detailed explanation.*

TABLE 1.3 – DISABILITY AMONG MASSACHUSETTS ADULTS, 2011

	HAVE DISABILITY¶		
	N	%	95% CI
OVERALL	20,294	23.1	22.2 - 24.0
GENDER			
MALE	7,721	21.4	20.0 - 22.8
FEMALE	12,573	24.7	23.4 - 25.9
AGE GROUP			
18–24	728	11.5	8.5 - 14.5
25–34	1,976	14.3	12.0 - 16.5
35–44	2,846	17.2	15.0 - 19.3
45–54	4,106	24.4	22.4 - 26.3
55–64	4,490	31.5	29.4 - 33.6
65–74	3,212	31.9	29.5 - 34.4
75 AND OLDER	2,616	41.1	38.1 - 44.0
RACE-ETHNICITY*			
WHITE	16,445	23.8	22.8 - 24.8
BLACK	1,230	20.4	16.8 - 23.9
HISPANIC	1,522	21.6	18.3 - 25.0
ASIAN	402	9.8	5.6 - 14.0
EDUCATION			
< HIGH SCHOOL	1,597	34.7	30.8 - 38.5
HIGH SCHOOL	5,105	25.4	23.5 - 27.4
COLLEGE 1–3 YRS	4,825	23.2	21.4 - 25.0
COLLEGE 4+ YRS	8,706	17.9	16.8 - 19.0
HOUSEHOLD INCOME			
<$25,000	4,691	36.7	34.3 - 39.1
$25,000–34,999	1,820	25.8	22.5 - 29.1
$35,000–49,999	2,332	20.4	17.9 - 23.0
$50,000–74,999	2,573	19.3	17.0 - 21.6
$75,000+	5,905	15.6	14.2 - 17.0
REGION			
I–WESTERN	2,751	26.5	24.1 - 29.0
II–CENTRAL	2,611	23.6	21.0 - 26.2
III–NORTH EAST	4,695	21.9	19.9 - 24.0
IV–METRO WEST	2,999	20.5	18.6 - 22.4
V–SOUTH EAST	4,947	25.7	23.6 - 27.9
VI–BOSTON	2,081	20.2	17.5 - 22.8

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

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.[9] [10] The Massachusetts Division of Health Care Finance and Policy reported in December 2010 that 2.9% of non-elderly adults age 19-64 remained uninsured.[11]

Massachusetts historically adds state questions to the CDC basic question of whether the respondents had any type of health care coverage at the time of the interview. Given the methodological changes in 2011(see FAQ) and some inconsistencies with previous years' state-added insurance-related questions, the estimates presented in Table 2.1 reflect the 2011 data with an adjustment for MA state-added questions based upon analysis of developmental datasets* for 2009 and 2010. This was done to provide more consistent Massachusetts-specific information about those with no health insurance in 2011.

Presented here are the percentages of adults who reported that they had no health insurance in 2011.

*Developmental datasets for 2009 and 2010 were provided to states by the CDC. These "developmental" datasets contained data from both landline and cell phone respondents and utilized the new weighting methodology. These datasets were considered "developmental" as the methodology was being finalized.

TABLE 2.1 – HEALTH INSURANCE STATUS AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2011

	NO HEALTH INSURANCE		
	N	%	95% CI
OVERALL	15,428	4.4	4.0 - 4.8
GENDER			
MALE	6,137	5.5	4.7 - 6.2
FEMALE	9,291	3.3	2.8 - 3.9
AGE GROUP			
18–24	796	6.2	4.7 - 7.7
25–34	2,186	6.4	5.1 - 7.6
35–44	3,141	5.8	4.5 - 7.1
45–54	4,466	2.5	2.0 - 3.0
55–64	4,839	1.9	1.6 - 2.3
RACE-ETHNICITY*			
WHITE	11,876	3.4	3.0 - 3.9
BLACK	1,088	6.8	5.0 - 8.6
HISPANIC	1,456	10.6	8.6 - 12.6
ASIAN	422	3.1	1.2 - 5.0
DISABILITY¶			-
DISABILITY	3,518	3.6	2.7 - 4.5
NO DISABILITY	10,590	4.5	4.0 - 5.1
EDUCATION			
< HIGH SCHOOL	1,025	8.7	6.8 - 10.7
HIGH SCHOOL	3,540	5.9	4.9 - 6.9
COLLEGE 1–3 YRS	3,658	5.3	4.2 - 6.4
COLLEGE 4+ YRS	7,105	1.5	1.2 - 1.8
HOUSEHOLD INCOME			
<$25,000	3,127	7.8	6.7 - 9.0
$25,000–34,999	1,131	8.7	6.4 - 11.0
$35,000–49,999	1,643	4.5	3.2 - 5.8
$50,000–74,999	2,107	2.7	1.7 - 3.8
$75,000+	5,457	1.5	1.0 - 2.0
REGION			
I–WESTERN	2,064	6.0	4.7 - 7.4
II–CENTRAL	2,019	4.1	3.0 - 5.1
III–NORTH EAST	3,538	5.1	3.8 - 6.4
IV–METRO WEST	2,229	1.5	1.0 - 2.0
V–SOUTH EAST	3,487	5.7	4.4 - 7.0
VI–BOSTON	1,675	5.3	4.0 - 6.6

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 2.2: Health Care Access

Access to health care impacts physical, social and mental health status; prevention of disease and disability; detection and treatment of health conditions; quality of life; preventable death; and life expectancy. A goal of *Healthy People 2020* is to improve access to comprehensive, quality health care services.[4]

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

TABLE 2.2 - HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2011

	HAVE PERSONAL HEALTH CARE PROVIDER					COULD NOT SEE DOCTOR DUE TO COST				
	N	%	95% CI			N	%	95% CI		
OVERALL	22,253	88.3	87.5	-	89.1	22,250	9.5	8.8	-	10.2
GENDER										
MALE	8,443	83.9	82.5	-	85.3	8,451	9.9	8.8	-	11.0
FEMALE	13,810	92.4	91.6	-	93.3	13,799	9.1	8.2	-	10.0
AGE GROUP										
18–24	795	74.8	70.9	-	78.8	804	10.5	7.8	-	13.2
25–34	2,185	78.0	75.3	-	80.6	2,187	13.1	10.9	-	15.4
35–44	3,141	89.7	87.9	-	91.4	3,136	11.9	10.1	-	13.8
45–54	4,472	92.1	90.9	-	93.4	4,466	9.8	8.4	-	11.1
55–64	4,836	95.0	94.1	-	95.9	4,841	8.9	7.5	-	10.2
65–74	3,455	96.5	95.7	-	97.4	3,459	3.6	2.7	-	4.5
75 AND OLDER	2,961	95.9	94.9	-	97.0	2,950	3.2	2.2	-	4.2
RACE-ETHNICITY*										
WHITE	17,876	90.5	89.6	-	91.3	17,883	8.2	7.4	-	8.9
BLACK	1,403	80.4	76.3	-	84.6	1,398	17.5	14.0	-	21.0
HISPANIC	1,716	75.7	72.1	-	79.4	1,712	18.4	15.4	-	21.4
ASIAN	457	83.4	78.4		88.4	457	6.0	2.7	-	9.2
DISABILITY¶										
DISABILITY	5,753	93.0	91.7	-	94.2	5,748	13.6	12.0	-	15.2
NO DISABILITY	14,476	87.0	86.0	-	88.1	14,484	7.9	7.1	-	8.7
EDUCATION										
< HIGH SCHOOL	1,805	79.6	76.1	-	83.1	1,804	17.1	14.0	-	20.1
HIGH SCHOOL	5,721	87.6	86.0	-	89.3	5,714	10.7	9.2	-	12.1
COLLEGE 1–3 YRS	5,226	89.3	87.7	-	91.0	5,222	10.6	9.1	-	12.1
COLLEGE 4+ YRS	9,330	90.9	89.9	-	91.9	9,334	5.2	4.5	-	5.9
HOUSEHOLD INCOME										
<$25,000	5,151	82.0	79.9	-	84.1	5,147	16.6	14.7	-	18.6
$25,000–34,999	1,960	85.1	82.0	-	88.1	1,955	12.3	9.7	-	14.9
$35,000–49,999	2,498	86.9	84.4	-	89.5	2,497	11.8	9.5	-	14.0
$50,000–74,999	2,735	91.3	89.3	-	93.4	2,737	8.0	6.0	-	10.0
$75,000+	6,254	93.1	92.0	-	94.2	6,256	4.3	3.4	-	5.2
REGION										
I–WESTERN	2,965	88.1	86.0	-	90.1	2,964	10.4	8.7	-	12.2
II–CENTRAL	2,815	89.4	87.2	-	91.6	2,817	8.9	7.1	-	10.7
III–NORTH EAST	5,112	90.2	88.4	-	92.0	5,111	9.9	8.1	-	11.6
IV–METRO WEST	3,203	89.2	87.3	-	91.0	3,205	6.8	5.5	-	8.2
V–SOUTH EAST	5,338	90.1	88.4	-	91.9	5,335	10.3	8.6	-	12.0
VI–BOSTON	2,265	81.5	78.7	-	84.3	2,266	11.0	8.7	-	13.2

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

TABLE 2.2 (CONTINUED) - HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2011

	HAVE HAD A CHECKUP IN THE PAST YEAR		
	N	%	95% CI
OVERALL	22,130	78.8	77.8 - 79.8
GENDER			
MALE	8,398	74.1	72.5 - 75.7
FEMALE	13,732	83.1	82.0 - 84.2
AGE GROUP			
18–24	793	73.9	69.9 - 77.8
25–34	2,169	64.7	61.6 - 67.8
35–44	3,120	75.0	72.6 - 77.4
45–54	4,454	77.7	75.8 - 79.6
55–64	4,817	86.7	85.1 - 88.3
65–74	3,447	92.6	91.4 - 93.8
75 AND OLDER	2,928	93.4	91.9 - 94.9
RACE-ETHNICITY*			
WHITE	17,777	79.5	78.4 - 80.6
BLACK	1,403	79.8	75.7 - 83.8
HISPANIC	1,698	75.3	71.7 - 79.0
ASIAN	459	72.5	66.4 - 78.5
DISABILITY¶			
DISABILITY	5,718	83.8	82.0 - 85.6
NO DISABILITY	14,409	77.5	76.3 - 78.7
EDUCATION			
< HIGH SCHOOL	1,790	78.7	75.1 - 82.4
HIGH SCHOOL	5,686	79.0	77.0 - 81.0
COLLEGE 1–3 YRS	5,205	78.6	76.7 - 80.6
COLLEGE 4+ YRS	9,278	78.8	77.4 - 80.2
HOUSEHOLD INCOME			
<$25,000	5,117	78.8	76.6 - 81.0
$25,000–34,999	1,949	78.5	75.1 - 81.9
$35,000–49,999	2,482	77.4	74.3 - 80.5
$50,000–74,999	2,730	79.0	76.3 - 81.8
$75,000+	6,236	78.8	77.2 - 80.4
REGION			
I–WESTERN	2,947	79.5	77.0 - 82.0
II–CENTRAL	2,799	77.5	74.8 - 80.1
III–NORTH EAST	5,082	79.4	77.1 - 81.8
IV–METRO WEST	3,188	77.2	74.9 - 79.5
V–SOUTH EAST	5,310	82.0	79.9 - 84.0
VI–BOSTON	2,257	78.1	75.2 - 81.0

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SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS

SECTION 3: RISK FACTORS AND PREVENTIVE BEHAVIORS

Section 3.1: Tobacco Use

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

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

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

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

TABLE 3.1 – TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2011

	CURRENT SMOKER					FORMER SMOKER				
	N	%	95% CI			N	%	95% CI		
OVERALL	22,150	18.2	17.3	-	19.2	22,150	28.3	27.4	-	29.2
GENDER										
MALE	8,412	19.7	18.2	-	21.1	8,412	29.1	27.6	-	30.6
FEMALE	13,738	16.9	15.7	-	18.1	13,738	27.6	26.4	-	28.8
AGE GROUP										
18–24	802	22.6	18.7	-	26.5	802	6.2	4.2	-	8.2
25–34	2,180	26.4	23.4	-	29.3	2,180	16.5	14.1	-	18.8
35–44	3,125	20.3	17.9	-	22.7	3,125	22.4	20.1	-	24.6
45–54	4,449	17.8	16.1	-	19.5	4,449	31.0	28.9	-	33.1
55–64	4,824	15.2	13.7	-	16.8	4,824	39.1	37.0	-	41.3
65–74	3,447	12.0	10.3	-	13.6	3,447	48.6	46.1	-	51.2
75 AND OLDER	2,925	5.7	4.3	-	7.1	2,925	47.5	44.7	-	50.4
RACE-ETHNICITY*										
WHITE	17,781	18.5	17.4	-	19.6	17,781	31.3	30.3	-	32.4
BLACK	1,399	17.4	13.9	-	20.9	1,399	17.1	13.6	-	20.6
HISPANIC	1,717	19.2	15.7	-	22.7	1,717	15.2	12.4	-	17.9
ASIAN	458	8.6	4.5	-	12.8	458	10.0	6.2	-	13.7
DISABILITY¶										
DISABILITY	5,730	24.1	22.0	-	26.1	5,730	36.3	34.2	-	38.3
NO DISABILITY	14,404	15.8	14.7	-	16.9	14,404	26.1	25.0	-	27.2
EDUCATION										
< HIGH SCHOOL	1,806	30.1	26.3	-	34.0	1,806	22.7	19.7	-	25.8
HIGH SCHOOL	5,700	25.1	23.0	-	27.1	5,700	32.4	30.3	-	34.4
COLLEGE 1–3 YRS	5,205	21.0	19.1	-	23.0	5,205	29.3	27.4	-	31.2
COLLEGE 4+ YRS	9,263	7.2	6.3	-	8.1	9,263	26.4	25.1	-	27.6
HOUSEHOLD INCOME										
<$25,000	5,145	29.4	27.0	-	31.7	5,145	25.1	23.1	-	27.1
$25,000–34,999	1,959	19.6	16.4	-	22.8	1,959	29.5	26.2	-	32.8
$35,000–49,999	2,484	19.2	16.4	-	21.9	2,484	30.3	27.4	-	33.2
$50,000–74,999	2,724	19.7	16.8	-	22.6	2,724	32.0	29.3	-	34.8
$75,000+	6,217	9.9	8.7	-	11.2	6,217	29.3	27.6	-	31.0
REGION										
I–WESTERN	2,963	20.8	18.2	-	23.3	2,963	28.9	26.4	-	31.3
II–CENTRAL	2,800	20.3	17.7	-	23.0	2,800	27.4	24.9	-	30.0
III–NORTH EAST	5,096	18.5	16.2	-	20.7	5,096	27.1	25.0	-	29.3
IV–METRO WEST	3,177	12.5	10.6	-	14.4	3,177	28.2	26.1	-	30.3
V–SOUTH EAST	5,316	21.3	19.0	-	23.5	5,316	33.2	30.9	-	35.4
VI–BOSTON	2,251	17.5	15.0	-	20.1	2,251	22.7	20.2	-	25.3

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TABLE 3.1(CONTINUED) - SMOKELESS TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2011

	USE SMOKELESS TOBACCO (CHEWING TOBACCO, SNUFF OR SNUS)		
	N	%	95% CI
OVERALL	22,310	1.7	1.4 - 2.0
GENDER			
MALE	8,474	2.6	2.0 - 3.3
FEMALE	13,836	0.8	0.6 - 1.1
AGE GROUP			
18–24	807	3.7	2.0 - 5.4
25–34	2,189	2.7	1.6 - 3.9
35–44	3,145	1.5	0.9 - 2.1
45–54	4,477	0.9	0.5 - 1.3
55–64	4,850	1.4	0.6 - 2.1
65–74	†	0.6	0.3 0.9
75 AND OLDER	2,964	0.7	0.3 - 1.1
RACE-ETHNICITY*			
WHITE	17,915	1.6	1.2 - 2.0
BLACK	†		
HISPANIC	1,725	2.0	0.9 - 3.2
ASIAN	†		
DISABILITY¶			
DISABILITY	5,767	2.1	1.3 - 2.9
NO DISABILITY	14,513	1.5	1.1 - 1.9
EDUCATION			
< HIGH SCHOOL	1,819	2.8	1.2 - 4.3
HIGH SCHOOL	5,734	1.8	1.2 - 2.5
COLLEGE 1–3 YRS	5,241	1.3	0.7 - 1.8
COLLEGE 4+ YRS	9,340	1.6	1.1 - 2.2
HOUSEHOLD INCOME			
<$25,000	5,168	2.5	1.6 - 3.3
$25,000–34,999	†		-
$35,000–49,999	2,499	1.0	0.4 - 1.6
$50,000–74,999	2,742	2.0	0.9 - 3.1
$75,000+	6,257	1.4	0.8 - 1.9
REGION			
I–WESTERN	2,980	2.4	1.3 - 3.5
II–CENTRAL	2,820	2.0	0.9 - 3.2
III–NORTH EAST	5,126	1.6	0.9 - 2.2
IV–METRO WEST	3,207	1.7	0.8 - 2.5
V–SOUTH EAST	5,356	1.4	0.9 - 1.9
VI–BOSTON	2,266	1.2	0.5 - 1.9

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† Insufficient Data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.2: Smoking Cessation

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

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

TABLE 3.2 – SMOKING CESSATION AMONG MASSACHUSETTS ADULTS, 2011

	QUIT ATTEMPT			PLANNING TO QUIT		
	N	%	95% CI	N	%	95% CI
OVERALL	3,623	60.1	57.3 - 63.0	2,876	37.0	33.9 - 40.2
GENDER						
MALE	1,475	63.5	59.4 - 67.6	1,163	37.5	32.8 - 42.2
FEMALE	2,148	56.5	52.6 - 60.4	1,713	36.6	32.3 - 40.8
AGE GROUP						
18–24	172	68.9	59.8 - 77.9	132	41.7	30.6 - 52.7
25–34	474	60.3	53.6 - 67.0	373	28.1	21.6 - 34.6
35–44	578	60.0	53.2 - 66.8	446	41.0	33.3 - 48.7
45–54	901	55.5	50.2 - 60.7	744	37.7	32.0 - 43.5
55–64	817	59.1	53.8 - 64.4	648	39.8	33.8 - 45.9
65–74	468	56.7	49.5 - 63.9	383	41.1	33.3 - 49.0
75 AND OLDER	154	52.1	39.6 - 64.6	113	37.5	23.9 - 51.1
RACE-ETHNICITY*						
WHITE	2,900	58.6	55.4 - 61.9	2,322	34.4	30.9 - 37.8
BLACK	239	66.1	55.4 - 76.7	193	46.3	34.2 - 58.4
HISPANIC	270	66.9	57.6 - 76.2	199	53.0	40.7 - 65.4
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1,225	62.2	57.3 - 67.0	1,060	40.9	35.6 - 46.2
NO DISABILITY	2,058	59.0	55.2 - 62.7	1,796	35.5	31.5 - 39.5
EDUCATION						
< HIGH SCHOOL	447	59.2	51.3 - 67.1	322	40.6	31.7 - 49.5
HIGH SCHOOL	1,299	57.5	52.8 - 62.2	1,020	34.2	29.2 - 39.2
COLLEGE 1–3 YRS	1,103	63.4	58.5 - 68.3	916	41.0	35.3 - 46.7
COLLEGE 4+ YRS	749	61.6	55.4 - 67.9	610	31.3	25.5 - 37.1
HOUSEHOLD INCOME						
<$25,000	1,337	60.5	55.6 - 65.5	1,044	41.4	36.0 - 46.9
$25,000–34,999	364	66.0	57.4 - 74.7	304	33.2	24.5 - 41.8
$35,000–49,999	439	53.7	45.8 - 61.6	359	34.7	26.4 - 43.0
$50,000–74,999	413	57.6	49.1 - 66.1	354	33.3	24.0 - 42.6
$75,000+	553	63.5	57.1 - 69.9	459	38.4	30.9 - 45.9
REGION						
I–WESTERN	521	63.0	56.3 - 69.8	424	34.4	27.1 - 41.8
II–CENTRAL	469	58.4	51.1 - 65.7	384	33.4	26.0 - 40.7
III–NORTH EAST	870	65.2	58.8 - 71.7	693	41.1	33.5 - 48.8
IV–METRO WEST	362	56.6	48.4 - 64.8	292	39.4	30.1 - 48.6
V–SOUTH EAST	1,010	59.0	53.0 - 65.0	815	36.2	29.6 - 42.7
VI–BOSTON	324	59.2	51.1 - 67.3	259	40.5	31.6 - 49.5

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

† Insufficient Data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.3: Environmental Tobacco Smoke

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

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

Questions about environmental tobacco smoke were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 3.3 represent the landline sample only.

TABLE 3.3 – ENVIRONMENTAL TOBACCO AMONG MASSACHUSETTS ADULTS, 2011

	LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED			EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE §		
	N	%	95% CI	N	%	95% CI
OVERALL	18,631	80.5	79.5 - 81.5	16,779	37.9	36.5 - 39.4
GENDER						
MALE	7,028	78.6	77.0 - 80.2	6,094	42.8	40.4 - 45.1
FEMALE	11,603	82.2	80.9 - 83.5	10,685	33.5	31.7 - 35.4
AGE GROUP						
18–24	659	73.1	68.7 - 77.6	404	62.9	56.6 - 69.1
25–34	1,776	77.9	74.8 - 81.0	1,284	47.9	43.4 - 52.3
35–44	2,628	83.7	81.3 - 86.1	2,328	40.9	37.6 - 44.2
45–54	3,840	81.4	79.5 - 83.3	3,489	33.8	31.4 - 36.2
55–64	4,166	80.0	78.1 - 82.0	3,926	28.0	25.8 - 30.1
65–74	2,966	82.5	80.3 - 84.6	2,861	25.3	22.6 - 27.9
75 AND OLDER	2,328	85.2	82.9 - 87.5	2,245	16.7	14.2 - 19.1
RACE-ETHNICITY*						
WHITE	15,172	80.2	79.1 - 81.4	13,932	36.9	35.3 - 38.5
BLACK	1,116	77.7	73.4 - 82.1	957	46.5	40.6 - 52.3
HISPANIC	1,368	82.2	78.7 - 85.8	1,085	41.8	36.1 - 47.5
ASIAN	356	89.1	84.0 - 94.2	268	41.2	31.5 - 50.9
DISABILITY¶						
DISABILITY	5,266	73.7	71.6 - 75.8	4,859	39.4	36.8 - 42.1
NO DISABILITY	13,267	82.5	81.3 - 83.7	11,835	37.5	35.7 - 39.2
EDUCATION						
< HIGH SCHOOL	1,404	72.5	68.3 - 76.6	1,216	42.2	36.9 - 47.4
HIGH SCHOOL	4,611	73.1	70.8 - 75.4	4,133	42.4	39.3 - 45.4
COLLEGE 1–3 YRS	4,480	79.0	77.0 - 81.1	4,040	42.5	39.5 - 45.6
COLLEGE 4+ YRS	8,082	89.2	88.1 - 90.3	7,342	30.5	28.5 - 32.6
HOUSEHOLD INCOME						
<$25,000	4,278	71.4	68.9 - 73.9	3,720	42.4	39.1 - 45.7
$25,000–34,999	1,661	75.3	71.4 - 79.2	1,445	43.2	38.0 - 48.5
$35,000–49,999	2,130	78.8	75.8 - 81.7	1,906	43.8	39.1 - 48.5
$50,000–74,999	2,416	79.9	77.0 - 82.9	2,214	38.3	34.3 - 42.2
$75,000+	5,519	88.9	87.5 - 90.2	5,127	33.1	30.8 - 35.5
REGION						
I–WESTERN	2,559	79.6	76.9 - 82.3	2,313	38.0	34.4 - 41.6
II–CENTRAL	2,420	78.4	75.6 - 81.3	2,175	38.4	34.4 - 42.3
III–NORTH EAST	4,308	81.4	79.0 - 83.8	3,963	40.8	37.4 - 44.2
IV–METRO WEST	2,790	83.7	81.5 - 85.8	2,498	33.1	30.0 - 36.3
V–SOUTH EAST	4,545	78.5	76.1 - 80.9	4,220	38.1	34.9 - 41.4
VI–BOSTON	1,936	80.8	78.1 - 83.5	1,607	42.5	37.9 - 47.1

§ Data presented for the landline sample only

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.4: Alcohol Use

Excessive alcohol consumption is among the leading causes of preventable death in the United States.[17] Excessive drinking, including binge and heavy drinking, has numerous chronic effects including cirrhosis of the liver, pancreatitis, high blood pressure, stroke, and various cancers. Alcohol abuse can cause unintentional injuries, motor vehicle accidents, alcohol poisonings, and contributes to violence and suicides.[18] In 2010, driving while under the influence of alcohol accounted for 115 alcohol-related fatalities in Massachusetts – 36% of the total traffic fatalities for the year.[19]

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

TABLE 3.4 – ALCOHOL USE AMONG MASSACHUSETTS ADULTS, 2011

	BINGE DRINKING			HEAVY DRINKING		
	N	%	95% CI	N	%	95% CI
OVERALL	19,793	20.6	19.5 - 21.6	19,786	7.9	7.3 - 8.6
GENDER						
MALE	7,500	25.4	23.8 - 27.1	7,498	7.9	6.9 - 9.0
FEMALE	12,293	16.1	14.8 - 17.3	12,288	7.9	7.1 - 8.8
AGE GROUP						
18–24	699	37.8	33.0 - 42.5	697	13.0	9.8 - 16.1
25–34	1,940	33.5	30.3 - 36.6	1,938	9.2	7.3 - 11.2
35–44	2,791	23.4	21.1 - 25.8	2,789	7.8	6.2 - 9.4
45–54	4,007	17.1	15.4 - 18.9	4,016	6.7	5.6 - 7.8
55–64	4,396	12.2	10.6 - 13.8	4,399	6.8	5.7 - 7.9
65–74	3,129	7.4	5.9 - 8.8	3,126	7.5	5.9 - 9.1
75 AND OLDER	2,532	2.4	1.6 - 3.2	2,522	3.6	2.6 - 4.6
RACE-ETHNICITY*						
WHITE	16,064	21.9	20.8 - 23.1	16,073	8.7	7.9 - 9.4
BLACK	1,195	15.8	11.7 - 19.8	1,188	4.6	2.3 - 6.9
HISPANIC	1,467	17.2	13.8 - 20.7	1,463	5.0	2.8 - 7.2
ASIAN	396	9.5	6.0 - 13.1	†		
DISABILITY¶						
DISABILITY	5,565	14.3	12.6 - 16.0	5,565	6.2	5.2 - 7.3
NO DISABILITY	14,124	22.5	21.2 - 23.7	14,120	8.5	7.7 - 9.3
EDUCATION						
< HIGH SCHOOL	1,528	14.9	11.8 - 18.0	1,519	6.6	4.2 - 9.1
HIGH SCHOOL	4,936	19.4	17.3 - 21.5	4,940	7.4	6.1 - 8.7
COLLEGE 1–3 YRS	4,699	22.2	20.0 - 24.4	4,706	8.9	7.5 - 10.2
COLLEGE 4+ YRS	8,572	22.0	20.5 - 23.5	8,564	8.1	7.1 - 9.0
HOUSEHOLD INCOME						
<$25,000	4,558	18.1	15.8 - 20.5	4,557	7.4	6.0 - 8.9
$25,000–34,999	1,785	20.4	17.0 - 23.8	1,782	7.7	5.5 - 9.8
$35,000–49,999	2,268	21.6	18.5 - 24.6	2,267	7.4	5.7 - 9.1
$50,000–74,999	2,536	20.7	17.8 - 23.6	2,532	9.8	7.6 - 11.9
$75,000+	5,802	24.3	22.5 - 26.1	5,817	8.6	7.4 - 9.7
REGION						
I–WESTERN	2,702	19.3	16.7 - 21.8	2,693	6.9	5.3 - 8.5
II–CENTRAL	2,547	20.0	17.3 - 22.7	2,550	8.7	6.7 - 10.8
III–NORTH EAST	4,558	19.9	17.6 - 22.3	4,547	7.9	6.4 - 9.4
IV–METRO WEST	2,944	19.7	17.3 - 22.0	2,945	7.0	5.6 - 8.4
V–SOUTH EAST	4,811	21.0	18.6 - 23.4	4,816	7.7	6.3 - 9.1
VI–BOSTON	2,028	22.4	19.4 - 25.4	2,033	10.2	8.1 - 12.3

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

† Insufficient Data

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Section 3.5: Overweight and Obesity Status

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

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

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

TABLE 3.5 – OVERWEIGHT AND OBESE AMONG MASSACHUSETTS ADULTS, 2011

	OVERWEIGHT (BMI ≥ 25.0)					OBESE (BMI ≥ 30.0)				
	N	%	95% CI			N	%	95% CI		
OVERALL	20,532	59.3	58.2	-	60.5	20,532	22.7	21.8	-	23.7
GENDER										
MALE	8,221	68.2	66.5	-	69.8	8,221	24.1	22.6	-	25.5
FEMALE	12,311	50.5	49.0	-	52.0	12,311	21.4	20.2	-	22.6
AGE GROUP										
18–24	743	38.0	33.3	-	42.6	743	13.0	9.9	-	16.2
25–34	1,975	54.1	50.9	-	57.4	1,975	18.6	16.2	-	21.1
35–44	2,886	61.9	59.2	-	64.5	2,886	25.0	22.6	-	27.5
45–54	4,181	65.5	63.4	-	67.6	4,181	26.3	24.2	-	28.4
55–64	4,490	68.0	65.9	-	70.1	4,490	28.9	26.8	-	31.0
65–74	3,232	67.5	65.1	-	69.9	3,232	26.8	24.3	-	29.2
75 AND OLDER	2,741	57.8	55.0	-	60.7	2,741	18.4	16.0	-	20.8
RACE-ETHNICITY*										
WHITE	16,593	59.0	57.8	-	60.3	16,593	22.1	21.1	-	23.1
BLACK	1,292	69.1	64.7	-	73.5	1,292	31.6	27.2	-	36.0
HISPANIC	1,524	65.5	61.3	-	69.7	1,524	30.9	26.9	-	34.9
ASIAN	423	38.2	31.7	-	44.7	423	4.9	2.3	-	7.5
DISABILITY¶										
DISABILITY	5,397	67.1	64.9	-	69.2	5,397	33.7	31.6	-	35.8
NO DISABILITY	13,567	57.1	55.7	-	58.5	13,567	19.7	18.6	-	20.8
EDUCATION										
< HIGH SCHOOL	1,623	62.7	58.5	-	67.0	1,623	31.1	27.3	-	34.8
HIGH SCHOOL	5,314	62.7	60.3	-	65.0	5,314	25.2	23.2	-	27.2
COLLEGE 1–3 YRS	4,835	61.2	58.9	-	63.6	4,835	24.1	22.2	-	26.0
COLLEGE 4+ YRS	8,708	54.3	52.6	-	55.9	8,708	17.3	16.1	-	18.5
HOUSEHOLD INCOME										
<$25,000	4,847	59.6	57.1	-	62.1	4,847	27.3	25.0	-	29.5
$25,000–34,999	1,853	57.9	53.9	-	61.8	1,853	22.9	19.9	-	25.9
$35,000–49,999	2,368	62.1	58.8	-	65.4	2,368	25.4	22.5	-	28.3
$50,000–74,999	2,587	63.9	60.8	-	67.1	2,587	24.6	21.8	-	27.3
$75,000+	5,958	58.9	57.0	-	60.8	5,958	19.3	17.9	-	20.8
REGION										
I–WESTERN	2,791	61.8	58.8	-	64.7	2,791	26.1	23.6	-	28.6
II–CENTRAL	2,627	61.7	58.5	-	64.8	2,627	23.1	20.5	-	25.6
III–NORTH EAST	4,733	60.0	57.3	-	62.7	4,733	22.7	20.4	-	25.0
IV–METRO WEST	3,003	54.0	51.4	-	56.7	3,003	17.6	15.7	-	19.5
V–SOUTH EAST	4,988	62.4	59.9	-	64.9	4,988	25.8	23.5	-	28.0
VI–BOSTON	2,124	56.7	53.4	-	60.1	2,124	22.1	19.4	-	24.7

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Section 3.6: Physical Activity

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

In 2011, all respondents who reported ANY leisure-time physical activity were asked what two types of physical activity gave them the most exercise in the past month. They were also asked how frequently and for how long they took part in these activities. All respondents were also asked how frequently they took part in activities or exercises to strengthen muscles.

Healthy People 2020 objectives for physical activity for adults include:
1. Increase the proportion of adults who engage in aerobic physical activity of at least moderate intensity for at least 150 minutes/week, or 75 minutes/week of vigorous intensity, or an equivalent combination.
2. Increase the proportion of adults who engage in aerobic physical activity of at least moderate intensity for more than 300 minutes/week, or more than 150 minutes/week of vigorous intensity, or an equivalent combination.
3. Increase the proportion of adults who perform muscle-strengthening activities on 2 or more days of the week.[4]

Presented below, in accordance to the *Healthy People 2020* objectives, are the percentage of respondents who meet the 150-minute aerobic recommendation and the percentage of respondents who meet the muscle-strengthening recommendation. Please note that these indicators are NOT mutually exclusive e.g. people doing aerobic activity may or may not also do muscle-strengthening activities.

TABLE 3.6 – PHYSICAL ACTIVITY AMONG MASSACHUSETTS ADULTS, 2011

	MET AEROBIC ACTIVITY GUIDELINE (>= 150 MINUTES/WEEK)			MET GUIDELINE FOR MUSCLE STRENGTHENING ACTIVITY (2+ DAYS/WEEK)		
	N	%	95% CI	N	%	95% CI
OVERALL	19,779	56.3	55.1 - 57.4	20,304	32.0	30.9 - 33.1
GENDER						
MALE	7,564	58.4	56.6 - 60.2	7,723	36.0	34.2 - 37.8
FEMALE	12,215	54.3	52.8 - 55.8	12,581	28.3	26.9 - 29.6
AGE GROUP						
18–24	727	59.5	54.7 - 64.3	724	44.5	39.6 - 49.3
25–34	1,957	54.1	50.8 - 57.4	1,987	36.3	33.1 - 39.5
35–44	2,831	56.0	53.2 - 58.8	2,858	33.0	30.4 - 35.6
45–54	4,084	57.8	55.5 - 60.1	4,121	29.4	27.3 - 31.4
55–64	4,418	55.9	53.7 - 58.2	4,489	27.8	25.8 - 29.7
65–74	3,142	57.1	54.4 - 59.7	3,207	26.7	24.4 - 29.1
75 AND OLDER	2,529	54.4	51.4 - 57.5	2,603	21.8	19.4 - 24.3
RACE-ETHNICITY*						
WHITE	16,053	58.2	57.0 - 59.5	16,444	32.0	30.8 - 33.2
BLACK	1,179	54.5	49.6 - 59.3	1,229	32.5	27.8 - 37.1
HISPANIC	1,504	44.0	39.8 - 48.3	1,527	30.0	25.8 - 34.1
ASIAN	388	50.4	43.4 - 57.5	406	36.0	29.4 - 42.7
DISABILITY¶						
DISABILITY	5,504	45.3	43.1 - 47.5	5,708	26.4	24.4 - 28.4
NO DISABILITY	13,994	59.4	58.0 - 60.7	14,392	33.7	32.3 - 35.0
EDUCATION						
< HIGH SCHOOL	1,536	42.4	38.0 - 46.7	1,600	22.2	18.5 - 25.9
HIGH SCHOOL	4,971	50.5	48.1 - 52.9	5,109	25.6	23.4 - 27.7
COLLEGE 1–3 YRS	4,687	57.9	55.6 - 60.3	4,815	32.8	30.4 - 35.1
COLLEGE 4+ YRS	8,534	63.5	61.9 - 65.1	8,721	39.1	37.4 - 40.7
HOUSEHOLD INCOME						
<$25,000	4,576	47.8	45.2 - 50.4	4,696	26.2	23.8 - 28.6
$25,000–34,999	1,786	51.9	48.0 - 55.9	1,822	28.6	25.1 - 32.1
$35,000–49,999	2,272	55.3	51.8 - 58.9	2,323	30.9	27.6 - 34.2
$50,000–74,999	2,539	56.8	53.5 - 60.0	2,578	30.7	27.7 - 33.7
$75,000+	5,822	63.7	61.8 - 65.6	5,922	37.4	35.5 - 39.3
REGION						
I–WESTERN	2,676	57.5	54.6 - 60.4	2,758	28.8	26.0 - 31.6
II–CENTRAL	2,550	56.2	53.0 - 59.3	2,614	30.9	27.8 - 34.0
III–NORTH EAST	4,579	52.9	50.2 - 55.7	4,695	31.7	29.1 - 34.3
IV–METRO WEST	2,927	60.4	57.8 - 63.0	2,991	35.1	32.6 - 37.6
V–SOUTH EAST	4,805	55.6	52.9 - 58.2	4,947	31.3	28.8 - 33.7
VI–BOSTON	2,038	55.4	52.0 - 58.8	2,089	34.4	31.1 - 37.6

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.7: Fruit and Vegetable Consumption

A diet rich in fruits and vegetables not only aids in weight management, but also has been associated with a decreased risk for chronic diseases.[23] The goal for *Healthy People 2020* is to ensure that adults consume at least 0.9 cup equivalents of fruit, 1.1 cup equivalents of vegetables and 0.3 cup equivalents of dark green vegetables, orange vegetables and legumes per 1000 calories.[4]

All respondents were asked how many servings of fruits and vegetables they consumed each day. Methodology is being developed to convert the BRFSS data to cup equivalents per 1000 calories, but is not yet available. Presented here is the percentage of respondents who stated that they consumed at least five servings of fruits or vegetables per day. Although this relates to the prior recommendation, it maintains the consistency of the indicator.

TABLE 3.7 – FRUIT AND VEGETABLE CONSUMPTION AMONG MASSACHUSETTS ADULTS, 2011

	5 OR MORE SERVINGS OF FRUITS OR VEGETABLES PER DAY		
	N	%	95% CI
OVERALL	20,805	18.8	17.9 - 19.7
GENDER			
MALE	7,903	14.7	13.5 - 16.0
FEMALE	12,902	22.5	21.3 - 23.8
AGE GROUP			
18–24	757	18.0	14.3 - 21.8
25–34	2,036	16.8	14.5 - 19.2
35–44	2,931	19.1	17.0 - 21.2
45–54	4,218	18.7	17.0 - 20.5
55–64	4,604	20.1	18.4 - 21.8
65–74	3,255	19.9	17.8 - 22.1
75 AND OLDER	2,668	20.1	17.8 - 22.5
RACE-ETHNICITY*			
WHITE	16,812	18.7	17.8 - 19.7
BLACK	1,273	18.7	14.7 - 22.6
HISPANIC	1,579	19.9	16.4 - 23.4
ASIAN	422	18.4	13.5 - 23.4
DISABILITY¶			
DISABILITY	5,740	17.7	16.1 - 19.3
NO DISABILITY	14,437	19.3	18.2 - 20.4
EDUCATION			
< HIGH SCHOOL	1,633	15.6	12.5 - 18.8
HIGH SCHOOL	5,270	15.0	13.3 - 16.7
COLLEGE 1–3 YRS	4,948	18.8	17.0 - 20.6
COLLEGE 4+ YRS	8,889	22.6	21.3 - 23.9
HOUSEHOLD INCOME			
<$25,000	4,841	15.9	14.2 - 17.7
$25,000–34,999	1,867	14.1	11.7 - 16.5
$35,000–49,999	2,379	18.5	15.8 - 21.1
$50,000–74,999	2,627	20.8	18.2 - 23.5
$75,000+	6,030	21.6	20.1 - 23.2
REGION			
I–WESTERN	2,829	18.1	16.0 - 20.2
II–CENTRAL	2,683	17.1	15.0 - 19.3
III–NORTH EAST	4,825	19.0	17.0 - 21.0
IV–METRO WEST	3,055	21.0	18.9 - 23.1
V–SOUTH EAST	5,075	18.4	16.3 - 20.4
VI–BOSTON	2,124	18.0	15.4 - 20.6

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.8: Cholesterol Awareness

High cholesterol, defined as total serum cholesterol over 199 mg/dL, is an important risk factor for cardiovascular disease.[24]

Researchers consider it important to discern cholesterol awareness in various populations so that prevention efforts may be more targeted. Reducing the proportion of people with high serum cholesterol levels to 13.5% or less is one of the objectives listed in *Healthy People 2020.*[4]

All respondents were asked about whether they had ever had their cholesterol tested, and, if so, how long it had been since they last had it tested. Respondents who indicated that they had ever had their cholesterol tested were asked if they had ever been told by a doctor, nurse, or other medical professional that they had high cholesterol. Below are the percentages of adults who indicated that they had had their cholesterol tested in the past five years and the percentage of adults who had ever been tested and told that they have high cholesterol.

TABLE 3.8 – CHOLESTEROL AWARENESS AMONG MASSACHUSETTS ADULTS, 2011

	CHOLESTEROL CHECKED IN PAST 5 YEARS			HIGH CHOLESTEROL**		
	N	%	95% CI	N	%	95% CI
OVERALL	21,590	83.7	82.7 - 84.7	19,891	34.3	33.2 - 35.3
GENDER						
MALE	8,194	82.1	80.6 - 83.6	7,415	35.6	34.0 - 37.3
FEMALE	13,396	85.2	83.9 - 86.5	12,476	33.0	31.7 - 34.4
AGE GROUP						
18–24	703	49.9	44.9 - 54.8	391	9.9	6.0 - 13.8
25–34	2,054	71.1	68.1 - 74.1	1,636	15.0	12.5 - 17.5
35–44	3,055	85.3	83.2 - 87.3	2,754	25.0	22.5 - 27.5
45–54	4,383	91.2	89.8 - 92.6	4,149	34.5	32.3 - 36.8
55–64	4,783	95.0	94.1 - 96.0	4,585	49.1	46.8 - 51.3
65–74	3,384	96.3	95.3 - 97.4	3,300	53.8	51.2 - 56.5
75 AND OLDER	2,834	95.9	95.0 - 96.9	2,711	48.8	45.9 - 51.8
RACE-ETHNICITY*						
WHITE	17,368	86.2	85.1 - 87.3	16,316	35.4	34.2 - 36.5
BLACK	1,354	78.1	73.9 - 82.4	1,184	30.8	26.4 - 35.3
HISPANIC	1,649	68.5	64.6 - 72.4	1,329	32.1	27.8 - 36.3
ASIAN	443	75.1	69.0 - 81.2	364	21.6	15.9 - 27.3
DISABILITY¶						
DISABILITY	5,562	89.6	88.0 - 91.2	5,267	46.6	44.3 - 48.8
NO DISABILITY	14,089	82.6	81.4 - 83.9	12,904	30.7	29.5 - 32.0
EDUCATION						
< HIGH SCHOOL	1,732	73.2	69.4 - 77.1	1,468	41.9	37.5 - 46.3
HIGH SCHOOL	5,536	82.4	80.4 - 84.3	4,999	36.8	34.6 - 39.0
COLLEGE 1–3 YRS	5,070	83.5	81.4 - 85.6	4,695	33.3	31.3 - 35.4
COLLEGE 4+ YRS	9,089	88.1	86.8 - 89.4	8,590	31.2	29.8 - 32.7
HOUSEHOLD INCOME						
<$25,000	4,968	76.3	74.0 - 78.7	4,405	38.5	36.0 - 40.9
$25,000–34,999	1,892	80.2	76.7 - 83.6	1,701	37.5	33.7 - 41.3
$35,000–49,999	2,437	85.0	82.1 - 88.0	2,258	36.1	32.9 - 39.3
$50,000–74,999	2,688	86.2	83.4 - 89.0	2,515	34.6	31.6 - 37.5
$75,000+	6,151	89.7	88.2 - 91.1	5,891	30.2	28.5 - 31.9
REGION						
I–WESTERN	2,876	81.8	79.1 - 84.4	2,623	34.3	31.7 - 37.0
II–CENTRAL	2,741	82.5	79.7 - 85.3	2,520	34.1	31.3 - 36.9
III–NORTH EAST	4,975	84.6	82.3 - 86.9	4,587	36.2	33.7 - 38.7
IV–METRO WEST	3,095	87.0	84.7 - 89.2	2,907	33.9	31.6 - 36.2
V–SOUTH EAST	5,205	86.4	84.3 - 88.5	4,844	35.7	33.4 - 38.1
VI–BOSTON	2,186	77.2	74.0 - 80.4	1,962	31.5	28.5 - 34.4

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

** Analysis conducted among those who reported having their cholesterol checked.

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 3.9: Hypertension Awareness

Hypertension, commonly known as “high blood pressure,” is a risk factor for many conditions including heart disease, kidney failure, stroke, and disability.[25] According to the CDC, approximately one in four U.S. adults has hypertension.[25] Hypertension is defined as having an average systolic blood pressure greater than or equal to 140 mm Hg or an average diastolic blood pressure greater than or equal to 90 mm Hg.[25] To reduce the incidence of chronic diseases and potentially fatal conditions resulting from hypertension, the *Healthy People 2020* goal is to reduce the proportion of U.S. adults with high blood pressure to 26.9% or less.[4]

All respondents were asked if a doctor, nurse, or other health professional had ever told them that they had high blood pressure. Respondents who answered yes were then asked if they were taking medication for their high blood pressure. Presented below are the percentages of respondents who had been told that they had high blood pressure and, if so, if they are currently taking medication to treat it.

TABLE 3.9 – HYPERTENSION AWARENESS AMONG MASSACHUSETTS ADULTS, 2011

	HIGH BLOOD PRESSURE			TAKE MEDICINE FOR HIGH BLOOD PRESSURE**		
	N	%	95% CI	N	%	95% CI
OVERALL	22,254	29.2	28.3 - 30.2	8,210	76.9	75.1 - 78.7
GENDER						
MALE	8,446	30.9	29.3 - 32.4	3,264	70.7	67.8 - 73.5
FEMALE	13,808	27.7	26.5 - 28.9	4,946	83.3	81.3 - 85.3
AGE GROUP						
18–24	808	7.9	5.5 - 10.3	†		
25–34	2,182	11.7	9.6 - 13.8	247	35.6	26.5 - 44.6
35–44	3,141	18.7	16.5 - 21.0	508	51.0	44.1 - 57.9
45–54	4,469	27.9	25.8 - 29.9	1,268	75.4	71.5 - 79.3
55–64	4,844	43.7	41.5 - 45.8	2,137	85.0	82.4 - 87.6
65–74	3,464	57.9	55.3 - 60.4	1,990	93.5	91.9 - 95.0
75 AND OLDER	2,947	61.5	58.8 - 64.3	1,840	94.0	92.0 - 96.1
RACE-ETHNICITY*						
WHITE	17,877	30.1	29.0 - 31.2	6,673	77.7	75.7 - 79.7
BLACK	1,403	34.6	30.4 - 38.7	596	74.4	67.7 - 81.1
HISPANIC	1,713	23.2	20.0 - 26.3	575	69.9	63.0 - 76.9
ASIAN	461	14.4	9.9 - 18.9	68	75.6	61.0 - 90.2
DISABILITY¶						
DISABILITY	5,757	42.9	40.8 - 45.1	2,908	84.5	81.9 - 87.1
NO DISABILITY	14,480	25.0	24.0 - 26.1	4,538	73.4	71.0 - 75.8
EDUCATION						
< HIGH SCHOOL	1,811	37.1	33.4 - 40.8	915	75.4	69.5 - 81.4
HIGH SCHOOL	5,731	34.3	32.3 - 36.4	2,535	77.6	74.3 - 80.8
COLLEGE 1–3 YRS	5,224	31.0	29.1 - 33.0	2,015	75.7	72.2 - 79.3
COLLEGE 4+ YRS	9,314	21.5	20.4 - 22.7	2,678	78.0	75.4 - 80.7
HOUSEHOLD INCOME						
<$25,000	5,160	36.0	33.7 - 38.2	2,431	77.8	74.4 - 81.2
$25,000–34,999	1,962	34.5	31.1 - 37.9	844	79.2	73.7 - 84.7
$35,000–49,999	2,498	31.8	28.9 - 34.7	954	79.1	74.2 - 83.9
$50,000–74,999	2,741	30.5	27.7 - 33.3	913	73.1	67.4 - 78.7
$75,000+	6,248	21.8	20.3 - 23.2	1,584	74.2	70.6 - 77.8
REGION						
I–WESTERN	2,971	31.2	28.7 - 33.6	1,159	76.8	72.6 - 81.1
II–CENTRAL	2,815	29.2	26.6 - 31.8	1,000	75.6	70.4 - 80.9
III–NORTH EAST	5,111	32.0	29.6 - 34.3	1,941	73.9	69.4 - 78.4
IV–METRO WEST	3,197	25.4	23.3 - 27.4	1,002	81.9	78.0 - 85.8
V–SOUTH EAST	5,347	32.2	30.0 - 34.4	2,184	79.1	75.4 - 82.7
VI–BOSTON	2,260	25.2	22.6 - 27.7	756	73.5	68.2 - 78.9

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

** Analysis conducted among those who reported having high blood pressure

† Insufficient Data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

SECTION 4: IMMUNIZATION

SECTION 4: IMMUNIZATION

Section 4.1: Flu Vaccine and Pneumonia Vaccine

Influenza, or the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and can even lead to death. Because of the fluctuations in the length and severity of the flu from year to year, the CDC estimates that from the 1976-1977 season to the 2006-2007 flu season, flu-associated deaths ranged from a low of about 3,000 to a high of about 49,000 people.[26] Adults 65 years or older, children younger than 2 years old, and individuals with chronic medical conditions are at an increased risk for pneumococcal infection. In Massachusetts, flu and pneumonia were the seventh leading causes of death in 2008 among adults 65 and older.[27]

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 18-49 years, 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 4.1.1 – FLU VACCINE AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2011

	FLU VACCINE IN PAST YEAR, AGES 18-49					FLU VACCINE IN PAST YEAR, AGES 50-64				
	N	%	95% CI			N	%	95% CI		
OVERALL	7,343	35.1	33.4	-	36.8	6,694	48.7	46.8	-	50.6
GENDER										
MALE	2,954	31.6	29.1	-	34.0	2,603	47.3	44.4	-	50.3
FEMALE	4,389	38.6	36.3	-	41.0	4,091	49.9	47.6	-	52.3
AGE GROUP										
18–24	720	31.8	27.2	-	36.4					
25-34	1,959	34.1	31.1	-	37.2					
35-44	4,664	38.5	35.8	-	41.1					
45-49	1,842	35.0	31.8	-	38.2					
50-64						6,694	48.7	46.8		50.6
RACE-ETHNICITY*										
WHITE	5,308	34.5	32.5	-	36.5	5,621	48.8	46.8	-	50.8
BLACK	591	30.2	24.5	-	35.9	351	45.6	37.1	-	54.1
HISPANIC	875	37.7	32.7	-	42.7	402	47.3	38.8	-	55.8
ASIAN	303	42.5	34.7	-	50.3	68	54.8	37.5	-	72.2
DISABILITY¶										
DISABILITY	1,342	37.3	33.3	-	41.4	2,118	54.9	51.5	-	58.3
NO DISABILITY	5,971	34.6	32.8	-	36.5	4,540	46.3	44.1	-	48.6
EDUCATION										
< HIGH SCHOOL	459	31.4	25.0	-	37.7	433	48.9	41.1	-	56.8
HIGH SCHOOL	1,574	27.6	24.1	-	31.1	1,575	45.4	41.3	-	49.5
COLLEGE 1–3 YRS	1,781	33.0	29.6	-	36.4	1,577	46.7	43.0	-	50.4
COLLEGE 4+ YRS	3,516	42.7	40.3	-	45.1	3,090	52.1	49.6	-	54.5
HOUSEHOLD INCOME										
<$25,000	1,467	31.3	27.6	-	34.9	1,351	46.8	42.3	-	51.2
$25,000–34,999	552	28.3	22.5	-	34.1	489	44.4	37.3	-	51.5
$35,000–49,999	786	28.3	23.6	-	32.9	731	45.3	39.4	-	51.2
$50,000–74,999	972	35.2	30.4	-	40.0	988	52.9	48.1	-	57.7
$75,000+	2,803	42.4	39.7	-	45.2	2,313	49.4	46.4	-	52.3
REGION										
I–WESTERN	962	30.6	26.3	-	34.9	964	49.8	45.3	-	54.4
II–CENTRAL	995	32.5	28.1	-	36.9	855	46.8	41.8	-	51.8
III–NORTH EAST	1,708	36.7	32.6	-	40.7	1,517	47.7	43.1	-	52.2
IV–METRO WEST	1,085	40.2	36.2	-	44.3	1,004	53.6	49.4	-	57.7
V–SOUTH EAST	1,552	31.4	27.5	-	35.4	1,666	45.0	41.0	-	49.0
VI–BOSTON	874	40.5	35.9	-	45.1	659	48.5	43.1	-	53.9

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

TABLE 4.1.2 – FLU VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2011

	FLU VACCINE IN PAST YEAR, AGES 65+		
	N	%	95% CI
OVERALL	5,741	66.9	65.0 - 68.7
GENDER			
MALE	1,997	68.2	65.0 - 71.4
FEMALE	3,744	65.9	63.6 - 68.2
AGE GROUP			
65–74	3,178	63.1	60.5 - 65.7
75 AND OLDER	2,563	71.1	68.4 - 73.8
RACE-ETHNICITY*			
WHITE	5,120	68.4	66.5 - 70.3
BLACK	234	47.2	36.8 - 57.6
HISPANIC	223	60.8	48.1 - 73.5
ASIAN	†		
DISABILITY¶			
DISABILITY	2,100	68.4	65.3 - 71.5
NO DISABILITY	3,608	65.9	63.5 - 68.3
EDUCATION			
< HIGH SCHOOL	648	62.3	56.0 - 68.7
HIGH SCHOOL	1,820	66.4	63.0 - 69.8
COLLEGE 1–3 YRS	1,357	65.9	62.2 - 69.6
COLLEGE 4+ YRS	1,895	71.3	68.5 - 74.1
HOUSEHOLD INCOME			
<$25,000	1,752	64.5	60.8 - 68.1
$25,000–34,999	746	62.9	57.6 - 68.3
$35,000–49,999	763	64.8	59.6 - 70.1
$50,000–74,999	577	68.7	62.8 - 74.6
$75,000+	697	72.3	67.7 - 76.9
REGION			
I–WESTERN	785	69.6	64.7 - 74.5
II–CENTRAL	686	65.3	59.8 - 70.9
III–NORTH EAST	1,344	66.1	61.8 - 70.4
IV–METRO WEST	840	72.0	68.1 - 75.9
V–SOUTH EAST	1,589	63.3	59.4 - 67.2
VI–BOSTON	491	63.5	57.6 - 69.4

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

TABLE 4.1.3 – PNEUMONIA VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2011

	EVER HAD PNEUMONIA VACCINE		
	N	%	95% CI
OVERALL	5,448	72.2	70.3 - 74.0
GENDER			
MALE	1,865	68.2	64.9 - 71.5
FEMALE	3,583	75.0	72.9 - 77.2
AGE GROUP			
65–74	3,014	67.1	64.5 - 69.7
75 AND OLDER	2,434	77.9	75.2 - 80.5
RACE-ETHNICITY*			
WHITE	4,875	73.9	72.0 - 75.8
BLACK	224	46.6	36.1 - 57.0
HISPANIC	196	58.6	45.1 - 72.1
ASIAN	†		
DISABILITY¶			
DISABILITY	2,008	78.2	75.2 - 81.1
NO DISABILITY	3,407	68.7	66.3 - 71.1
EDUCATION			
< HIGH SCHOOL	602	65.5	58.9 - 72.0
HIGH SCHOOL	1,738	72.4	69.0 - 75.7
COLLEGE 1–3 YRS	1,292	75.5	72.1 - 78.9
COLLEGE 4+ YRS	1,799	72.5	69.7 - 75.4
HOUSEHOLD INCOME			
<$25,000	1,671	74.9	71.5 - 78.3
$25,000–34,999	710	70.4	65.0 - 75.7
$35,000–49,999	727	73.1	68.1 - 78.0
$50,000–74,999	556	69.4	63.2 - 75.6
$75,000+	659	69.9	65.0 - 74.9
REGION			
I–WESTERN	750	72.8	68.0 - 77.6
II–CENTRAL	648	71.1	65.2 - 77.0
III–NORTH EAST	1,273	73.6	69.5 - 77.7
IV–METRO WEST	799	77.7	73.9 - 81.4
V–SOUTH EAST	1,512	70.0	66.2 - 73.8
VI–BOSTON	460	58.7	52.8 - 64.6

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 4.2: Human Papilloma Virus (HPV)

Genital human papilloma virus (also called HPV) is the most common sexually transmitted infection (STI). Approximately 20 million Americans are currently infected with HPV. Another 6 million people become newly infected each year. HPV is so common that at least 50% of sexually active men and women get it at some point in their lives.[28]

Vaccines can protect both males and females against some of the most common types of HPV. These vaccines are given in three shots. It is important to get all three doses to get the best protection. The vaccines are most effective when given before a person's first sexual contact. Cervarix and Gardisil protect females against HPV that causes most cervical cancer. Gardisil protects both males and females from genital warts.[28]

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

Questions about HPV vaccination were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 4.2 represent the landline sample only.

TABLE 4.2 – HPV VACCINE AMONG MASSACHUSETTS FEMALES, AGES 18-49 YEARS, 2011§

	EVER HAD HPV VACCINE					COMPLETED SERIES **				
	N	%	95% CI			N	%	95% CI		
OVERALL	3,445	19.1	16.1	-	22.1	275	73.8	65.6	-	82.0
AGE GROUP										
18-24	207	62.2	53.3	-	71.2	118	78.3	68.6	-	88.0
25-34	846	14.2	10.3	-	18.0	114	62.3	46.2	-	78.5
35-44	1,455	1.8	1.0	-	2.6	†				
45-49	937	2.9	1.3	-	4.4	†				
RACE-ETHNICITY*										
WHITE	2,578	17.2	13.8	-	20.7	175	76.7	67.3	-	86.2
BLACK	290	22.7	15.3	-	30.1	†				
HISPANIC	366	24.1	15.1	-	33.2	†				
ASIAN	103	30.3	13.3	-	47.3	†				
DISABILITY¶										
DISABILITY	690	17.3	11.1	-	23.4	51	75.8	60.2	-	91.5
NO DISABILITY	2,744	19.7	16.2	-	23.1	224	73.4	64.2	-	82.6
EDUCATION										
< HIGH SCHOOL	†					†				
HIGH SCHOOL	620	16.6	10.4	-	22.8	†				
COLLEGE 1–3 YRS	905	28.2	22.0	-	34.4	102	74.0	61.9	-	86.2
COLLEGE 4+ YRS	1,736	15.2	11.0	-	19.4	117	78.0	64.2	-	91.8
HOUSEHOLD INCOME										
<$25,000	648	20.9	14.6	-	27.3	76	68.9	52.4	-	85.3
$25,000–34,999	260	23.4	12.1	-	34.7	†				
$35,000–49,999	339	20.8	11.0	-	30.6	†				
$50,000–74,999	475	16.1	8.6	-	23.5	†				
$75,000+	1,363	10.6	6.4	-	14.7	57	80.3	63.6	-	97.0
REGION										
I–WESTERN	495	17.3	10.2	-	24.3	†				
II–CENTRAL	448	17.1	9.8	-	24.3	†				
III–NORTH EAST	815	21.3	14.0	-	28.6	70	72.4	53.4	-	91.3
IV–METRO WEST	494	19.2	12.1	-	26.2	†				
V–SOUTH EAST	835	18.4	11.6	-	25.2	59	78.9	61.1	-	96.7
VI–BOSTON	357	23.5	14.7	-	32.4	†				

* White, Black, and Asian race categories refer to non-Hispanic
§ Data presented for the landline sample only
** Analysis conducted among those who reported ever having had vaccine
† Insufficient data
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 4.3: Hepatitis B Virus (HBV) Vaccine

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

Hepatitis is the leading cause of liver cancer and the most common reason for liver transplantation. Among persons with chronic Hepatitis B, the risk for premature death from cirrhosis or hepatocellular carcinoma is 15%–25%. HBV is transmitted by contact with infected blood or body fluids. Transmission can occur during birth from an infected mother, during unprotected sex with an infected partner, and using contaminated needles. An estimated 4.4 million Americans are living with chronic hepatitis; most do not know they are infected. An estimated 800,000–1.4 million of those have chronic HBV infection. About 80,000 new infections occur each year.[29]

The rate of new HBV infections has declined by approximately 82% since 1991, when a national strategy to eliminate HBV infection was implemented in the United States. The decline has been greatest among children born since 1991, when routine vaccination of children was first recommended.[29] From 1999-2008 Massachusetts reported that rates of acute Hepatitis B decreased by 57%.[30]

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

Questions about HBV vaccination were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 4.3 represent the landline sample only.

TABLE 4.3 – HEPATITIS B VACCINE AMONG MASSACHUSETTS ADULTS, 2011§

	RECEIVED 3 SHOTS HBV VACCINE		
	N	%	95% CI
OVERALL	15,180	36.5	34.9 - 38.0
GENDER			
MALE	5,552	33.1	30.7 - 35.5
FEMALE	9,628	39.7	37.7 - 41.6
AGE GROUP			
18–24	335	59.2	52.2 - 66.1
25–34	1,093	58.4	53.6 - 63.1
35–44	2,015	41.7	38.3 - 45.2
45–54	3,128	31.4	29.0 - 33.9
55–64	3,656	25.2	23.1 - 27.3
65–74	2,641	17.5	15.5 - 19.6
75 AND OLDER	2,085	8.3	6.6 - 10.1
RACE-ETHNICITY*			
WHITE	12,586	33.5	31.8 - 35.1
BLACK	892	45.1	39.1 - 51.1
HISPANIC	954	47.7	41.6 - 53.8
ASIAN	238	59.7	50.0 - 69.4
DISABILITY¶			
DISABILITY	4,481	32.6	29.9 - 35.2
NO DISABILITY	10,618	37.7	35.8 - 39.5
EDUCATION			
< HIGH SCHOOL	1,133	22.4	17.9 - 26.9
HIGH SCHOOL	3,834	27.4	24.4 - 30.4
COLLEGE 1–3 YRS	3,684	41.1	37.9 - 44.3
COLLEGE 4+ YRS	6,486	43.9	41.7 - 46.1
HOUSEHOLD INCOME			
<$25,000	3,473	35.6	32.1 - 39.1
$25,000–34,999	1,346	29.6	24.6 - 34.7
$35,000–49,999	1,745	33.3	28.7 - 38.0
$50,000–74,999	2,002	37.9	33.6 - 42.1
$75,000+	4,503	42.4	39.9 - 44.9
REGION			
I–WESTERN	2,125	38.5	34.8 - 42.3
II–CENTRAL	1,964	34.1	30.1 - 38.1
III–NORTH EAST	3,571	37.5	33.9 - 41.1
IV–METRO WEST	2,200	38.4	35.0 - 41.8
V–SOUTH EAST	3,865	31.4	28.2 - 34.6
VI–BOSTON	1,452	42.3	37.7 - 46.9

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 4.4: Tetanus Vaccine

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

Several vaccines are used to prevent tetanus among children, adolescents, and adults including DTaP and Tdap (Diphtheria, Tetanus and Pertussis); and DT, and Td (Diphtheria and Tetanus). Due to widespread immunization in childhood, tetanus is now extremely rare in developed countries. In the US, only 130 cases were reported in the period 1998-2000 most occurring among unvaccinated or inadequately vaccinated individuals following an acute injury.[31] The last reported case of tetanus in Massachusetts was in 1996.[32]

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

Questions about tetanus vaccination were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 4.4 represent the landline sample only.

TABLE 4.4 – TETANUS VACCINE AMONG MASSACHUSETTS ADULTS, 2011[§]

	RECEIVED TETANUS VACCINE IN PAST 10 YEARS		
	N	%	95% CI
OVERALL	15,972	76.8	75.7 - 78.0
GENDER			
MALE	5,880	76.8	75.0 - 78.6
FEMALE	10,092	76.8	75.4 - 78.2
AGE GROUP			
18–24	381	87.5	83.4 - 91.6
25–34	1,234	82.8	79.4 - 86.2
35–44	2,215	80.6	78.0 - 83.2
45–54	3,342	75.8	73.6 - 78.0
55–64	3,760	73.0	70.8 - 75.3
65–74	2,694	68.2	65.5 - 70.8
75 AND OLDER	2,113	59.6	56.4 - 62.8
RACE-ETHNICITY*			
WHITE	13,210	77.8	76.6 - 79.0
BLACK	930	73.5	68.9 - 78.1
HISPANIC	1,044	69.4	63.9 - 74.9
ASIAN	258	74.9	66.2 - 83.6
DISABILITY[¶]			
DISABILITY	4,647	74.9	72.7 - 77.0
NO DISABILITY	11,242	77.4	76.1 - 78.8
EDUCATION			
< HIGH SCHOOL	1,172	69.2	64.7 - 73.6
HIGH SCHOOL	4,036	73.9	71.5 - 76.3
COLLEGE 1–3 YRS	3,864	78.5	76.2 - 80.8
COLLEGE 4+ YRS	6,857	79.9	78.4 - 81.5
HOUSEHOLD INCOME			
<$25,000	3,627	70.7	67.9 - 73.6
$25,000–34,999	1,395	73.5	69.4 - 77.5
$35,000–49,999	1,828	77.8	74.2 - 81.4
$50,000–74,999	2,079	78.7	75.6 - 81.8
$75,000+	4,819	80.6	78.8 - 82.4
REGION			
I–WESTERN	2,219	77.6	74.9 - 80.2
II–CENTRAL	2,106	82.0	79.3 - 84.7
III–NORTH EAST	3,800	73.5	70.7 - 76.3
IV–METRO WEST	2,338	78.7	76.3 - 81.2
V–SOUTH EAST	3,992	75.0	72.4 - 77.6
VI–BOSTON	1,514	71.6	67.4 - 75.7

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 4.5: Shingles

Almost 1 out of every 3 people in the United States will develop shingles during their lifetime. There are an estimated one million cases of shingles each year in the US. Approximately half of all cases occur in adults ages 60 and older. Shingles (or herpes zoster) is caused by the chickenpox virus and is characterized by a painful skin rash with blisters in a limited area on one side of the body, often in a stripe. The most common complication of shingles is a condition called postherpetic neuralgia (PHN). People with PHN have severe pain in the areas where they had the shingles rash, even after the rash clears up. Shingles may also lead to serious complications involving the eye. Very rarely, shingles can also lead to pneumonia, hearing problems, blindness, brain inflammation (encephalitis) or death.[33] The shingles vaccine, Zostavax ® first became available in May 2006. A *Healthy People 2020* objective is to increase the shingles vaccine rate to 30% of older adults.[4]

All respondents ages 50 and older were asked if they had ever received the shingles vaccine. Presented here is the percentage of adults ages 50 or older who had ever received the shingles vaccine.

Questions about shingles vaccine were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 4.5 represent the landline sample only.

TABLE 4.5 – SHINGLES VACCINE AMONG MASSACHUSETTS ADULTS, AGE 50+, 2011[§]

	EVER HAD SHINGLES VACCINE		
	N	%	95% CI
OVERALL	11,122	10.6	9.8 - 11.4
GENDER			
MALE	3,968	9.3	8.1 - 10.5
FEMALE	7,154	11.7	10.7 - 12.7
AGE GROUP			
50-59	3,964	2.1	1.4 - 2.7
60-69	3,599	16.0	14.4 - 17.7
70-75	2,219	20.5	18.0 - 23.0
75+	1,340	13.6	11.2 - 16.0
RACE-ETHNICITY*			
WHITE	9,723	11.3	10.5 - 12.2
BLACK	†		
HISPANIC	497	5.8	2.7 - 8.8
ASIAN	†		
DISABILITY[¶]			
DISABILITY	3,793	9.6	8.4 - 10.9
NO DISABILITY	7,263	11.1	10.1 - 12.0
EDUCATION			
< HIGH SCHOOL	904	6.0	3.8 - 8.3
HIGH SCHOOL	3,010	9.2	7.7 - 10.7
COLLEGE 1–3 YRS	2,639	10.6	9.0 - 12.3
COLLEGE 4+ YRS	4,538	13.3	12.0 - 14.5
HOUSEHOLD INCOME			
<$25,000	2,743	9.0	7.4 - 10.6
$25,000–34,999	1,104	12.2	9.3 - 15.0
$35,000–49,999	1,336	13.3	10.7 - 16.0
$50,000–74,999	1,424	11.0	8.9 - 13.1
$75,000+	2,742	9.5	8.2 - 10.9
REGION			
I–WESTERN	1,577	9.9	8.1 - 11.7
II–CENTRAL	1,382	8.4	6.6 - 10.1
III–NORTH EAST	2,572	9.8	7.9 - 11.6
IV–METRO WEST	1,662	15.0	13.0 - 17.0
V–SOUTH EAST	2,941	9.7	8.1 - 11.4
VI–BOSTON	988	8.2	6.3 - 10.1

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
† Insufficient data
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

SECTION 5: CHRONIC HEALTH CONDITIONS

SECTION 5: CHRONIC HEALTH CONDITIONS

Section 5.1: 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.[34] There are two types of diabetes: type 1 and type 2. In type 1 diabetes, the body is unable to produce insulin. In type 2 diabetes, the body is able to produce insulin, but is unable to utilize it efficiently.

Obesity, poor diet, and physical inactivity are risk factors associated with the increase in the prevalence of type 2 diabetes. In 2008, diabetes was the ninth leading cause of death in Massachusetts.[27] Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age.[35] It is estimated that in 2007, in Massachusetts alone, the cost of diabetes is $4.3 billion; people with diagnosed diabetes, on average, have medical expenditures that are approximately 2.3 times higher than for people without the disease.[36]

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

Questions about pre-diabetes were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the pre-diabetes results in Table 5.1 represent the landline sample only.

TABLE 5.1 – DIABETES AMONG MASSACHUSETTS ADULTS, 2011

	PRE-DIABETES§			DIABETES		
	N	%	95% CI	N	%	95% CI
OVERALL	15,768	5.5	4.9 - 6.0	22,292	8.0	7.5 - 8.5
GENDER						
MALE	5,675	5.2	4.4 - 6.1	8,465	8.5	7.7 - 9.3
FEMALE	10,093	5.7	5.0 - 6.4	13,827	7.6	6.9 - 8.2
AGE GROUP						
18–24	†			†		
25–34	1,340	2.6	1.5 - 3.8	2,188	2.0	1.2 - 2.7
35–44	2,361	3.3	2.2 - 4.5	3,145	4.2	2.9 - 5.4
45–54	3,387	5.3	4.1 - 6.4	4,472	6.6	5.5 - 7.7
55–64	3,560	8.9	7.4 - 10.4	4,851	14.1	12.6 - 15.6
65–74	2,464	11.1	9.1 - 13.1	3,461	18.2	16.2 - 20.2
75 AND OLDER	1,985	10.4	8.4 - 12.5	2,963	18.9	16.6 - 21.2
RACE-ETHNICITY*						
WHITE	13,158	5.6	5.0 - 6.3	17,905	7.6	7.1 - 8.2
BLACK	861	6.0	4.1 - 7.9	1,407	11.6	9.0 - 14.2
HISPANIC	955	4.1	2.5 - 5.8	1,719	10.5	8.3 - 12.8
ASIAN	†			461	4.1	2.1 - 6.2
DISABILITY¶						
DISABILITY	4,146	8.6	7.2 - 10.0	5,768	16.1	14.6 - 17.5
NO DISABILITY	11,523	4.5	3.9 - 5.1	14,498	5.7	5.2 - 6.3
EDUCATION						
< HIGH SCHOOL	1,052	6.6	4.5 - 8.6	1,814	13.9	11.5 - 16.3
HIGH SCHOOL	3,831	5.8	4.6 - 7.0	5,738	9.3	8.3 - 10.4
COLLEGE 1–3 YRS	3,738	6.0	4.8 - 7.2	5,234	7.8	6.8 - 8.7
COLLEGE 4+ YRS	7,101	4.6	3.9 - 5.3	9,331	5.3	4.7 - 5.9
HOUSEHOLD INCOME						
<$25,000	3,239	6.2	5.0 - 7.4	5,159	12.1	10.7 - 13.5
$25,000–34,999	1,308	7.5	5.1 - 9.9	1,965	10.5	8.5 - 12.5
$35,000–49,999	1,799	4.9	3.6 - 6.2	2,500	8.2	6.6 - 9.9
$50,000–74,999	2,103	6.0	4.4 - 7.6	2,743	6.9	5.7 - 8.2
$75,000+	5,039	4.4	3.6 - 5.3	6,256	4.8	4.0 - 5.5
REGION						
I–WESTERN	2,147	6.3	4.9 - 7.7	2,979	8.9	7.5 - 10.2
II–CENTRAL	2,063	5.3	3.8 - 6.7	2,819	7.6	6.3 - 8.9
III–NORTH EAST	3,709	5.8	4.3 - 7.2	5,120	8.3	7.1 - 9.4
IV–METRO WEST	2,405	4.7	3.7 - 5.8	3,202	6.6	5.5 - 7.7
V–SOUTH EAST	3,937	5.9	4.6 - 7.2	5,353	9.5	8.1 - 10.8
VI–BOSTON	1,502	4.6	3.3 - 5.9	2,263	7.6	6.3 - 8.9

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
† Insufficient data
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.2: Asthma

Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness.[37] 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.[38] The prevalence of asthma in the state of Massachusetts is one of the highest reported for a state across the nation, and the costs of treatment are increasing each year: the total charges for hospitalization due to asthma in Massachusetts increased 77.7% from $50 million in 2000 to $89 million in 2006.[39]

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

TABLE 5.2 – ASTHMA AMONG MASSACHUSETTS ADULTS, 2011

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	22,262	15.3	14.5 - 16.2	22,192	10.7	10.0 - 11.4
GENDER						
MALE	8,454	12.6	11.4 - 13.9	8,425	7.9	6.9 - 8.9
FEMALE	13,808	17.8	16.6 - 19.0	13,767	13.3	12.3 - 14.3
AGE GROUP						
18–24	805	21.2	17.4 - 25.1	799	13.8	10.5 - 17.1
25–34	2,187	18.5	15.9 - 21.1	2,178	11.1	9.0 - 13.3
35–44	3,143	15.0	13.2 - 16.8	3,135	11.7	10.1 - 13.4
45–54	4,472	14.2	12.6 - 15.8	4,462	10.5	9.1 - 11.9
55–64	4,837	13.4	12.0 - 14.8	4,817	9.8	8.6 - 11.0
65–74	3,457	14.8	13.0 - 16.7	3,450	11.0	9.3 - 12.7
75 AND OLDER	2,954	8.7	7.1 - 10.2	2,946	5.4	4.2 - 6.6
RACE-ETHNICITY*						
WHITE	17,876	15.0	14.0 - 15.9	17,820	10.6	9.8 - 11.4
BLACK	1,402	15.5	12.3 - 18.6	1,398	9.7	7.2 - 12.3
HISPANIC	1,721	21.2	17.7 - 24.7	1,715	15.1	12.0 - 18.3
ASIAN	462	8.7	4.8 - 12.7	†		
DISABILITY¶						
DISABILITY	5,748	25.2	23.2 - 27.2	5,721	19.0	17.3 - 20.8
NO DISABILITY	14,492	12.5	11.5 - 13.5	14,459	8.2	7.4 - 9.0
EDUCATION						
< HIGH SCHOOL	1,815	21.4	18.2 - 24.7	1,808	15.0	12.3 - 17.6
HIGH SCHOOL	5,723	14.6	12.9 - 16.3	5,706	11.0	9.5 - 12.5
COLLEGE 1–3 YRS	5,231	16.1	14.3 - 17.9	5,216	10.5	9.0 - 11.9
COLLEGE 4+ YRS	9,318	13.4	12.3 - 14.6	9,287	9.3	8.3 - 10.2
HOUSEHOLD INCOME						
<$25,000	5,160	20.9	18.8 - 22.9	5,143	15.7	13.8 - 17.6
$25,000–34,999	1,959	13.1	10.5 - 15.7	1,954	8.9	7.0 - 10.8
$35,000–49,999	2,497	14.8	12.3 - 17.2	2,490	10.1	8.0 - 12.3
$50,000–74,999	2,739	14.4	12.0 - 16.7	2,731	9.3	7.5 - 11.1
$75,000+	6,248	12.1	10.8 - 13.4	6,229	8.1	7.1 - 9.2
REGION						
I–WESTERN	2,971	19.6	17.1 - 22.0	2,962	14.1	12.0 - 16.2
II–CENTRAL	2,812	14.0	11.7 - 16.3	2,802	10.3	8.3 - 12.2
III–NORTH EAST	5,115	14.6	12.7 - 16.5	5,106	10.6	9.0 - 12.2
IV–METRO WEST	3,199	14.1	12.2 - 16.0	3,191	9.2	7.6 - 10.8
V–SOUTH EAST	5,346	15.9	13.9 - 17.8	5,322	10.7	9.1 - 12.3
VI–BOSTON	2,263	14.4	12.1 - 16.7	2,256	10.4	8.4 - 12.4

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.3: Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease, or COPD, refers to a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema, chronic bronchitis, and in some cases asthma. In the United States, tobacco use is a key factor in the development and progression of COPD, but asthma, exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play a role.[40] In 2011, approximately 34% of Massachusetts adults who reported a diagnosis of COPD also reported current smoking.

Presented here is the percentage of adults who reported that they had ever been diagnosed with COPD, emphysema or chronic bronchitis.

TABLE 5.3 – CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) AMONG MASSACHUSETTS ADULTS, 2011

	EVER DIAGNOSED WITH COPD		
	N	%	95% CI
OVERALL	22,216	5.8	5.3 - 6.2
GENDER			
MALE	8,433	4.8	4.1 - 5.4
FEMALE	13,783	6.6	6.0 - 7.3
AGE GROUP			
18–24	†		
25–34	2,182	2.9	1.7 - 4.1
35–44	3,135	3.5	2.5 - 4.5
45–54	4,463	4.5	3.6 - 5.4
55–64	4,833	9.0	7.7 - 10.2
65–74	3,445	12.6	10.9 - 14.3
75 AND OLDER	2,948	12.6	10.5 - 14.7
RACE-ETHNICITY*			
WHITE	17,852	6.2	5.6 - 6.7
BLACK	1,400	5.0	2.5 - 7.4
HISPANIC	1,712	3.2	2.0 - 4.3
ASIAN	†		
DISABILITY¶			
DISABILITY	5,726	15.0	13.5 - 16.5
NO DISABILITY	14,478	2.9	2.5 - 3.3
EDUCATION			
< HIGH SCHOOL	1,811	12.1	9.8 - 14.5
HIGH SCHOOL	5,706	7.6	6.6 - 8.6
COLLEGE 1–3 YRS	5,212	5.3	4.5 - 6.2
COLLEGE 4+ YRS	9,314	2.7	2.2 - 3.1
HOUSEHOLD INCOME			
<$25,000	5,145	11.3	9.9 - 12.8
$25,000–34,999	1,958	6.8	5.1 - 8.6
$35,000–49,999	2,492	5.4	4.2 - 6.6
$50,000–74,999	2,734	5.3	4.1 - 6.6
$75,000+	6,251	2.2	1.7 - 2.7
REGION			
I–WESTERN	2,957	6.6	5.3 - 7.9
II–CENTRAL	2,814	5.7	4.6 - 6.9
III–NORTH EAST	5,103	6.3	5.1 - 7.4
IV–METRO WEST	3,194	4.3	3.4 - 5.2
V–SOUTH EAST	5,334	7.0	5.9 - 8.2
VI–BOSTON	2,262	5.0	3.7 - 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: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.4: Heart Disease and Stroke

Heart disease includes a number of different heart conditions, the most common of which is coronary heart disease, a condition that can lead to a heart attack. A stroke occurs when blood to the brain is blocked or a blood vessel in the brain bursts, causing damage to the individual's brain. Heart disease and stroke account for more than 1/3 of all U.S. deaths.[41] They are also major causes of disability. In 2008, heart disease and stroke were the second (after cancer-related deaths) and third leading causes of death, respectively, in Massachusetts.[27]

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

TABLE 5.4.1 – HEART DISEASE AMONG MASSACHUSETTS ADULTS, AGES 35 YEARS AND OLDER, 2011

	EVER DIAGNOSED WITH MYOCARDIAL INFARCTION			EVER DIAGNOSED WITH ANGINA OR CORONARY HEART DISEASE		
	N	%	95% CI	N	%	95% CI
OVERALL	18,826	5.1	4.7 - 5.6	18,763	5.2	4.7 - 5.7
GENDER						
MALE	7,070	7.3	6.4 - 8.1	7,037	6.5	5.7 - 7.3
FEMALE	11,756	3.2	2.8 - 3.7	11,726	4.0	3.5 - 4.6
AGE GROUP						
35–44	3,137	1.0	0.5 - 1.5	†		
45–54	4,464	2.4	1.7 - 3.1	4,460	2.8	2.0 - 3.6
55–64	4,838	6.0	4.9 - 7.1	4,818	5.7	4.6 - 6.8
65–74	3,449	9.7	8.2 - 11.3	3,434	9.3	7.9 - 10.8
75 AND OLDER	2,938	13.4	11.5 - 15.3	2,916	14.5	12.4 - 16.5
RACE-ETHNICITY*						
WHITE	15,666	5.0	4.5 - 5.5	15,615	5.1	4.6 - 5.6
BLACK	1,076	5.8	3.7 - 8.0	1,072	3.4	1.9 - 5.0
HISPANIC	1,195	6.3	4.2 - 8.4	1,185	5.4	3.6 - 7.1
ASIAN	†			†		
DISABILITY¶						
DISABILITY	5,253	11.0	9.7 - 12.3	5,221	11.1	9.8 - 12.5
NO DISABILITY	11,941	3.0	2.5 - 3.5	11,912	3.0	2.6 - 3.5
EDUCATION						
< HIGH SCHOOL	1,527	9.1	7.0 - 11.2	1,509	7.8	5.8 - 9.8
HIGH SCHOOL	4,952	6.1	5.1 - 7.1	4,923	5.7	4.8 - 6.7
COLLEGE 1–3 YRS	4,361	5.1	4.1 - 6.0	4,348	5.9	4.8 - 6.9
COLLEGE 4+ YRS	7,847	3.2	2.7 - 3.7	7,841	3.5	3.0 - 4.1
HOUSEHOLD INCOME						
<$25,000	4,327	9.4	8.0 - 10.8	4,304	8.6	7.3 - 10.0
$25,000–34,999	1,637	6.6	4.9 - 8.3	1,635	6.9	5.0 - 8.8
$35,000–49,999	2,105	6.9	5.1 - 8.7	2,096	7.0	5.2 - 8.8
$50,000–74,999	2,335	3.3	2.3 - 4.3	2,336	3.8	2.6 - 5.0
$75,000+	5,408	2.1	1.6 - 2.7	5,404	2.9	2.2 - 3.6
REGION						
I–WESTERN	2,536	6.4	5.0 - 7.8	2,533	6.1	4.8 - 7.5
II–CENTRAL	2,387	5.1	3.8 - 6.5	2,383	6.0	4.4 - 7.5
III–NORTH EAST	4,346	5.8	4.8 - 6.9	4,319	5.5	4.5 - 6.4
IV–METRO WEST	2,744	3.7	2.8 - 4.6	2,737	3.6	2.7 - 4.5
V–SOUTH EAST	4,652	5.0	4.0 - 6.0	4,635	5.9	4.8 - 7.0
VI–BOSTON	1,807	5.2	3.7 - 6.7	1,803	3.3	2.3 - 4.3

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

TABLE 5.4.2 – STROKE AMONG MASSACHUSETTS ADULTS, AGES 35 YEARS AND OLDER, 2011

	STROKE		
	N	%	95% CI
OVERALL	18,861	3.1	2.7 - 3.6
GENDER			
MALE	7,079	3.4	2.7 - 4.0
FEMALE	11,782	2.9	2.5 - 3.4
AGE GROUP			
35–44	†		
45–54	4,470	1.0	0.6 - 1.3
55–64	4,839	3.1	2.2 - 3.9
65–74	3,460	5.9	4.5 - 7.2
75 AND OLDER	2,951	9.3	7.5 - 11.1
RACE-ETHNICITY*			
WHITE	15,682	2.9	2.5 - 3.3
BLACK	1,081	5.7	2.7 - 8.8
HISPANIC	†	3.3	1.5 5.0
ASIAN	†		
DISABILITY¶			
DISABILITY	5,276	7.1	6.0 - 8.2
NO DISABILITY	11,944	1.6	1.2 - 2.0
EDUCATION			
< HIGH SCHOOL	1,532	7.0	4.6 - 9.3
HIGH SCHOOL	4,967	4.2	3.3 - 5.1
COLLEGE 1–3 YRS	4,365	2.5	1.9 - 3.0
COLLEGE 4+ YRS	7,854	1.6	1.3 - 2.0
HOUSEHOLD INCOME			
<$25,000	4,346	6.6	5.2 - 8.1
$25,000–34,999	1,644	4.4	2.8 - 6.1
$35,000–49,999	2,105	3.7	2.4 - 5.1
$50,000–74,999	2,337	1.6	0.9 - 2.2
$75,000+	5,411	1.0	0.7 - 1.4
REGION			
I–WESTERN	2,547	3.6	2.5 - 4.7
II–CENTRAL	2,392	3.0	1.9 - 4.1
III–NORTH EAST	4,347	3.3	2.3 - 4.2
IV–METRO WEST	2,750	2.5	1.6 - 3.4
V–SOUTH EAST	4,661	3.7	2.7 - 4.6
VI–BOSTON	1,808	2.5	1.6 - 3.3

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.5: Arthritis

The term arthritis refers to many different conditions that affect the joints, and includes such conditions as rheumatoid arthritis, systematic lupus erythematosus (SLE), and gout.[42] The pain experienced due to arthritis can be so severe that it disrupts daily activities or makes them difficult to perform. A goal of *Healthy People 2020* is to reduce the percentage of those who have limitations on their activities due to their arthritis to 35.5% or less.[4]

All respondents were asked if a doctor or other health professional had ever told them they had arthritis. Respondents who indicated that they had been diagnosed with arthritis or who indicated that they had "symptoms of pain, aching, or stiffness in or around a joint" that had begun more than three months ago were then asked if they were limited in any way in any of their usual physical activities due to the arthritis or joint symptoms. Presented is the percentage of respondents who indicated that they had been diagnosed with arthritis and, if they had been or if they had the symptoms described above for more than three months, the percentage of respondents who experienced limitations in their usual daily activities due to the arthritis or symptoms.

TABLE 5.5 – ARTHRITIS AMONG MASSACHUSETTS ADULTS, 2011

	DOCTOR DIAGNOSED ARTHRITIS			LIMITATIONS DUE TO ARTHRITIS		
	N	%	95% CI	N	%	95% CI
OVERALL	22,193	23.6	22.7 - 24.4	21,546	10.3	9.7 - 10.9
GENDER						
MALE	8,425	20.0	18.8 - 21.3	8,260	8.4	7.5 - 9.3
FEMALE	13,768	26.8	25.7 - 27.9	13,286	12.0	11.2 - 12.8
AGE GROUP						
18–24	805	2.7	1.2 - 4.1	†		
25–34	2,185	5.9	4.4 - 7.4	2,173	2.5	1.5 - 3.5
35–44	3,137	13.4	11.4 - 15.3	3,106	6.6	5.1 - 8.1
45–54	4,447	25.2	23.2 - 27.2	4,355	11.0	9.7 - 12.4
55–64	4,830	38.6	36.5 - 40.8	4,663	18.1	16.4 - 19.8
65–74	3,447	48.4	45.8 - 51.0	3,315	19.1	17.1 - 21.2
75 AND OLDER	2,939	52.0	49.1 - 54.8	2,755	22.7	20.2 - 25.1
RACE-ETHNICITY*						
WHITE	17,835	25.1	24.1 - 26.0	17,328	10.4	9.8 - 11.1
BLACK	1,399	19.3	16.1 - 22.6	1,356	9.7	7.4 - 11.9
HISPANIC	1,708	18.1	15.2 - 21.0	1,652	10.8	8.6 - 13.1
ASIAN	458	6.2	3.2 - 9.1	†		
DISABILITY¶						
DISABILITY	5,726	53.7	51.4 - 55.9	5,648	36.5	34.4 - 38.6
NO DISABILITY	14,450	15.0	14.2 - 15.9	14,413	3.5	3.1 - 3.9
EDUCATION						
< HIGH SCHOOL	1,800	32.2	28.7 - 35.7	1,698	17.6	14.9 - 20.4
HIGH SCHOOL	5,710	27.9	26.1 - 29.8	5,473	11.6	10.3 - 12.8
COLLEGE 1–3 YRS	5,209	24.1	22.4 - 25.8	5,079	10.5	9.3 - 11.6
COLLEGE 4+ YRS	9,301	17.1	16.2 - 18.1	9,156	7.0	6.4 - 7.7
HOUSEHOLD INCOME						
<$25,000	5,135	31.8	29.7 - 33.9	4,928	17.8	16.2 - 19.5
$25,000–34,999	1,957	26.2	23.3 - 29.2	1,905	12.3	10.1 - 14.5
$35,000–49,999	2,491	25.3	22.6 - 28.0	2,433	9.3	7.5 - 11.2
$50,000–74,999	2,733	23.7	21.3 - 26.2	2,697	9.1	7.6 - 10.6
$75,000+	6,241	16.3	15.0 - 17.6	6,175	6.1	5.3 - 7.0
REGION						
I–WESTERN	2,960	27.6	25.3 - 29.9	2,878	12.8	11.2 - 14.4
II–CENTRAL	2,812	23.4	21.1 - 25.7	2,747	10.2	8.6 - 11.9
III–NORTH EAST	5,094	23.5	21.5 - 25.5	4,945	9.8	8.4 - 11.2
IV–METRO WEST	3,182	20.5	18.7 - 22.3	3,123	9.1	7.9 - 10.4
V–SOUTH EAST	5,332	28.5	26.4 - 30.7	5,184	12.3	10.8 - 13.8
VI–BOSTON	2,258	17.0	15.1 - 19.0	2,193	7.7	6.3 - 9.1

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.6: Cancer Diagnosis

In this report, the term “cancer survivor” is used to describe a person from the time of cancer diagnosis through the remaining years of life.

The number of cancer survivors increased from approximately 3 million adults and children in 1971 to approximately 12 million in 2008.[43] This increase in cancer survivors can be attributed to multiple factors including: earlier detection, improved diagnostic methods, more effective treatment, improved clinical follow up after treatment, and an aging US population. Breast, prostate and colorectal cancers are the most common types of cancer among survivors. [43]

In Massachusetts, though cancer rates fluctuated by year, overall cancer incidence from 2003-2007 remained unchanged for both males and females. During the same time period, cancer mortality decreased by 1.3% per year for males and 2.1% per year for females. The most common cancer diagnoses for men during this time period were prostate, bronchus and lung, colon/rectum and urinary bladder. For women, the most commonly diagnosed cancers were breast, bronchus and lung, colon/rectum, and uterus.[44]

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

TABLE 5.6 – CANCER DIAGNOSIS AMONG MASSACHUSETTS ADULTS, 2011

	EVER DIAGNOSED WITH CANCER		
	N	%	95% CI
OVERALL	22,237	10.9	10.4 - 11.5
GENDER			
MALE	8,436	9.3	8.5 - 10.1
FEMALE	13,801	12.4	11.6 - 13.3
AGE GROUP			
18–24	†		
25–34	2,187	1.8	1.0 - 2.5
35–44	3,138	4.8	3.6 - 6.0
45–54	4,466	9.9	8.6 - 11.3
55–64	4,826	15.0	13.5 - 16.4
65–74	3,454	25.7	23.5 - 28.0
75 AND OLDER	2,956	33.5	30.7 - 36.2
RACE-ETHNICITY*			
WHITE	17,861	12.6	11.9 - 13.3
BLACK	1,404	5.4	3.3 - 7.4
HISPANIC	1,714	4.7	2.8 - 6.5
ASIAN	†		
DISABILITY¶			
DISABILITY	5,739	18.3	16.8 - 19.9
NO DISABILITY	14,483	9.0	8.4 - 9.7
EDUCATION			
< HIGH SCHOOL	1,809	11.3	8.8 - 13.7
HIGH SCHOOL	5,722	10.6	9.4 - 11.8
COLLEGE 1–3 YRS	5,225	11.2	10.1 - 12.3
COLLEGE 4+ YRS	9,309	10.8	10.0 - 11.6
HOUSEHOLD INCOME			
<$25,000	5,151	11.0	9.7 - 12.4
$25,000–34,999	1,959	13.4	11.2 - 15.6
$35,000–49,999	2,498	12.0	10.2 - 13.8
$50,000–74,999	2,737	10.9	9.1 - 12.7
$75,000+	6,249	10.1	9.1 - 11.1
REGION			
I–WESTERN	2,967	10.9	9.5 - 12.4
II–CENTRAL	2,815	9.3	7.9 - 10.7
III–NORTH EAST	5,117	11.3	9.9 - 12.7
IV–METRO WEST	3,185	12.0	10.7 - 13.3
V–SOUTH EAST	5,338	13.5	11.9 - 15.1
VI–BOSTON	2,262	7.6	6.4 - 8.9

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 5.7: Depression

Depression is characterized by depressed or sad mood, diminished interest in activities which used to be pleasurable, weight gain or loss, psychomotor agitation or retardation, fatigue, inappropriate guilt, difficulties concentrating, as well as recurrent thoughts of death. But depression is more than a "bad day"; diagnostic criteria established by the American Psychiatric Association dictate that five or more of the above symptoms must be present for a continuous period of at least two weeks. As an illness, depression falls within the spectrum of affective disorders.

The urgency of the rate of depression to public health is likely compounded by the recognition that – if not effectively treated – depression is likely to lapse into a chronic disease. Just experiencing one episode of depression places the individual at a 50% risk for experiencing another, with subsequent episodes raising the likelihood of experiencing more episodes in the future.[45]

In addition to being a chronic disease in its own right, the burden of depression is further increased as depression appears to be associated with behaviors linked to other chronic diseases. Depression has been shown to be positively associated with smoking, alcohol consumption, physical inactivity and sleep disturbances.[46]

Presented here is the percentage of adults who were ever told by a doctor, nurse or other health professional that they had a depressive disorder (including depression, major depression, dysthymia, or minor depression).

TABLE 5.7 – DEPRESSION AMONG MASSACHUSETTS ADULTS, 2011

	EVER DIAGNOSED WITH DEPRESSION		
	N	%	95% CI
OVERALL	22,201	16.7	15.8 - 17.5
GENDER			
MALE	8,428	13.5	12.2 - 14.7
FEMALE	13,773	19.6	18.5 - 20.8
AGE GROUP			
18–24	802	15.5	12.1 - 18.9
25–34	2,181	19.4	16.8 - 22.1
35–44	3,139	17.1	15.0 - 19.1
45–54	4,454	17.5	15.8 - 19.1
55–64	4,818	20.2	18.4 - 21.9
65–74	3,449	14.8	13.0 - 16.5
75 AND OLDER	2,956	7.9	6.3 - 9.5
RACE-ETHNICITY*			
WHITE	17,845	16.9	15.9 - 17.8
BLACK	1,400	12.4	9.4 - 15.4
HISPANIC	1,702	19.2	16.1 - 22.2
ASIAN	458	8.8	4.3 - 13.3
DISABILITY¶			
DISABILITY	5,724	32.9	30.8 - 35.0
NO DISABILITY	14,471	11.8	10.9 - 12.8
EDUCATION			
< HIGH SCHOOL	1,798	27.4	23.7 - 31.1
HIGH SCHOOL	5,707	16.1	14.4 - 17.8
COLLEGE 1–3 YRS	5,222	17.5	15.9 - 19.2
COLLEGE 4+ YRS	9,301	13.2	12.1 - 14.3
HOUSEHOLD INCOME			
<$25,000	5,141	26.9	24.7 - 29.1
$25,000–34,999	1,958	18.4	15.3 - 21.6
$35,000–49,999	2,496	15.4	12.9 - 17.8
$50,000–74,999	2,734	17.2	14.7 - 19.7
$75,000+	6,244	10.7	9.5 - 11.8
REGION			
I–WESTERN	2,966	18.3	16.1 - 20.5
II–CENTRAL	2,809	18.4	15.8 - 20.9
III–NORTH EAST	5,103	15.2	13.3 - 17.1
IV–METRO WEST	3,186	15.3	13.5 - 17.2
V–SOUTH EAST	5,327	18.4	16.3 - 20.4
VI–BOSTON	2,260	13.9	11.8 - 15.9

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

SECTION 6: OTHER TOPICS

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Section 6.1: Sexual Orientation

Health research indicates that health disparities exist between the homosexual (gay, lesbian)/bisexual population and the heterosexual population.[47] Differences exist with respect to access to health care, overall health status, cancer screening, chronic health conditions, mental health, substance use including tobacco smoking, sexual health, and violence/victimization. Fear of discrimination and stigma keep many from seeking care or disclosing relevant information once in care.[48]

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

Questions about sexual orientation were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 6.1 represent the landline sample only.

TABLE 6.1 - SEXUAL ORIENTATION AMONG MASSACHUSETTS ADULTS, 2011[§]

	SELF-IDENTIFIED AS HOMOSEXUAL, BISEXUAL OR OTHER		
	N	%	95% CI
OVERALL	17,373	3.9	3.3 - 4.4
GENDER			
MALE	6,404	4.0	3.3 - 4.8
FEMALE	10,969	3.7	3.0 - 4.5
AGE GROUP			
18–24	422	4.6	2.2 - 7.0
25–34	1,364	5.3	3.4 - 7.1
35–44	2,414	3.3	2.2 - 4.3
45–54	3,631	4.8	3.9 - 5.8
55–64	4,053	3.3	2.6 - 4.0
65–74	2,938	2.4	1.6 - 3.2
75 AND OLDER	2,302	1.9	1.0 - 2.8
RACE-ETHNICITY*			
WHITE	14,425	3.9	3.3 - 4.5
BLACK	1,009	4.0	1.9 - 6.0
HISPANIC	†		
ASIAN	†		
DISABILITY[¶]			
DISABILITY	5,018	5.2	3.9 - 6.5
NO DISABILITY	12,269	3.4	2.9 - 4.0
EDUCATION			
< HIGH SCHOOL	1,280	1.8	1.0 - 2.7
HIGH SCHOOL	4,318	2.9	1.9 - 3.9
COLLEGE 1–3 YRS	4,191	4.2	3.0 - 5.3
COLLEGE 4+ YRS	7,548	4.9	4.0 - 5.9
HOUSEHOLD INCOME			
<$25,000	3,872	4.3	3.1 - 5.5
$25,000–34,999	1,514	3.6	2.2 - 5.0
$35,000–49,999	1,990	3.6	2.1 - 5.2
$50,000–74,999	2,279	4.0	2.5 - 5.5
$75,000+	5,281	4.4	3.4 - 5.5
REGION			
I–WESTERN	2,403	4.0	2.9 - 5.1
II–CENTRAL	2,232	2.8	1.5 - 4.1
III–NORTH EAST	4,109	3.2	2.0 - 4.4
IV–METRO WEST	2,592	3.9	2.6 - 5.2
V–SOUTH EAST	4,380	3.8	2.7 - 5.0
VI–BOSTON	1,654	7.2	5.2 - 9.1

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
† Insufficient data
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 6.2: HIV Testing

In Massachusetts, the number of people living with HIV/AIDS increases each year due to the fact that 1) new HIV infection diagnoses exceed the number of deaths among people reported with HIV/AIDS and 2) there are more survivors due to improved treatment options over time. An estimated 21% of people infected with HIV do not know they have it. Early awareness of an HIV infection through HIV testing can prevent further spread of the disease.[49]

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 is the percentage of adults ages 18-64 who report ever having been tested for HIV and the percentage who had been tested in the past year.

TABLE 6.2 – HIV TESTING AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2011

	EVER TESTED FOR HIV					TESTED FOR HIV IN PAST YEAR				
	N	%	95% CI			N	%	95% CI		
OVERALL	13,502	45.5	44.2	-	46.9	11,758	11.2	10.2	-	12.2
GENDER										
MALE	5,315	42.7	40.6	-	44.7	4,633	11.0	9.5	-	12.5
FEMALE	8,187	48.3	46.5	-	50.1	7,125	11.4	10.0	-	12.7
AGE GROUP										
18–24	699	37.6	32.9	-	42.3	638	19.3	15.4	-	23.2
25–34	1,899	64.0	60.8	-	67.3	1,647	20.0	17.1	-	22.8
35–44	2,689	57.7	54.9	-	60.6	2,266	10.9	8.9	-	12.8
45–54	3,935	38.5	36.3	-	40.8	3,420	4.6	3.7	-	5.6
55–64	4,280	27.3	25.2	-	29.4	3,787	3.4	2.4	-	4.3
RACE-ETHNICITY*										
WHITE	10,503	42.3	40.8	-	43.9	9,293	9.3	8.2	-	10.4
BLACK	907	69.5	64.4	-	74.5	748	27.4	21.9	-	32.8
HISPANIC	1,242	64.5	60.0	-	69.0	980	21.4	17.2	-	25.6
ASIAN	357	31.1	24.6	-	37.6	330	5.5	2.6	-	8.3
DISABILITY¶										
DISABILITY	3,326	52.9	50.0	-	55.8	2,775	13.0	10.8	-	15.2
NO DISABILITY	10,111	43.5	42.0	-	45.1	8,936	10.8	9.6	-	11.9
EDUCATION										
< HIGH SCHOOL	861	52.6	47.1	-	58.1	675	11.9	8.2	-	15.5
HIGH SCHOOL	3,009	43.3	40.3	-	46.3	2,604	12.8	10.4	-	15.2
COLLEGE 1–3 YRS	3,241	45.6	42.8	-	48.4	2,799	12.5	10.4	-	14.5
COLLEGE 4+ YRS	6,361	45.0	43.2	-	46.9	5,658	9.0	7.8	-	10.3
HOUSEHOLD INCOME										
<$25,000	2,739	56.5	53.3	-	59.8	2,290	18.9	16.0	-	21.7
$25,000–34,999	999	47.1	41.9	-	52.3	870	14.3	10.2	-	18.4
$35,000–49,999	1,456	46.9	42.5	-	51.2	1,274	11.6	8.6	-	14.7
$50,000–74,999	1,895	41.9	38.2	-	45.5	1,694	9.7	7.1	-	12.2
$75,000+	4,924	43.1	41.0	-	45.2	4,378	7.2	5.9	-	8.6
REGION										
I–WESTERN	1,858	48.6	45.1	-	52.2	1,604	10.9	8.3	-	13.4
II–CENTRAL	1,779	40.9	37.2	-	44.5	1,541	8.2	6.0	-	10.4
III–NORTH EAST	3,103	46.9	43.6	-	50.2	2,688	12.0	9.6	-	14.4
IV–METRO WEST	2,006	41.5	38.4	-	44.5	1,800	9.2	7.0	-	11.4
V–SOUTH EAST	3,084	45.3	42.0	-	48.5	2,710	11.5	8.9	-	14.1
VI–BOSTON	1,482	55.4	51.5	-	59.4	1,246	17.4	14.4	-	20.5

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

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.[50] Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse.[51] [52]

Respondents were asked if they had experienced sexual violence at any time in their lifetime. 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 lifetime.

Questions about sexual violence were asked only on the MA BRFSS landline survey in 2011 and not the cell phone survey; therefore the results in Table 6.3 represent the landline sample only.

TABLE 6.3 – SEXUAL VIOLENCE AMONG MASSACHUSETTS ADULTS, 2011§

	SEXUAL VIOLENCE, WOMEN					SEXUAL VIOLENCE, MEN				
	N	%	95% CI			N	%	95% CI		
OVERALL	2,162	20.1	16.5	-	23.7	1,371	4.6	2.9	-	6.2
AGE GROUP										
18–24	†					†				
25–34	224	27.9	18.0	-	37.8	†				
35–44	339	21.2	15.1	-	27.2	†				
45–54	499	19.0	14.2	-	23.8	310	6.4	2.7		10.0
55–64	500	16.2	12.0	-	20.5	†				
65–74	323	11.3	6.8	-	15.9	†				
75 AND OLDER	†					†				
RACE-ETHNICITY*										
WHITE	1,803	20.6	16.6	-	24.5	1,174	4.1	2.4	-	5.7
BLACK	†					†				
HISPANIC	†					†				
ASIAN	†					†		.		
DISABILITY¶										
DISABILITY	630	24.0	17.8	-	30.2	380	6.8	3.3	-	10.4
NO DISABILITY	1,525	19.0	14.6	-	23.3	984	3.9	2.0	-	5.8
EDUCATION										
< HIGH SCHOOL	†					†				
HIGH SCHOOL	456	21.2	11.0	-	31.4	†				
COLLEGE 1–3 YRS	582	20.3	14.3	-	26.4	†				
COLLEGE 4+ YRS	1,002	22.4	17.1	-	27.7	653	4.0	2.0	-	6.0
HOUSEHOLD INCOME										
<$25,000	488	27.8	18.6	-	36.9	†				
$25,000–34,999	191	14.7	6.8	-	22.5	†				
$35,000–49,999	251	20.3	9.8	-	30.8	†				
$50,000–74,999	305	21.8	13.6	-	30.0	†				
$75,000+	677	15.7	11.0	-	20.5	515	3.9	1.8	-	6.0
REGION										
I–WESTERN	309	28.2	19.6	-	36.7	†				
II–CENTRAL	301	19.4	9.6	-	29.1	†				
III–NORTH EAST	462	17.4	9.2	-	25.7	†				
IV–METRO WEST	341	17.0	11.5	-	22.6	†				
V–SOUTH EAST	537	20.8	10.5	-	31.1	†				
VI–BOSTON	211	16.8	10.0	-	23.6	†				

§ Data presented for the landline sample only
* White, Black, and Asian race categories refer to non-Hispanic
† Insufficient data
¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

Section 6.4: Seatbelt Use

Traffic crashes are the leading cause of unintentional death in the United States and the third leading cause of unintentional injury death in Massachusetts.[27] In 2009, there were an additional 3,598 hospital discharges and 67,472 emergency department visits, and 701 observation stays at MA acute care hospitals associated with unintentional nonfatal motor vehicle occupant injuries.[53] [54] [55] 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.[56] 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 6.4 – SEATBELT USE AMONG MASSACHUSETTS ADULTS, 2011

	ALWAYS USE A SEATBELT		
	N	%	95% CI
OVERALL	20,061	79.7	78.7 - 80.8
GENDER			
MALE	7,622	74.2	72.5 - 75.8
FEMALE	12,439	84.9	83.7 - 86.1
AGE GROUP			
18–24	727	69.5	65.0 - 73.9
25–34	1,968	75.7	72.7 - 78.7
35–44	2,839	80.5	78.1 - 82.9
45–54	4,071	81.9	80.0 - 83.9
55–64	4,443	83.5	81.8 - 85.3
65–74	3,156	83.8	81.7 - 85.9
75 AND OLDER	2,544	84.4	82.1 - 86.8
RACE-ETHNICITY*			
WHITE	16,288	79.9	78.8 - 81.0
BLACK	1,204	74.5	70.1 - 78.9
HISPANIC	1,484	78.7	75.0 - 82.4
ASIAN	401	89.6	85.1 - 94.1
DISABILITY¶			
DISABILITY	5,598	79.0	77.0 - 81.0
NO DISABILITY	14,358	80.1	78.9 - 81.2
EDUCATION			
< HIGH SCHOOL	1,528	73.1	69.1 - 77.0
HIGH SCHOOL	5,020	73.1	70.8 - 75.3
COLLEGE 1–3 YRS	4,782	78.1	76.1 - 80.2
COLLEGE 4+ YRS	8,669	87.7	86.5 - 88.9
HOUSEHOLD INCOME			
<$25,000	4,600	74.2	71.8 - 76.6
$25,000–34,999	1,797	77.4	73.9 - 80.9
$35,000–49,999	2,313	75.9	72.8 - 79.0
$50,000–74,999	2,564	79.3	76.1 - 82.4
$75,000+	5,891	84.8	83.2 - 86.4
REGION			
I–WESTERN	2,733	78.9	76.4 - 81.5
II–CENTRAL	2,591	79.6	76.8 - 82.4
III–NORTH EAST	4,627	79.6	77.2 - 82.0
IV–METRO WEST	2,974	82.3	79.9 - 84.6
V–SOUTH EAST	4,893	76.9	74.6 - 79.3
VI–BOSTON	2,036	81.6	78.9 - 84.3

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

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

APPENDIX

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011															
	FAIR OR POOR HEALTH			POOR MENTAL HEALTH			POOR PHYSICAL HEALTH			DISABILITY			PERSONAL DOCTOR		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	13.4	12.7	- 14.2	10.4	9.6	- 11.1	9.2	8.6	- 9.9	22.2	21.3	- 23.2	87.9	87.0	- 88.8
GENDER															
MALE	13.9	12.7	- 15.0	9.0	7.9	- 10.0	8.4	7.4	- 9.3	20.9	19.5	- 22.3	83.5	82.1	- 84.9
FEMALE	13.5	12.5	- 14.4	11.9	10.9	- 12.9	10.4	9.5	- 11.3	23.5	22.3	- 24.7	92.1	91.2	- 93.0
RACE-ETHNICITY*															
WHITE	11.6	10.8	- 12.4	10.7	9.8	- 11.5	9.0	8.3	- 9.8	22.2	21.2	- 23.3	89.5	88.6	- 90.5
BLACK	19.6	15.9	- 23.2	10.4	7.9	- 12.9	10.1	7.2	- 13.0	22.1	18.5	- 25.6	82.3	78.8	- 85.8
HISPANIC	32.7	28.9	- 36.4	13.6	10.9	- 16.2	15.1	12.4	- 17.8	23.3	20.0	- 26.7	78.9	75.9	- 82.0
ASIAN	9.9	5.6	- 14.2	†			3.5	1.5	5.6	14.3	8.5	- 20.1	88.5	85.2	- 91.9
DISABILITY¶															
DISABILITY	34.0	31.4	- 36.7	24.8	22.2	- 27.4	28.7	26.1	- 31.2	22.2	21.3	- 23.2	90.4	88.4	- 92.5
NO DISABILITY	6.9	6.2	- 7.5	6.7	6.0	- 7.4	3.3	2.8	- 3.8	n/a			87.3	86.3	- 88.3
EDUCATION															
< HIGH SCHOOL	34.7	30.9	- 38.5	19.4	15.9	- 22.9	21.6	18.2	- 25.0	34.1	30.1	- 38.0	78.5	74.9	- 82.1
HIGH SCHOOL	16.8	15.1	- 18.4	12.4	10.9	- 14.0	10.6	9.2	- 12.1	23.8	21.8	- 25.8	86.8	85.0	- 88.6
COLLEGE 1–3 YRS	11.9	10.7	- 13.2	11.9	10.4	- 13.4	9.7	8.5	- 10.8	23.0	21.2	- 24.9	89.3	87.7	- 90.9
COLLEGE 4+ YRS	6.1	5.3	- 6.9	5.6	4.8	- 6.4	5.1	4.4	- 5.8	17.8	16.6	- 19.0	90.3	89.1	- 91.5
HOUSEHOLD INCOME															
<$25,000	29.4	27.2	- 31.6	20.2	18.1	- 22.3	19.5	17.6	- 21.5	37.0	34.6	- 39.4	81.7	79.6	- 83.9
$25,000–34,999	19.1	15.9	- 22.3	13.0	10.4	- 15.7	12.0	9.3	- 14.6	24.5	21.2	- 27.8	84.9	81.9	- 87.8
$35,000–49,999	11.5	9.5	- 13.4	10.5	8.3	- 12.7	8.2	6.3	- 10.2	19.1	16.6	- 21.6	86.9	84.4	- 89.4
$50,000–74,999	7.1	5.6	- 8.5	9.1	6.9	- 11.3	6.3	4.9	- 7.7	18.5	16.2	- 20.7	91.1	88.9	- 93.4
$75,000+	5.4	4.2	- 6.5	5.1	4.1	- 6.0	4.3	3.5	- 5.1	16.0	14.3	- 17.7	92.3	90.8	- 93.7
REGION															
I–WESTERN	15.9	14.0	- 17.8	11.6	9.7	- 13.5	11.8	10.0	- 13.5	25.8	23.3	- 28.2	87.6	85.5	- 89.8
II–CENTRAL	14.9	13.0	- 16.9	10.1	8.3	- 11.9	9.7	8.0	- 11.4	23.0	20.5	- 25.6	89.4	87.3	- 91.6
III–NORTH EAST	12.5	10.8	- 14.2	10.2	8.4	- 12.0	7.6	6.4	- 8.7	20.3	18.3	- 22.3	89.4	87.4	- 91.4
IV–METRO WEST	8.7	7.4	- 10.0	7.5	6.0	- 9.0	6.6	5.5	- 7.7	19.2	17.3	- 21.0	87.9	85.8	- 90.0
V–SOUTH EAST	14.7	12.8	- 16.5	12.0	10.2	- 13.7	11.2	9.4	- 13.0	23.7	23.4	- 24.1	88.8	86.7	- 90.9
VI–BOSTON	17.5	15.0	- 19.9	11.8	9.7	- 13.9	10.7	8.6	- 12.8	21.6	19.0	- 24.1	83.4	81.0	- 85.8

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

† Insufficient data

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AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011															
	NO DOCTOR DUE TO COST			CHECKUP IN PAST YEAR			CURRENT SMOKER			FORMER SMOKER			USE SMOKELESS TOBACCO		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	9.6	8.8	- 10.3	78.2	77.1	- 79.2	18.2	17.2	- 19.2	27.3	26.3	- 28.2	1.7	1.3	- 2.1
GENDER															
MALE	10.1	8.9	- 11.3	73.5	71.9	- 75.1	19.9	18.4	- 21.4	28.9	27.5	- 30.3	2.7	2.0	- 3.3
FEMALE	9.4	8.5	- 10.3	82.5	81.3	- 83.7	17.5	16.2	- 18.7	26.1	24.9	- 27.2	0.8	0.6	- 1.1
RACE-ETHNICITY*															
WHITE	8.7	7.8	- 9.5	77.9	76.7	- 79.1	19.6	18.4	- 20.8	29.2	28.1	- 30.3	1.8	1.4	- 2.3
BLACK	17.2	13.9	- 20.5	81.0	77.3	- 84.7	17.0	13.9	- 20.2	17.7	14.1	- 21.4	0.9	0.4	- 1.4
HISPANIC	17.4	14.6	- 20.2	78.5	75.5	- 81.6	17.0	14.0	- 19.9	18.7	15.6	- 21.8	1.9	1.0	- 2.7
ASIAN	5.2	2.4	- 8.1	75.3	69.3	- 81.3	7.5	3.9	- 11.1	11.7	6.6	- 16.8	†		
DISABILITY¶															
DISABILITY	16.4	14.1	- 18.8	80.0	77.4	- 82.5	29.4	26.5	- 32.3	30.1	27.7	- 32.6	3.1	1.7	- 4.5
NO DISABILITY	8.0	7.2	- 8.8	77.6	76.5	- 78.8	15.8	14.7	- 16.8	26.5	25.4	- 27.5	1.5	1.1	- 1.9
EDUCATION															
< HIGH SCHOOL	18.2	14.9	- 21.4	77.4	73.7	- 81.0	32.6	28.6	- 36.7	20.9	18.0	- 23.7	2.7	1.1	- 4.2
HIGH SCHOOL	11.5	9.9	- 13.1	76.8	74.6	- 79.0	27.0	24.7	- 29.2	30.5	28.4	- 32.6	2.0	1.2	- 2.7
COLLEGE 1–3 YRS	11.4	9.8	- 13.0	78.0	76.0	- 80.0	21.4	19.4	- 23.3	29.4	27.5	- 31.3	1.2	0.7	- 1.7
COLLEGE 4+ YRS	5.3	4.4	- 6.2	78.5	77.0	- 80.1	7.0	6.1	- 7.9	25.9	24.6	- 27.2	1.8	1.1	- 2.4
HOUSEHOLD INCOME															
<$25,000	17.9	15.8	- 19.9	77.9	75.6	- 80.1	31.1	28.6	- 33.6	23.6	21.6	- 25.6	2.6	1.7	- 3.5
$25,000–34,999	14.9	11.8	- 18.0	76.1	72.4	- 79.8	21.0	17.7	- 24.3	27.7	24.4	- 31.0	†		
$35,000–49,999	12.9	10.4	- 15.4	76.0	72.8	- 79.3	20.2	17.2	- 23.2	28.4	25.7	- 31.2	†		
$50,000–74,999	8.4	6.2	- 10.6	78.6	75.7	- 81.6	20.7	17.5	- 23.9	30.5	27.9	- 33.0	2.3	1.0	- 3.7
$75,000+	4.6	3.4	- 5.7	79.4	77.6	- 81.3	9.6	8.1	- 11.1	28.9	27.1	- 30.7	1.6	0.8	- 2.4
REGION															
I–WESTERN	10.7	8.8	- 12.5	78.5	75.9	- 81.2	21.7	19.0	- 24.4	27.4	25.2	- 29.7	2.5	1.4	- 3.6
II–CENTRAL	9.1	7.3	- 10.8	76.5	73.8	- 79.1	20.6	18.0	- 23.3	27.0	24.5	- 29.4	†		
III–NORTH EAST	10.5	8.6	- 12.5	77.8	75.3	- 80.3	19.3	16.9	- 21.8	25.1	23.2	- 27.1	1.7	0.9	- 2.4
IV–METRO WEST	6.9	5.5	- 8.4	76.2	73.7	- 78.6	12.8	10.7	- 14.9	26.5	24.5	- 28.5	1.8	0.9	- 2.7
V–SOUTH EAST	11.0	9.1	- 12.9	80.3	78.0	- 82.7	23.0	22.6	- 23.4	30.5	30.2	- 30.8	1.5	0.9	- 2.1
VI–BOSTON	10.2	8.3	- 12.2	79.4	76.9	- 81.9	16.9	14.6	- 19.3	24.1	21.6	- 26.5	1.1	0.5	- 1.6

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011															
	QUIT ATTEMPT			PLANNING TO QUIT			NO SMOKING IN HOUSE			ENVIRONMENTAL SMOKE			BINGE DRINKING		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	59.7	56.8	62.6	38.0	35.0	41.1	80.4	79.3	81.5	38.8	37.3	40.3	21.5	20.4	22.6
GENDER															
MALE	61.4	57.4	65.3	38.2	33.7	42.6	78.5	76.9	80.2	43.1	40.8	45.4	25.9	24.2	27.5
FEMALE	56.9	53.1	60.7	37.3	33.1	41.4	82.2	80.8	83.5	34.9	33.1	36.8	17.3	15.9	18.6
RACE-ETHNICITY*															
WHITE	58.0	54.8	61.1	34.8	31.4	38.1	79.9	78.6	81.2	38.8	37.1	40.6	24.2	22.9	25.4
BLACK	67.7	57.7	77.8	54.7	43.6	65.9	78.2	73.8	82.5	44.2	39.1	49.3	14.6	11.0	18.2
HISPANIC	67.8	59.4	76.2	57.1	47.0	67.1	82.5	78.5	86.5	37.7	32.5	42.9	14.5	11.7	17.3
ASIAN	65.0	65.0	65.0	29.0	29.0	29.0	90.0	85.4	94.6	36.9	28.5	45.3	6.6	4.1	9.1
DISABILITY¶															
DISABILITY	62.5	57.5	67.6	41.0	35.6	46.5	71.5	68.5	74.5	46.6	43.1	50.1	18.6	16.0	21.2
NO DISABILITY	57.9	54.4	61.5	36.2	32.4	39.9	82.7	81.5	83.8	36.9	35.3	38.6	22.2	21.0	23.4
EDUCATION															
< HIGH SCHOOL	58.9	51.9	66.0	40.8	32.6	48.9	71.1	66.7	75.6	45.4	39.8	51.1	15.6	12.2	18.9
HIGH SCHOOL	56.9	52.3	61.4	35.4	30.6	40.3	72.2	69.6	74.7	44.2	41.0	47.3	21.3	19.0	23.6
COLLEGE 1–3 YRS	62.9	58.3	67.5	41.0	35.6	46.5	79.7	77.7	81.6	42.2	39.4	45.0	22.2	20.1	24.3
COLLEGE 4+ YRS	59.8	53.0	66.5	31.9	26.0	37.8	88.8	87.5	90.1	31.9	29.6	34.2	23.4	21.7	25.0
HOUSEHOLD INCOME															
<$25,000	59.7	55.2	64.2	42.6	37.5	47.7	70.6	67.9	73.2	45.1	41.7	48.6	17.9	15.7	20.1
$25,000–34,999	65.5	57.9	73.0	34.3	26.2	42.5	75.0	71.0	78.9	47.1	41.6	52.7	21.7	18.2	25.3
$35,000–49,999	52.5	44.7	60.3	35.6	26.8	44.3	78.1	74.8	81.4	45.6	41.0	50.2	23.1	19.8	26.4
$50,000–74,999	57.1	49.0	65.2	31.8	24.0	39.5	79.7	76.3	83.0	38.8	34.5	43.1	21.5	18.3	24.6
$75,000+	62.2	55.1	69.3	36.7	28.2	45.3	88.3	86.5	90.1	34.4	31.8	37.1	25.7	23.5	28.0
REGION															
I–WESTERN	62.3	56.0	68.6	36.8	29.8	43.8	79.2	76.4	82.0	39.6	36.0	43.2	20.5	17.8	23.2
II–CENTRAL	56.5	49.6	63.3	†			78.6	75.8	81.5	37.5	34.0	41.1	20.5	17.8	23.2
III–NORTH EAST	64.8	58.6	70.9	41.4	34.1	48.8	81.4	78.8	83.9	41.9	38.5	45.3	21.3	18.7	23.9
IV–METRO WEST	54.9	47.3	62.6	38.9	30.1	47.7	83.9	81.6	86.1	33.8	30.3	37.2	21.4	18.9	24.0
V–SOUTH EAST	58.6	52.7	64.6	36.4	29.8	43.0	77.5	77.1	77.9	40.8	40.1	41.5	23.8	23.5	24.2
VI–BOSTON	59.8	52.0	67.6	44.0	35.8	52.2	81.3	78.8	83.8	41.7	37.6	45.8	19.6	17.2	22.1

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

† Insufficient data

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AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011																				
	HEAVY DRINKING				OVERWEIGHT (BMI≥25.0)				OBESE (BMI≥30.0)				MET GUIDELINES FOR AEROBIC ACTIVITY				MET GUIDELINES FOR MUSCLE STRENGTHENING			
	%	95% CI			%	95% CI			%	95% CI			%	95% CI			%	95% CI		
OVERALL	8.1	7.4	-	8.8	59.0	57.7	-	60.2	22.8	21.8	-	23.8	56.3	55.0	-	57.5	32.4	31.2	-	33.5
GENDER																				
MALE	8.0	6.9	-	9.1	68.1	66.4	-	69.7	24.0	22.5	-	25.5	58.3	56.5	-	60.1	36.0	34.3	-	37.8
FEMALE	8.1	7.2	-	9.0	49.6	48.1	-	51.2	21.3	20.0	-	22.6	54.6	53.0	-	56.2	28.7	27.2	-	30.1
RACE-ETHNICITY*																				
WHITE	9.1	8.2	-	9.9	58.1	56.7	-	59.5	21.7	20.6	-	22.8	58.4	57.0	-	59.8	33.1	31.7	-	34.4
BLACK	4.4	2.4	-	6.4	69.4	65.3	-	73.6	32.5	28.2	-	36.7	54.0	49.4	-	58.6	30.9	26.4	-	35.3
HISPANIC	5.6	2.6	-	8.7	68.9	65.2	-	72.7	32.6	28.3	-	36.9	44.4	40.2	-	48.6	27.3	23.5	-	31.1
ASIAN	†				36.2	29.8	-	42.5	5.5	2.4	-	8.5	56.1	49.1	-	63.1	33.9	26.8	-	41.1
DISABILITY¶																				
DISABILITY	6.9	5.3	-	8.4	63.7	60.7	-	66.6	31.8	29.1	-	34.5	45.9	42.9	-	48.9	27.9	25.1	-	30.7
NO DISABILITY	8.4	7.6	-	9.2	57.4	56.0	-	58.7	19.9	18.8	-	21.0	59.5	58.2	-	60.9	33.4	32.2	-	34.7
EDUCATION																				
< HIGH SCHOOL	7.1	4.4	-	9.8	62.5	58.1	-	66.8	31.5	27.5	-	35.5	41.9	37.4	-	46.4	22.1	18.2	-	25.9
HIGH SCHOOL	7.5	6.1	-	9.0	63.0	60.6	-	65.3	25.5	23.4	-	27.6	50.7	48.2	-	53.3	26.4	24.0	-	28.7
COLLEGE 1–3 YRS	8.8	7.4	-	10.2	62.0	59.7	-	64.3	24.8	22.8	-	26.7	57.5	55.1	-	59.9	32.5	30.2	-	34.7
COLLEGE 4+ YRS	8.5	7.4	-	9.7	53.0	51.2	-	54.8	17.0	15.7	-	18.3	63.1	61.4	-	64.9	39.3	37.5	-	41.1
HOUSEHOLD INCOME																				
<$25,000	7.2	5.8	-	8.6	61.1	58.6	-	63.6	29.3	26.9	-	31.7	46.9	44.2	-	49.6	26.0	23.6	-	28.5
$25,000–34,999	7.9	5.8	-	10.0	59.6	55.7	-	63.6	23.2	20.1	-	26.4	52.2	48.0	-	56.4	28.9	25.2	-	32.7
$35,000–49,999	7.6	5.7	-	9.5	62.2	58.7	-	65.6	25.9	22.8	-	29.0	55.3	51.5	-	59.0	31.0	27.6	-	34.4
$50,000–74,999	10.3	7.9	-	12.7	63.0	59.6	-	66.4	23.7	20.7	-	26.6	57.4	53.8	-	60.9	31.2	27.9	-	34.5
$75,000+	9.3	7.7	-	10.9	56.5	54.2	-	58.8	18.5	16.9	-	20.0	63.4	61.0	-	65.8	38.9	36.5	-	41.3
REGION																				
I–WESTERN	7.3	5.5	-	9.1	60.7	57.6	-	63.8	25.9	23.4	-	28.4	57.8	54.8	-	60.8	29.2	26.3	-	32.1
II–CENTRAL	8.6	6.6	-	10.6	62.4	59.5	-	65.2	23.2	20.6	-	25.8	55.8	52.7	-	59.0	30.6	27.6	-	33.5
III–NORTH EAST	8.1	6.4	-	9.7	59.3	56.4	-	62.1	22.3	19.9	-	24.8	52.5	49.6	-	55.5	32.4	29.6	-	35.3
IV–METRO WEST	7.0	5.5	-	8.6	53.1	50.3	-	55.8	17.4	15.4	-	19.4	60.4	57.6	-	63.2	35.4	32.7	-	38.2
V–SOUTH EAST	8.0	7.8	-	8.2	61.3	58.5	-	64.0	25.3	22.9	-	27.8	55.8	55.4	-	56.2	33.3	32.9	-	33.7
VI–BOSTON	9.6	7.7	-	11.4	58.8	55.9	-	61.6	23.4	20.8	-	26.0	55.5	52.4	-	58.6	32.9	29.9	-	35.8

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

† Insufficient data

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AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011															
	5+ SERVINGS OF FRUIT/VEGETABLES DAILY			CHOLESTEROL CHECKED IN PAST 5 YEARS			HIGH CHOLESTEROL			HIGH BLOOD PRESSURE			TAKE MEDICINE FOR HIGH BLOOD PRESSURE		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	18.9	18.0	- 19.9	82.7	81.6	- 83.7	30.8	29.7	- 31.9	27.6	26.7	- 28.6	59.2	56.4	- 61.9
GENDER															
MALE	14.8	13.5	- 16.1	81.0	79.4	- 82.5	31.9	30.3	- 33.5	30.6	29.1	- 32.0	54.6	51.5	- 57.6
FEMALE	22.5	21.2	- 23.8	83.5	82.2	- 84.8	29.1	27.7	- 30.5	25.1	24.0	- 26.1	66.8	62.0	- 71.5
RACE-ETHNICITY*															
WHITE	18.6	17.5	- 19.6	83.6	82.4	- 84.8	30.4	29.2	- 31.6	27.2	26.2	- 28.3	58.0	54.8	- 61.1
BLACK	18.4	14.7	- 22.1	80.1	76.7	- 83.6	29.9	25.5	- 34.2	37.1	33.2	- 41.0	63.9	56.9	- 70.8
HISPANIC	20.1	16.4	- 23.8	72.6	69.3	- 75.9	34.1	29.8	- 38.4	29.8	26.2	- 33.3	60.7	53.3	- 68.2
ASIAN	23.9	17.8	- 30.0	80.7	76.0	- 85.3	24.8	18.2	- 31.4	19.4	13.5	- 25.2	74.5	72.5	- 76.5
DISABILITY¶															
DISABILITY	17.4	15.2	- 19.7	84.4	81.9	- 86.9	38.1	34.9	- 41.2	34.0	31.6	- 36.3	65.6	60.0	- 71.3
NO DISABILITY	19.4	18.3	- 20.4	82.4	81.2	- 83.5	28.6	27.4	- 29.8	25.5	24.5	- 26.5	57.3	54.3	- 60.4
EDUCATION															
< HIGH SCHOOL	15.9	12.6	- 19.3	71.1	67.3	- 74.9	36.7	32.2	- 41.1	35.4	31.7	- 39.1	57.6	49.9	- 65.3
HIGH SCHOOL	15.0	13.1	- 16.9	79.7	77.6	- 81.9	31.6	29.3	- 34.0	31.6	29.6	- 33.6	61.8	56.3	- 67.3
COLLEGE 1–3 YRS	18.4	16.6	- 20.1	83.7	81.8	- 85.6	30.1	28.1	- 32.0	30.5	28.7	- 32.3	58.9	54.2	- 63.6
COLLEGE 4+ YRS	22.4	20.9	- 23.9	86.3	84.8	- 87.9	29.6	27.9	- 31.2	21.3	20.2	- 22.4	58.5	55.1	- 61.9
HOUSEHOLD INCOME															
<$25,000	15.8	14.0	- 17.7	75.7	73.4	- 78.1	34.0	31.6	- 36.5	34.3	32.1	- 36.5	63.4	57.8	- 68.9
$25,000–34,999	14.2	11.4	- 16.9	77.7	74.1	- 81.3	34.1	29.8	- 38.3	30.7	27.6	- 33.9	64.4	56.9	- 71.8
$35,000–49,999	18.7	15.9	- 21.5	83.9	81.0	- 86.9	31.8	28.5	- 35.1	29.2	26.6	- 31.9	56.6	50.4	- 62.7
$50,000–74,999	21.6	18.5	- 24.6	84.4	81.3	- 87.5	31.7	28.6	- 34.8	29.2	26.4	- 32.0	55.0	49.4	- 60.5
$75,000+	21.9	20.0	- 23.9	86.2	84.3	- 88.2	28.4	26.5	- 30.4	22.3	20.7	- 23.9	61.3	53.9	- 68.7
REGION															
I–WESTERN	17.9	15.7	- 20.2	79.5	76.8	- 82.3	29.4	26.9	- 31.9	29.2	26.9	- 31.5	58.2	52.5	- 63.8
II–CENTRAL	17.3	15.1	- 19.5	81.7	79.0	- 84.4	30.6	28.0	- 33.3	28.3	26.0	- 30.7	†		
III–NORTH EAST	18.9	16.7	- 21.1	82.1	79.7	- 84.6	32.8	29.9	- 35.7	30.0	27.6	- 32.3	57.0	51.6	- 62.4
IV–METRO WEST	20.9	18.6	- 23.1	85.0	82.6	- 87.3	29.6	27.3	- 31.9	23.6	21.7	- 25.6	69.5	69.4	- 69.5
V–SOUTH EAST	18.6	18.3	- 18.9	83.3	81.0	- 85.7	30.9	28.3	- 33.6	28.0	26.1	- 30.0	56.2	55.5	- 56.9
VI–BOSTON	17.8	15.5	- 20.2	79.9	77.4	- 82.5	31.5	28.7	- 34.3	28.4	26.0	- 30.8	62.2	55.2	- 69.2

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AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011															
	RECEIVED 3 SHOTS HBV VACCINE			RECEIVED TETANUS VACCINE IN PAST 10 YEARS			PRE-DIABETES			DIABETES			EVER HAD ASTHMA		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	38.2	36.6	- 39.7	77.3	76.1	- 78.5	5.3	4.8	- 5.9	7.6	7.1	- 8.1	15.6	14.7	- 16.6
GENDER															
MALE	33.6	31.3	- 36.0	76.9	75.1	- 78.7	5.4	4.6	- 6.2	8.5	7.7	- 9.2	12.7	11.5	- 13.9
FEMALE	42.9	40.9	- 44.9	77.9	76.4	- 79.3	5.5	4.8	- 6.3	6.8	6.2	- 7.4	18.3	17.0	- 19.6
RACE-ETHNICITY*															
WHITE	36.5	34.7	- 38.3	78.9	77.7	- 80.1	5.3	4.7	- 6.0	6.7	6.2	- 7.2	15.5	14.4	- 16.5
BLACK	44.0	38.5	- 49.5	72.8	68.5	- 77.1	6.8	4.7	- 8.8	13.2	10.4	- 15.9	14.8	11.9	- 17.7
HISPANIC	42.8	37.6	- 47.9	69.3	64.2	- 74.4	5.3	3.0	- 7.5	14.2	11.4	- 17.0	20.7	17.5	- 23.9
ASIAN	55.1	46.1	- 64.2	73.0	64.1	- 82.0	†			8.2	3.7	12.7	8.4	4.6	- 12.1
DISABILITY¶															
DISABILITY	40.1	36.2	- 44.1	78.5	75.8	- 81.2	7.9	6.3	- 9.4	12.3	10.9	- 13.7	28.5	25.7	- 31.3
NO DISABILITY	37.6	35.9	- 39.4	77.1	75.8	- 78.4	4.7	4.1	- 5.3	5.9	5.4	- 6.5	12.4	11.5	- 13.4
EDUCATION															
< HIGH SCHOOL	25.3	19.9	- 30.6	71.6	67.1	- 76.1	5.9	4.0	- 7.9	12.7	10.3	- 15.1	22.2	18.7	- 25.7
HIGH SCHOOL	29.9	26.6	- 33.1	75.4	72.9	- 77.9	5.6	4.4	- 6.8	8.2	7.2	- 9.3	15.3	13.4	- 17.1
COLLEGE 1–3 YRS	41.6	38.6	- 44.5	78.4	76.2	- 80.6	6.0	4.8	- 7.1	7.6	6.7	- 8.5	15.9	14.2	- 17.6
COLLEGE 4+ YRS	46.2	43.9	- 48.5	80.3	78.7	- 81.8	4.6	3.9	- 5.3	5.5	4.7	- 6.2	14.0	12.7	- 15.3
HOUSEHOLD INCOME															
<$25,000	38.7	35.1	- 42.4	72.9	70.0	- 75.8	5.9	4.7	- 7.2	11.7	10.2	- 13.1	21.6	19.4	- 23.8
$25,000–34,999	36.3	30.2	- 42.3	75.9	71.9	- 80.0	6.4	4.2	- 8.6	8.9	7.0	- 10.7	13.8	11.1	- 16.5
$35,000–49,999	34.5	29.9	- 39.2	79.1	75.7	- 82.4	4.6	3.4	- 5.7	7.5	6.0	- 9.0	15.3	12.6	- 17.9
$50,000–74,999	39.3	35.1	- 43.4	78.7	75.5	- 81.9	5.9	4.3	- 7.6	6.6	5.4	- 7.8	14.9	12.3	- 17.5
$75,000+	43.5	40.7	- 46.2	80.4	78.4	- 82.4	5.1	4.1	- 6.0	5.1	4.1	- 6.0	12.9	11.2	- 14.6
REGION															
I–WESTERN	41.3	37.5	- 45.1	78.0	75.5	- 80.6	6.2	4.9	- 7.5	8.3	7.0	- 9.6	20.2	17.6	- 22.8
II–CENTRAL	†		-	81.3	78.6	- 84.0	5.8	4.2	- 7.4	7.2	5.9	- 8.4	14.0	11.7	- 16.2
III–NORTH EAST	39.6	36.0	- 43.1	74.4	71.4	- 77.4	5.7	4.2	- 7.2	7.5	6.4	- 8.6	14.9	12.8	- 17.0
IV–METRO WEST	40.5	37.0	- 44.1	79.4	77.1	- 81.8	4.4	3.5	- 5.4	6.2	5.1	- 7.3	14.4	12.4	- 16.5
V–SOUTH EAST	34.9	34.1	- 35.7	76.4	73.6	- 79.3	5.5	5.1	- 5.9	8.0	6.7	- 9.3	16.6	14.3	- 18.9
VI–BOSTON	42.3	38.7	- 45.9	71.2	67.2	- 75.1	5.0	3.6	- 6.3	8.8	7.4	- 10.2	14.1	12.0	- 16.3

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AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011

	CURRENTLY HAVE ASTHMA		EVER DIAGNOSED WITH COPD		DOCTOR DIAGNOSED ARTHRITIS		LIMITATIONS DUE TO ARTHRITIS		EVER DIAGNOSED WITH CANCER	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	10.8	10.0 - 11.6	5.4	5.0 - 5.9	22.4	21.6 - 23.2	10.4	9.8 - 11.1	10.4	9.8 - 10.9
GENDER										
MALE	7.9	6.9 - 8.9	4.8	4.1 - 5.5	19.7	18.5 - 20.9	8.3	7.4 - 9.2	9.3	8.6 - 10.1
FEMALE	13.7	12.5 - 14.8	6.2	5.6 - 6.8	24.2	23.2 - 25.2	11.2	10.5 - 12.0	11.1	10.3 - 11.9
RACE-ETHNICITY*										
WHITE	10.9	10.0 - 11.8	5.6	5.1 - 6.1	22.2	21.4 - 23.1	9.4	8.8 - 10.1	10.9	10.3 - 11.5
BLACK	9.3	7.1 - 11.6	5.2	2.5 - 7.9	21.3	18.2 - 24.5	11.0	8.5 - 13.4	6.5	4.2 - 8.8
HISPANIC	14.6	11.8 - 17.4	4.1	2.7 - 5.5	25.2	21.9 - 28.5	14.8	12.0 - 17.7	6.6	3.9 - 9.2
ASIAN	4.9	2.2 - 7.7	†		10.1	5.8 - 14.4	†		†	
DISABILITY¶										
DISABILITY	21.6	19.0 - 24.1	12.6	10.9 - 14.2	45.0	42.4 - 47.5	31.2	28.8 - 33.6	13.7	12.3 - 15.1
NO DISABILITY	8.2	7.4 - 9.0	3.0	2.6 - 3.4	15.3	14.5 - 16.1	3.6	3.1 - 4.0	9.3	8.6 - 9.9
EDUCATION										
< HIGH SCHOOL	15.6	12.7 - 18.4	11.2	9.0 - 13.4	30.3	27.0 - 33.5	17.7	14.8 - 20.6	10.3	7.9 - 12.7
HIGH SCHOOL	11.6	9.9 - 13.3	6.8	5.8 - 7.9	25.0	23.2 - 26.8	10.5	9.2 - 11.7	8.9	7.8 - 10.0
COLLEGE 1–3 YRS	10.4	9.0 - 11.8	5.4	4.5 - 6.2	23.7	22.2 - 25.2	10.6	9.4 - 11.7	11.0	10.0 - 12.0
COLLEGE 4+ YRS	9.7	8.5 - 10.8	2.8	2.3 - 3.2	17.0	16.1 - 17.9	6.9	6.3 - 7.5	11.1	10.3 - 12.0
HOUSEHOLD INCOME										
<$25,000	16.6	14.6 - 18.6	11.0	9.6 - 12.5	31.1	29.1 - 33.2	18.1	16.4 - 19.9	9.9	8.6 - 11.1
$25,000–34,999	9.7	7.6 - 11.8	6.1	4.3 - 7.8	23.6	20.9 - 26.3	11.6	9.5 - 13.7	11.1	9.0 - 13.3
$35,000–49,999	10.7	8.4 - 13.0	5.0	3.8 - 6.2	23.4	20.7 - 26.0	8.7	6.9 - 10.6	10.6	8.9 - 12.3
$50,000–74,999	9.5	7.4 - 11.5	5.2	3.9 - 6.4	22.1	20.0 - 24.2	8.7	7.2 - 10.1	10.5	8.7 - 12.3
$75,000+	8.5	7.1 - 10.0	2.6	1.9 - 3.3	16.7	15.3 - 18.1	6.3	5.3 - 7.4	11.7	10.5 - 12.8
REGION										
I–WESTERN	14.3	12.1 - 16.5	6.3	5.0 - 7.5	25.5	23.5 - 27.6	12.1	10.5 - 13.6	9.8	8.5 - 11.1
II–CENTRAL	10.2	8.2 - 12.2	5.7	4.6 - 6.9	22.8	20.7 - 24.9	10.1	8.4 - 11.7	9.0	7.7 - 10.3
III–NORTH EAST	10.9	9.0 - 12.7	5.8	4.7 - 6.9	21.4	19.6 - 23.3	9.0	7.7 - 10.4	10.2	8.9 - 11.5
IV–METRO WEST	9.4	7.7 - 11.2	4.1	3.2 - 4.9	18.5	17.0 - 20.1	8.4	7.2 - 9.6	10.9	9.7 - 12.1
V–SOUTH EAST	11.2	9.3 - 13.1	6.2	5.1 - 7.4	24.9	22.9 - 26.9	11.1	9.6 - 12.6	11.3	9.8 - 12.8
VI–BOSTON	10.3	8.4 - 12.2	5.3	4.1 - 6.6	20.2	18.2 - 22.2	9.2	7.7 - 10.8	9.0	7.6 - 10.4

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

† Insufficient data

¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports.*

AGE-ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011																				
	EVER DIAGNOSED WITH DEPRESSION				SELF-IDENTIFIED AS HOMOSEXUAL, BISEXUAL, OR OTHER				EVER TESTED FOR HIV - AGES 18-64				TESTED FOR HIV IN PAST YEAR - AGES 18-64				SEXUAL VIOLENCE - WOMEN			
	%	95% CI			%	95% CI			%	95% CI			%	95% CI			%	95% CI		
OVERALL	16.8	15.8	-	17.7	3.9	3.3	-	4.4	47.3	45.9	-	48.7	11.8	10.7	-	12.8	19.8	16.5	-	23.2
GENDER																				
MALE	13.3	12.1	-	14.6	3.9	3.1	-	4.7	44.1	42.0	-	46.1	11.5	10.0	-	13.1	n/a			
FEMALE	20.2	18.9	-	21.4	3.9	3.1	-	4.7	50.9	49.1	-	52.7	12.0	10.6	-	13.4	19.8	16.5	-	23.2
RACE-ETHNICITY*																				
WHITE	17.3	16.3	-	18.4	4.0	3.3	-	4.6	45.1	43.4	-	46.7	10.3	9.1	-	11.5	20.7	16.7	-	24.6
BLACK	12.8	9.6	-	16.1	3.8	2.0	-	5.7	69.8	65.4	-	74.2	26.9	21.5	-	32.2	18.0	9.2	-	26.8
HISPANIC	20.5	17.4	-	23.6	3.0	1.4	-	4.6	64.2	60.0	-	68.4	19.5	15.7	-	23.3	13.2	12.1	-	14.4
ASIAN	9.5	4.6	-	14.4	†				30.2	23.8	-	36.7	4.8	2.2	-	7.3	†			
DISABILITY¶																				
DISABILITY	35.5	32.6	-	38.3	6.5	4.4	-	8.6	58.3	54.9	-	61.7	16.3	13.2	-	19.3	24.6	16.7	-	32.5
NO DISABILITY	11.8	10.9	-	12.7	3.3	2.8	-	3.9	44.7	43.2	-	46.2	10.8	9.7	-	11.8	18.1	14.4	-	21.8
EDUCATION																				
< HIGH SCHOOL	29.3	25.3	-	33.2	1.7	0.9	-	2.5	54.0	48.5	-	59.5	11.8	8.2	-	15.4	†			
HIGH SCHOOL	16.9	15.0	-	18.8	2.9	1.8	-	3.9	46.8	43.9	-	49.8	14.3	11.7	-	16.9	20.2	12.1	-	28.3
COLLEGE 1–3 YRS	17.8	16.1	-	19.5	4.3	3.2	-	5.5	49.0	46.3	-	51.7	13.0	10.9	-	15.1	19.8	14.2	-	25.3
COLLEGE 4+ YRS	12.9	11.7	-	14.1	4.8	3.7	-	5.9	46.2	44.1	-	48.3	9.9	8.4	-	11.3	22.0	16.8	-	27.2
HOUSEHOLD INCOME																				
<$25,000	28.9	26.6	-	31.3	4.3	3.1	-	5.6	58.4	55.3	-	61.5	18.3	15.6	-	21.0	27.6	20.2	-	35.1
$25,000–34,999	19.6	16.4	-	22.9	4.0	2.3	-	5.7	49.4	44.2	-	54.6	13.5	9.9	-	17.1	†			
$35,000–49,999	15.9	13.1	-	18.7	3.6	2.1	-	5.2	47.7	43.4	-	52.1	12.0	8.8	-	15.2	22.6	12.4	-	32.8
$50,000–74,999	17.3	14.6	-	20.1	3.9	2.3	-	5.6	42.8	38.7	-	46.8	10.3	7.5	-	13.1	15.4	10.1	-	20.6
$75,000+	10.7	9.2	-	12.2	4.7	3.3	-	6.1	44.7	42.0	-	47.3	9.2	7.2	-	11.2	17.4	12.2	-	22.6
REGION																				
I–WESTERN	18.5	16.2	-	20.9	4.1	2.8	-	5.3	51.4	47.7	-	55.0	12.0	9.3	-	14.8	27.5	19.1	-	35.8
II–CENTRAL	18.3	15.7	-	20.8	2.7	1.5	-	4.0	†				†				18.0	11.1	-	24.9
III–NORTH EAST	15.1	13.1	-	17.2	3.2	1.9	-	4.5	48.5	45.1	-	52.0	12.7	10.1	-	15.4	16.3	10.0	-	22.6
IV–METRO WEST	15.4	13.3	-	17.4	4.1	2.6	-	5.5	43.2	39.9	-	46.5	10.1	7.7	-	12.4	17.0	17.0	-	17.0
V–SOUTH EAST	19.0	16.7	-	21.4	4.0	3.6	-	4.4	47.9	47.4	-	48.4	†				20.5	11.8	-	29.2
VI–BOSTON	14.5	12.5	-	16.5	7.0	5.2	-	8.7	57.0	53.6	-	60.3	17.5	14.5	-	20.5	15.8	12.5	-	19.2

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† Insufficient data

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AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

	ALWAYS USE A SEATBELT			
	%	95% CI		
OVERALL	79.5	78.4	-	80.6
GENDER				
MALE	73.9	72.2	-	75.6
FEMALE	84.7	83.4	-	85.9
RACE-ETHNICITY*				
WHITE	79.2	77.9	-	80.4
BLACK	76.5	72.7	-	80.3
HISPANIC	80.0	76.2	-	83.9
ASIAN	90.7	87.0	-	94.4
DISABILITY¶				
DISABILITY	75.8	73.0	-	78.6
NO DISABILITY	80.2	79.0	-	81.4
EDUCATION				
< HIGH SCHOOL	73.5	69.4	-	77.6
HIGH SCHOOL	71.4	68.9	-	73.8
COLLEGE 1–3 YRS	78.4	76.3	-	80.4
COLLEGE 4+ YRS	87.1	85.7	-	88.6
HOUSEHOLD INCOME				
<$25,000	74.6	72.2	-	76.9
$25,000–34,999	76.3	72.4	-	80.3
$35,000–49,999	74.6	71.2	-	78.1
$50,000–74,999	77.9	74.5	-	81.2
$75,000+	83.7	81.6	-	85.7
REGION				
I–WESTERN	78.7	76.0	-	81.5
II–CENTRAL	79.6	76.8	-	82.3
III–NORTH EAST	78.9	76.3	-	81.5
IV–METRO WEST	81.5	79.0	-	84.0
V–SOUTH EAST	75.5	75.1	-	76.0
VI–BOSTON	82.0	79.5	-	84.4

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¶ Disability defined as having one or more of the following conditions: (1) physical, mental, or emotional problem that limited activities or caused cognitive difficulties; or (2) used special equipment or required help from others to get around. *Please note that this differs from the definition used in previous years' reports*

MASSACHUSETTS ESTIMATES AND HP 2020^

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011		
VARIABLES¶	MA %	HP 2020^ %
HEALTH CARE ACCESS AND UTILIZATION		
HAVE PERSONAL HEALTH CARE PROVIDER (18-64)	86.8	89.4
HAVE PERSONAL HEALTH CARE PROVIDER (65+)	96.5	100.0
RISK FACTORS AND PREVENTIVE BEHAVIORS		
CURRENT SMOKER	18.2	12.0
QUIT ATTEMPT AMONG CURRENT SMOKERS	60.1	80.0
USE SMOKELESS TOBACCO	1.7	0.3
BINGE DRINKING	20.6	24.3
OBESITY (20+)	22.7	30.6
NO LEISURE TIME PHYSICAL ACTIVITY	23.5	32.6
AEROBIC ACTIVITY 150+ MINUTES/WEEK	56.3	47.9
MUSCLE-STRENGTHENING ACTIVITIES 2+ DAYS/WEEK	32.0	24.1
CHOLESTEROL CHECKED IN PAST 5 YEARS	83.7	82.1
HIGH CHOLESTEROL (20+)	34.8	13.5
HIGH BLOOD PRESSURE	29.2	26.9
IMMUNIZATION		
FLU VACCINE IN PAST YEAR (18-64)	39.6	80.0
FLU VACCINE IN PAST YEAR (65+)	66.9	90.0
EVER HAD PNEUMONIA VACCINATION (18-64)	23.5	60.0
EVER HAD PNEUMONIA VACCINATION (65+)	72.7	90.0
CHRONIC HEALTH CONDITIONS		
LIMITATIONS DUE TO ARTHRITIS (AMONG THOSE DIAGNOSED)	46.6	35.5
OTHER TOPICS		
TESTED FOR HIV IN PAST YEAR (18-44)	16.7	16.9

¶ Variable definitions were created to match those in HP 2020 and may not match definitions used elsewhere in this report - e.g. may use different age grouping

^ HP 2020 = Healthy People 2020 Objectives.

MASSACHUSETTS AND NATIONAL ESTIMATES

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011			
VARIABLES	MA %	US MEDIAN[¶] %	US RANGE[¶] %
OVERALL HEALTH MEASURES			
FAIR OR POOR HEALTH	14.0	17.1	12.0-34.5
15+ POOR MENTAL HEALTH DAYS	10.4	11.1	7.4-16.2
15+ DAYS IN POOR PHYSICAL HEALTH	9.7	11.0	7.8-16.3
DISABILITY	23.1	25.6	20.6-33.0
HEALTH CARE ACCESS AND UTILIZATION			
NO HEALTH INSURANCE	4.4	†	
HAVE PERSONAL HEALTH CARE PROVIDER	88.3	78.1	63.0-88.3
COULD NOT SEE DOCTOR DUE TO COST	9.5	16.1	8.7-23.3
CHECKUP IN PAST YEAR	78.8	66.7	53.5-79.0
RISK FACTORS AND PREVENTIVE BEHAVIORS			
CURRENT SMOKER	18.2	21.1	11.8-29.0
FORMER SMOKER	28.8	25.1	16.0-31.6
QUIT ATTEMPT AMONG CURRENT SMOKERS	60.1	58.4	50.2-64.9
USE SMOKELESS TOBACCO	1.7	4.4	1.3-9.8
BINGE DRINKING	20.6	18.3	10.0-25.0
HEAVY DRINKING	7.9	6.6	3.4-9.8
OVERWEIGHT	59.3	63.9	52.9-68.9
OBESITY	22.7	27.8	20.7-34.9
MET GUIDELINES FOR AEROBIC ACTIVITY	56.3	51.6	33.8-61.8
MET GUIDELINES FOR MUSCLE-STRENGTHENING ACTIVITY	32.0	29.4	12.1-36.1
5+ SERVINGS OF FRUIT/VEGETABLES PER DAY	18.8	16.5	7.9-25.5
CHOLESTEROL CHECKED IN PAST 5 YEARS	83.7	75.5	66.3-83.7
HIGH CHOLESTEROL	34.3	38.4	33.5-42.3
HIGH BLOOD PRESSURE	29.2	30.9	22.9-40.1
TAKE MEDICINE FOR HIGH BLOOD PRESSURE	76.9	77.7	64.7-84.3
IMMUNIZATION			
FLU VACCINE IN PAST YEAR (18-49)	35.1	28.9	15.8-42.4
FLU VACCINE IN PAST YEAR (50-64)	48.7	42.1	17.8-52.2
FLU VACCINE IN PAST YEAR (65+)	66.9	61.0	28.6-70.2
EVER HAD PNEUMONIA VACCINATION (65+)	72.2	70.0	22.9-76.0
CHRONIC HEALTH CONDITIONS			
DIABETES	8.0	9.5	6.7-13.5
EVER HAD ASTHMA	15.3	13.7	10.4-17.2
CURRENTLY HAVE ASTHMA	10.7	9.1	6.4-12.0
HAVE ARTHRITIS	23.6	24.4	18.2-35.9
LIMITATIONS DUE TO ARTHRITIS	10.3	11.2	4.0-14.5
MYOCARDIAL INFARCTION (35+)	5.1	6.1	3.8-9.2
ANGINA OR CORONARY HEART DISEASE (35+)	5.2	5.7	3.5-10.1
STROKE (35+)	3.1	3.8	2.4-6.1
CHRONIC OBSTRUCTIVE PULMONARY DISEASE	5.8	6.1	3.1-9.8
EVER DIAGNOSED WITH CANCER	10.9	11.2	4.0-14.5
EVER DIAGNOSED WITH DEPRESSION	16.7	17.5	10.6-24.4
OTHER TOPICS			
EVER TESTED FOR HIV (18-64)	45.5	40.7	27.4-73.5
TESTED FOR HIV IN PAST YEAR (18-64)	11.2	10.8	6.6-38.3
ALWAYS WEAR A SEATBELT	79.7	86.1	63.9-94.1

[¶] The US median percentage and range are based on data for all 50 states, District of Columbia, and Puerto Rico.
† No comparable US data available

ITEM-SPECIFIC NON-RESPONSE

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2011	
	PERCENTAGE OF NON-RESPONSE* %
OVERALL HEALTH MEASURES	
FAIR OR POOR HEALTH	0.3
15+ DAYS IN POOR PHYSICAL HEALTH IN PAST MONTH	2.6
15+ POOR MENTAL HEALTH DAYS IN PAST MONTH	2.6
DISABILITY	9.1
HEALTH CARE ACCESS AND UTILIZATION	
HAVE PERSONAL HEALTH CARE PROVIDER	0.3
COULD NOT SEE DOCTOR DUE TO COST	0.4
CHECKUP IN PAST YEAR	0.9
RISK FACTORS AND PREVENTIVE BEHAVIORS	
CURRENT SMOKER	0.8
FORMER SMOKER	0.8
USE SMOKELESS TOBACCO	0.1
QUIT ATTEMPT AMONG CURRENT SMOKERS	0.4
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT ALLOWED	16.6
EXPOSED TO ENVIRONMENTAL SMOKE	18.1
BINGE DRINKING	11.4
HEAVY DRINKING	11.4
OVERWEIGHT	8.0
OBESITY	8.0
MET RECOMMENDATION FOR AEROBIC ACTIVITY	11.4
MET RECOMMENDATION FOR MUSCLE STRENGTHENING ACTIVITY	9.1
5 OR MORE SERVINGS OF FRUITS OR VEGETABLES	6.8
CHOLESTEROL CHECKED IN PAST 5 YEARS	10.9
HIGH BLOOD PRESSURE	0.3
IMMUNIZATION	
FLU VACCINE IN THE PAST YEAR (18-49)	10.3
FLU VACCINE IN THE PAST YEAR (50-64)	8.3
FLU VACCINE IN THE PAST YEAR (65+)	10.8
EVER HAD PNEUMONIA VACCINE (65+)	15.4
HPV VACCINE (FEMALES 18-49)	18.9
HAD HEPATITIS B VACCINE	25.9
TETANUS VACCINE IN PAST 10 YEARS	22.1
SHINGLES VACCINE (50+)	16.2
CHRONIC HEALTH CONDITIONS	
PRE-DIABETES	12.5
DIABETES	0.2
EVER HAD ASTHMA	0.3
CURRENTLY HAVE ASTHMA	0.6
DOCTOR DIAGNOSED ARTHRITIS	0.6
LIMITATIONS DUE TO ARTHRITIS	3.5
HEART ATTACK (35+)	0.5
ANGINA OR CORONARY HEART DISEASE (35+)	0.8
STROKE (35+)	0.3
EVER DIAGNOSED WITH CANCER	0.4
CHRONIC OBSTRUCTIVE PULMONARY DISEASE	0.5
EVER DIAGNOSED WITH DEPRESSION	0.6
OTHER TOPICS	
EVER TESTED FOR HIV (18-64)	12.8
ALWAYS WEAR A SEATBELT	10.2

* The item-specific unweighted non-response % was calculated using the number of respondents who had finished the demographic section of the 2011 BRFSS as the denominator and those who reported don't know or refused as the numerator.

ADDENDUM

This addendum serves to offer further explanation of the methodological changes to the BRFSS implemented in 2011.

This addendum contains a document, “Understanding the Impact of Changes in BRFSS Weighting Protocols”[57]. This document was *produced by the CDC* and contains examples from *national data*. In addition, there are eleven tables, produced using Massachusetts data, with selected indicators comparing 2010 estimates utilizing only the landline sample and the “old” weighting methodology (post-stratification) to 2011 estimates utilizing the combined landline and cell phone samples and employing the “new” weighting methodology (raking or iterative proportional fitting). These tables provide a comparison of the overall estimates as well as estimates among subpopulations, so that the reader can see which groups were most affected by the survey modes and methodological changes.

Please note that these tables are provided for the sole purpose of illustrating the effect of changes to the weighting methodology and the inclusion of cell phone respondents. As noted earlier in this release, data from 2011 are not comparable to previous years’ data. Disability status was not included in these tables as there was a minor change in how disability was defined between 2010 and 2011.

UNDERSTANDING THE IMPACT OF CHANGES IN BRFSS WEIGHTING PROTOCOLS

Background:

Weighting processes are used by all large surveys. These processes adjust the data so that those groups which are underrepresented in the sample can be accurately represented in the data. The weighting process for BRFSS data has been changed from Post-Stratification to Raking (or iterative proportional fitting). Post-Stratification has been used by BRFSS for many years. During 2007 Raking was introduced and in 2011 Raking will be the only method used for weighting.

Post-Stratification and Raking methods used by the BRFSS differ. In Post-Stratification, categories of gender, age, race/ethnicity and regions within states were used to adjust data. In Raking, telephone source (landline or cell phone), education level, marital status and renter/owner status will be added to race and ethnicity, regions within states, age group by gender, gender by race and ethnicity, and age group by race and ethnicity. The post-stratification process also required that categories of variables had to be collapsed when too few respondents fit the criteria. For example, if there were only a few persons who met race, gender and age criteria, then groups of ages might be combined prior to weighting. Raking does not require the collapsing of categories, even though more demographic characteristics are being included. The inclusion of new demographic characteristics as weights allows for a greater understanding of how BRFSS samples represent populations.

Raking is completed by adjusting for one demographic variable (or dimension) at a time. For example, when weighting by age and gender, weights would first be adjusted for gender groups, then those estimates would be adjusted by age groups. This procedure would continue in an iterative process until all group proportions in the sample approach those of the population, or after 75 iterations.

Raking is a step forward in the weighting process. In the past, computer systems were strained by the complexity of Raking with very large survey samples. In 2011, computer systems are better able to accomplish this task. The changes in personal communication require that surveys include cell phone samples. Raking allows for the integration of cell phone samples in BRFSS estimates.

Differences in Estimates using Post-Stratification and Raking

It should be remembered that Raking will include new demographic characteristics on which weights are calculated. Raking adds new variables (telephone source, education level, marital status and renter/owner status) to variables which have been used for weighting in the past (age, race/ethnicity, gender, region/state). The statistical processes are also different. In some cases this will result in changes in prevalence estimates when comparing Post-Stratification and Raking. In the example below (see Table 1), small differences are noted between prevalence estimates for landline samples when Post-Stratification and Raking are compared for responses in a single state. This table provides weighted frequency distributions for the variable DIABETE2: “Has a healthcare provider ever told you that you have diabetes?”

Table 1 State-level Responses to Question: "Has a doctor, nurse or other healthcare provider ever told you that you have diabetes?" By Type Of Weighting Procedure for Landline Data					
Response	Landline Weighted frequency with Post-Stratification	Landline Percent With Post-Stratification	Landline Weighted frequency with Raking	Landline Percent With Raking	Differences in Landline Percentages (Post-Stratification - Raking)
Yes	434,858	12.26	440,694	12.43	-0.17
Yes, but only during pregnancy	26,306	0.74	26,262	0.74	0.00
No	3,031,681	85.44	3,029,545	85.42	0.02
No, Pre-diabetes/ borderline diabetes	55,454	1.56	50,196	1.42	0.15

As this table indicates, differences between the prevalence estimates are very small and not likely to be noted in trends of responses to this question over time. However, in other instances differences may be evident when Post-Stratification and Raking are compared. In Table 2, below, responses to the variable GENHLTH are presented. These questions are in response to the question, "Would you say that in general your health is…Excellent, Very Good, Good, Fair or Poor." As the table indicates, some of the weighted percentages are similar when Post-Stratification and Raking are compared. Other categories of response differ. For example, the percentage of the responses in the response category "Good" is 31.26 percent when weighted using Post-Stratification, and it is 31.42 percent using Raking (a difference of only -0.16 percent). Differences are more pronounced between the prevalence estimates of those who respond "Fair," with percentages of 14.65 and 16.73 for Post-Stratification and Raking, respectively (a difference of -2.07 percent).

Table 2 State-level Responses to Question: "Would you say that in general your health is excellent, very good, good, fair or poor?" By Type Of Weighting Procedure for Landline Data					
Response	Landline Weighted Frequency With Post-Stratification	Landline Percent With Post-Stratification	Landline Weighted Frequency With Raking	Landline Percent With Raking	Differences In Landline Percentages (Post-Stratification - Raking)
Excellent	631,742	17.83	575,541	16.27	1.56
Very Good	1,037,345	29.27	963,330	27.23	2.04
Good	1,107,272	31.26	1,111,484	31.42	-0.16
Fair	519,248	14.65	591,716	16.73	-2.07
Poor	247,424	6.98	295,425	8.35	-1.37

In the example below there are more consistent differences between weighted percentages in all of the responses to a question. The table below provides comparisons to the variable EXERANY2: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" As is depicted in the table, both categories of response are different when compared by weighting procedures.

Table 3
State-level Responses to Question:
"During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?"
By Type Of Weighting Procedure for Landline Data

Response	Landline Weighted Frequency With Post-Stratification	Landline Percent With Post-Stratification	Landline Weighted Frequency With Raking	Landline Percent With Raking	Differences In Landline Percentages (Post-Stratification - Raking)
Yes	2,448,288	68.97	2,342,381	65.98	2.99
No	1,101,378	31.03	1,207,643	34.02	-2.99

Differences noted in these examples are consequences of the inclusion of additional variables in the weighting process as well as differences in the procedure itself.

However, some of the differences which are noted in Tables 1-3 are ameliorated by the inclusion of cell phone data, which is also being included in the 2011 BRFSS data. In the section below, illustrations of the impact of cell phone data and concurrent weighting changes are presented.

Differences in Estimates using Post-Stratification and Raking With Integrated Cell Phone Data

One of the reasons for moving to Raking is to allow for the inclusion of cell phone data. In 2011, these two changes will be adopted for all BRFSS data. Some of the changes noted in the tables above, are minimized by the inclusion of cell phone data. For example, in Table 4 below, data from Table 3 are reproduced with additional columns to illustrate percentages using landline and cell phone data. As this table shows, the differences noted between estimates produced using Post-Stratification and Raking, are no longer a factor when cell phone samples are included in the weighting.

Table 4
State-level Responses to Question:
"During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?"
By Type Of Weighting Procedure for Landline and Cell Phone Data

Response	Landline Weighted Frequency With Post-Stratification	Landline Percent With Post-Stratification	Landline Weighted Frequency With Raking	Landline Percent With Raking	Differences In Landline Percentages (Post-Stratification - Raking)	Landline And Cell Phone Weighted Frequency With Raking	Landline And Cell Phone Percent With Raking	Landline And Cell Phone Differences In Percentages (Post-Stratification - Raking)
Yes	2,448,288	68.97	2,342,381	65.98	2.99	2,447,823	68.96	0.02
No	1,101,378	31.03	1,207,643	34.02	-2.99	1,102,053	31.04	-0.02

In some cases, the inclusion of cell phone samples may reduce, but not minimize the impact of weighting changes. For example, in the table below, while differences in weighting are less substantial, there are still noticeable differences between estimates derived from Post-Stratification and Raking weighting. In this instance respondents were asked how often they smoked. As the data illustrate, in some categories the Raking landline/cell phone responses are closer to the Post-Stratification estimates. In one category (persons who smoke some days), the estimate is further off and in a different direction than with Raking alone.

Table 5
State-level Responses to Question:
"Do you smoke cigarettes every day, some days or not at all?"
By Type Of Weighting Procedure for Landline and Cell Phone Data

Response	Landline Weighted Frequency With Post-Stratification	Landline Percent With Post-Stratification	Landline Weighted Frequency With Raking	Landline Percent With Raking	Differences In Landline Percentages (Post-Stratification - Raking)	Landline And Cell Phone Weighted Frequency With Raking	Landline And Cell Phone Percent With Raking	Landline And Cell Phone Differences In Percentages (Post-Stratification - Raking)
Every day	581,967	36.32	704,831	40.95	-4.63	676,129	40.40	-4.08
Some Days	213,724	13.34	248,782	14.45	-1.12	199,278	11.91	1.43
Not At All	806,827	50.35	767,708	44.60	5.75	798,181	47.69	2.65

Conclusions

New weighting procedures are needed to keep pace with the changing landscape of personal communications. The inclusion of new variables and more complex weighting procedures for large scale survey data are now feasible, because of improvements in the capacity of computer systems. It is to be expected that there will be some differences in estimates when weighting procedures change and when new variables for weighting are introduced. The change from Post-Stratification to Raking will allow researchers to understand better the associations between variables, by controlling more factors through the weighting process. In addition Raking allows for the inclusion of cell phone samples in the data.

It should be remembered that these are only depictions of potential outcomes of changes at the BRFSS. The examples presented here may not be illustrative of impacts of weighting procedures in different states or for different variables.

The following tables provide Massachusetts estimates for selected indicators comparing 2010 estimates utilizing only the landline sample and the “old” weighting methodology (post-stratification) to 2011 estimates utilizing the combined landline and cell phone samples and employing the “new” weighting methodology (raking or iterative proportional fitting). These tables provide a comparison of the overall estimates as well as estimates among subpopulations, so that the reader can see which groups were most affected by the survey modes and methodological changes.

Please note that these tables are provided for the sole purpose of illustrating the effect of changes to the weighting methodology and the inclusion of cell phone respondents. As noted earlier in this release, data from 2011 are not comparable to previous years’ data. Disability status was not included in these tables as there was a minor change in how disability was defined between 2010 and 2011.

TABLE A1: FAIR OR POOR OVERALL HEALTH AMONG MA ADULTS, 2010-2011

	FAIR OR POOR HEALTH 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					FAIR OR POOR HEALTH 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	16,262	11.6	10.8	-	12.3	22,253	14.0	13.3	-	14.8
GENDER										
MALE	6,106	10.8	9.7	-	11.9	8,448	13.9	12.7	-	15.0
FEMALE	10,156	12.3	11.3	-	13.2	13,805	14.2	13.3	-	15.1
AGE GROUP										
18–24	365	4.9	2.2	-	7.5	807	7.1	4.8	-	9.4
25–34	1,361	6.5	4.7	-	8.4	2,186	8.1	6.3	-	9.8
35–44	2,495	8.0	6.5	-	9.5	3,146	10.8	8.9	-	12.6
45–54	3,423	9.9	8.6	-	11.3	4,467	12.9	11.4	-	14.3
55–64	3,583	15.2	13.4	-	17.0	4,833	19.3	17.6	-	21.0
65–74	2,507	18.6	16.5	-	20.7	3,457	22.7	20.5	-	24.8
75 AND OLDER	2,252	25.5	23.0	-	28.0	2,951	26.9	24.4	-	29.4
RACE-ETHNICITY*										
WHITE	13,314	10.4	9.7	-	11.1	17,880	12.5	11.8	-	13.3
BLACK	792	13.3	10.1	-	16.4	1,398	17.9	14.5	-	21.3
HISPANIC	1,253	23.4	19.4	-	27.3	1,718	27.3	23.8	-	30.8
ASIAN	†					461	7.9	4.2	-	11.6
EDUCATION										
< HIGH SCHOOL	1,529	40.7	35.8	-	45.6	1,802	34.8	31.2	-	38.5
HIGH SCHOOL	4,049	18.5	16.6	-	20.3	5,724	17.7	16.2	-	19.3
COLLEGE 1–3 YRS	3,714	12.0	10.6	-	13.5	5,224	12.0	10.8	-	13.3
COLLEGE 4+ YRS	6,847	4.9	4.2	-	5.5	9,328	6.0	5.3	-	6.7
HOUSEHOLD INCOME										
<$25,000	3,751	31.4	28.9	-	34.0	5,151	29.0	26.8	-	31.1
$25,000–34,999	1,418	20.0	16.4	-	23.7	1,962	19.1	16.2	-	22.1
$35,000–49,999	1,739	10.6	8.6	-	12.6	2,495	11.8	9.9	-	13.7
$50,000–74,999	1,962	6.9	5.3	-	8.5	2,741	7.3	5.9	-	8.7
$75,000+	4,813	3.5	2.8	-	4.1	6,252	4.7	3.9	-	5.5
REGION										
I–WESTERN	2,253	14.0	12.1	-	15.9	2,970	16.6	14.7	-	18.5
II–CENTRAL	2,137	11.9	10.0	-	13.9	2,808	15.0	13.0	-	17.0
III–NORTH EAST	3,765	11.7	10.0	-	13.3	5,110	13.3	11.6	-	14.9
IV–METRO WEST	2,082	7.3	6.0	-	8.5	2,970	9.2	7.9	-	10.6
V–SOUTH EAST	3,988	12.9	11.3	-	14.5	5,348	15.9	14.1	-	17.6
VI–BOSTON	1,764	16.2	13.5	-	18.8	2,260	16.0	13.5	-	18.5

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A2: CHECK-UP IN PAST YEAR AMONG MA ADULTS, 2010-2011

	HAVE HAD A CHECKUP IN THE PAST YEAR 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					HAVE HAD A CHECKUP IN THE PAST YEAR 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	16199	80.0	78.9	-	81.0	22,130	78.8	77.8	-	79.8
GENDER										
MALE	6083	76.0	74.3	-	77.8	8,398	74.1	72.5	-	75.7
FEMALE	10116	83.6	82.3	-	84.8	13,732	83.1	82.0	-	84.2
AGE GROUP										
18–24	362	76.3	69.5	-	83.2	793	73.9	69.9	-	77.8
25–34	1350	73.4	69.8	-	76.9	2,169	64.7	61.6	-	67.8
35–44	2484	73.3	70.9	-	75.8	3,120	75.0	72.6	-	77.4
45–54	3407	80.1	78.1	-	82.1	4,454	77.7	75.8	-	79.6
55–64	3577	83.7	81.7	-	85.6	4,817	86.7	85.1	-	88.3
65–74	2501	91.4	89.8	-	93.0	3,447	92.6	91.4	-	93.8
75 AND OLDER	2245	95.3	94.2	-	96.4	2,928	93.4	91.9	-	94.9
RACE-ETHNICITY*										
WHITE	13273	79.9	78.8	-	81.1	17,777	79.5	78.4	-	80.6
BLACK	790	85.0	80.5	-	89.4	1,403	79.8	75.7	-	83.8
HISPANIC	1241	80.8	76.5	-	85.2	1,698	75.3	71.7	-	79.0
ASIAN	278	76.2	68.6	-	83.7	459	72.5	66.4	-	78.5
EDUCATION										
< HIGH SCHOOL	1515	79.1	74.0	-	84.2	1,790	78.7	75.1	-	82.4
HIGH SCHOOL	4037	81.1	78.8	-	83.4	5,686	79.0	77.0	-	81.0
COLLEGE 1–3 YRS	3695	82.4	80.5	-	84.4	5,205	78.6	76.7	-	80.6
COLLEGE 4+ YRS	6835	78.4	76.8	-	79.9	9,278	78.8	77.4	-	80.2
HOUSEHOLD INCOME										
<$25,000	3724	83.1	80.8	-	85.4	5,117	78.8	76.6	-	81.0
$25,000–34,999	1413	82.7	79.1	-	86.3	1,949	78.5	75.1	-	81.9
$35,000–49,999	1734	80.0	76.6	-	83.3	2,482	77.4	74.3	-	80.5
$50,000–74,999	1964	79.4	76.3	-	82.5	2,730	79.0	76.3	-	81.8
$75,000+	4806	77.8	76.0	-	79.5	6,236	78.8	77.2	-	80.4
REGION										
I–WESTERN	2235	77.2	74.2	-	80.2	2,947	79.5	77.0	-	82.0
II–CENTRAL	2131	79.7	76.8	-	82.6	2,799	77.5	74.8	-	80.1
III–NORTH EAST	3756	80.2	77.7	-	82.6	5,082	79.4	77.1	-	81.8
IV–METRO WEST	2084	78.8	76.5	-	81.2	3,188	77.2	74.9	-	79.5
V–SOUTH EAST	3967	82.4	80.2	-	84.7	5,310	82.0	79.9	-	84.0
VI–BOSTON	1756	80.9	77.8	-	84.0	2,257	78.1	75.2	-	81.0

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A3: CURRENT CIGARETTE SMOKING AMONG MA ADULTS, 2010-2011

	CURRENT SMOKER 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					CURRENT SMOKER 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	16,219	14.1	13.2	-	15.0	22,150	18.2	17.3	-	19.2
GENDER										
MALE	6,086	14.8	13.4	-	16.2	8,412	19.7	18.2	-	21.1
FEMALE	10,133	13.4	12.4	-	14.5	13,738	16.9	15.7	-	18.1
AGE GROUP										
18–24	362	18.8	12.8	-	24.9	802	22.6	18.7	-	26.5
25–34	1,357	18.7	15.6	-	21.7	2,180	26.4	23.4	-	29.3
35–44	2,487	15.5	13.6	-	17.5	3,125	20.3	17.9	-	22.7
45–54	3,422	14.8	13.1	-	16.5	4,449	17.8	16.1	-	19.5
55–64	3,573	12.6	11.1	-	14.1	4,824	15.2	13.7	-	16.8
65–74	2,500	10.4	8.8	-	12.0	3,447	12.0	10.3	-	13.6
75 AND OLDER	2,249	4.7	3.6	-	5.8	2,925	5.7	4.3	-	7.1
RACE-ETHNICITY*										
WHITE	13,279	14.1	13.1	-	15.0	17,781	18.5	17.4	-	19.6
BLACK	789	15.7	11.5	-	19.8	1,399	17.4	13.9	-	20.9
HISPANIC	1,252	14.8	11.3	-	18.3	1,717	19.2	15.7	-	22.7
ASIAN	276	8.1	3.4	-	12.9	458	8.6	4.5	-	12.8
EDUCATION										
< HIGH SCHOOL	1,530	26.8	22.3	-	31.3	1,806	30.1	26.3	-	34.0
HIGH SCHOOL	4,044	21.8	19.6	-	24.0	5,700	25.1	23.0	-	27.1
COLLEGE 1–3 YRS	3,706	19.3	17.2	-	21.4	5,205	21.0	19.1	-	23.0
COLLEGE 4+ YRS	6,816	7.0	6.1	-	7.9	9,263	7.2	6.3	-	8.1
HOUSEHOLD INCOME										
<$25,000	3,738	25.7	23.1	-	28.2	5,145	29.4	27.0	-	31.7
$25,000–34,999	1,418	18.2	14.9	-	21.4	1,959	19.6	16.4	-	22.8
$35,000–49,999	1,735	18.1	15.1	-	21.2	2,484	19.2	16.4	-	21.9
$50,000–74,999	1,960	13.8	11.3	-	16.4	2,724	19.7	16.8	-	22.6
$75,000+	4,800	8.7	7.5	-	9.9	6,217	9.9	8.7	-	11.2
REGION										
I–WESTERN	2,242	18.0	15.6	-	20.5	2,963	20.8	18.2	-	23.3
II–CENTRAL	2,134	16.3	13.8	-	18.8	2,800	20.3	17.7	-	23.0
III–NORTH EAST	3,756	12.8	10.9	-	14.8	5,096	18.5	16.2	-	20.7
IV–METRO WEST	2,076	8.9	7.3	-	10.6	3,177	12.5	10.6	-	14.4
V–SOUTH EAST	3,983	16.1	14.1	-	18.1	5,316	21.3	19.0	-	23.5
VI–BOSTON	1,756	15.5	13.0	-	18.1	2,251	17.5	15.0	-	20.1

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A4: HEAVY DRINKING AMONG MA ADULTS, 2010-2011

	HEAVY DRINKING 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					HEAVY DRINKING 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	15,179	6.7	6.0	-	7.3	19,786	7.9	7.3	-	8.6
GENDER										
MALE	5,671	6.7	5.5	-	7.8	7,498	7.9	6.9	-	9.0
FEMALE	9,508	6.7	5.9	-	7.4	12,288	7.9	7.1	-	8.8
AGE GROUP										
18–24	336	11.4	6.2	-	16.7	697	13.0	9.8	-	16.1
25–34	1,280	8.9	6.3	-	11.4	1,938	9.2	7.3	-	11.2
35–44	2,350	6.1	4.8	-	7.4	2,789	7.8	6.2	-	9.4
45–54	3,222	5.9	4.8	-	7.0	4,016	6.7	5.6	-	7.8
55–64	3,348	6.8	5.5	-	8.1	4,399	6.8	5.7	-	7.9
65–74	2,350	6.6	5.1	-	8.1	3,126	7.5	5.9	-	9.1
75 AND OLDER	2,087	3.8	2.6	-	5.0	2,522	3.6	2.6	-	4.6
RACE-ETHNICITY*										
WHITE	12,486	7.3	6.5	-	8.0	16,073	8.7	7.9	-	9.4
BLACK	†					1,188	4.6	2.3	-	6.9
HISPANIC	1,172	5.1	2.8	-	7.5	1,463	5.0	2.8	-	7.2
ASIAN	†					†				
EDUCATION										
< HIGH SCHOOL	1,412	3.2	1.6	-	4.9	1,519	6.6	4.2	-	9.1
HIGH SCHOOL	3,735	7.8	6.1	-	9.5	4,940	7.4	6.1	-	8.7
COLLEGE 1–3 YRS	3,499	7.7	6.1	-	9.3	4,706	8.9	7.5	-	10.2
COLLEGE 4+ YRS	6,488	6.1	5.3	-	7.0	8,564	8.1	7.1	-	9.0
HOUSEHOLD INCOME										
<$25,000	3,517	3.9	2.8	-	4.9	4,557	7.4	6.0	-	8.9
$25,000–34,999	1,347	4.6	3.1	-	6.1	1,782	7.7	5.5	-	9.8
$35,000–49,999	1,653	7.4	5.3	-	9.5	2,267	7.4	5.7	-	9.1
$50,000–74,999	1,882	8.6	6.4	-	10.8	2,532	9.8	7.6	-	11.9
$75,000+	4,634	7.9	6.7	-	9.1	5,817	8.6	7.4	-	9.7
REGION										
I–WESTERN	2,143	8.8	6.5	-	11.1	2,693	6.9	5.3	-	8.5
II–CENTRAL	2,021	6.9	4.9	-	8.9	2,550	8.7	6.7	-	10.8
III–NORTH EAST	3,563	6.0	4.6	-	7.4	4,547	7.9	6.4	-	9.4
IV–METRO WEST	1,980	5.3	4.1	-	6.4	2,945	7.0	5.6	-	8.4
V–SOUTH EAST	3,751	7.1	5.6	-	8.7	4,816	7.7	6.3	-	9.1
VI–BOSTON	1,679	6.7	5.0	-	8.5	2,033	10.2	8.1	-	12.3

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A5: OVERWEIGHT (BMI >=25.0) AMONG MA ADULTS, 2010-2011

	OVERWEIGHT (BMI ≥ 25.0) 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					OVERWEIGHT (BMI ≥ 25.0) 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	15088	60.1	58.8	-	61.4	20,532	59.3	58.2	-	60.5
GENDER										
MALE	5947	71.1	69.2	-	72.9	8,221	68.2	66.5	-	69.8
FEMALE	9141	49.3	47.7	-	50.9	12,311	50.5	49.0	-	52.0
AGE GROUP										
18–24	342	41.1	32.7	-	49.5	743	38.0	33.3	-	42.6
25–34	1263	55.6	51.4	-	59.7	1,975	54.1	50.9	-	57.4
35–44	2318	60.9	58.1	-	63.6	2,886	61.9	59.2	-	64.5
45–54	3218	63.3	60.9	-	65.6	4,181	65.5	63.4	-	67.6
55–64	3307	66.0	63.6	-	68.4	4,490	68.0	65.9	-	70.1
65–74	2350	65.6	62.8	-	68.4	3,232	67.5	65.1	-	69.9
75 AND OLDER	2119	54.4	51.4	-	57.3	2,741	57.8	55.0	-	60.7
RACE-ETHNICITY*										
WHITE	12407	59.2	57.9	-	60.6	16,593	59.0	57.8	-	60.3
BLACK	724	67.3	61.1	-	73.5	1,292	69.1	64.7	-	73.5
HISPANIC	1150	66.5	61.5	-	71.5	1,524	65.5	61.3	-	69.7
ASIAN	261	51.7	42.8	-	60.7	423	38.2	31.7	-	44.7
EDUCATION										
< HIGH SCHOOL	1395	67.8	62.9	-	72.6	1,623	62.7	58.5	-	67.0
HIGH SCHOOL	3742	64.7	62.0	-	67.3	5,314	62.7	60.3	-	65.0
COLLEGE 1–3 YRS	3466	63.6	61.0	-	66.2	4,835	61.2	58.9	-	63.6
COLLEGE 4+ YRS	6449	55.9	54.1	-	57.8	8,708	54.3	52.6	-	55.9
HOUSEHOLD INCOME										
<$25,000	3538	65.0	62.1	-	67.9	4,847	59.6	57.1	-	62.1
$25,000–34,999	1342	63.9	59.6	-	68.2	1,853	57.9	53.9	-	61.8
$35,000–49,999	1645	59.7	55.9	-	63.6	2,368	62.1	58.8	-	65.4
$50,000–74,999	1887	64.2	60.7	-	67.7	2,587	63.9	60.8	-	67.1
$75,000+	4615	58.2	56.1	-	60.3	5,958	58.9	57.0	-	60.8
REGION										
I–WESTERN	2105	62.0	58.8	-	65.2	2,791	61.8	58.8	-	64.7
II–CENTRAL	2013	62.6	59.2	-	65.9	2,627	61.7	58.5	-	64.8
III–NORTH EAST	3535	60.3	57.2	-	63.3	4,733	60.0	57.3	-	62.7
IV–METRO WEST	1963	55.6	52.8	-	58.4	3,003	54.0	51.4	-	56.7
V–SOUTH EAST	3727	63.2	60.5	-	65.9	4,988	62.4	59.9	-	64.9
VI–BOSTON	1668	58.1	54.6	-	61.7	2,124	56.7	53.4	-	60.1

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A6: OBESITY (BMI>=30.0) AMONG MA ADULTS, 2010-2011

	OBESE (BMI ≥ 30.0) 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					OBESE (BMI ≥ 30.0) 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	15,088	23.6	22.5	-	24.7	20,532	22.7	21.8	-	23.7
GENDER										
MALE	5,947	26.1	24.3	-	27.8	8,221	24.1	22.6	-	25.5
FEMALE	9,141	21.1	19.9	-	22.4	12,311	21.4	20.2	-	22.6
AGE GROUP										
18–24	342	9.5	4.7	-	14.4	743	13.0	9.9	-	16.2
25–34	1,263	23.7	20.2	-	27.3	1,975	18.6	16.2	-	21.1
35–44	2,318	24.5	22.0	-	26.9	2,886	25.0	22.6	-	27.5
45–54	3,218	25.7	23.5	-	27.9	4,181	26.3	24.2	-	28.4
55–64	3,307	25.2	23.0	-	27.3	4,490	28.9	26.8	-	31.0
65–74	2,350	28.1	25.6	-	30.7	3,232	26.8	24.3	-	29.2
75 AND OLDER	2,119	17.4	15.2	-	19.6	2,741	18.4	16.0	-	20.8
RACE-ETHNICITY*										
WHITE	12,407	22.9	21.8	-	24.1	16,593	22.1	21.1	-	23.1
BLACK	724	31.3	25.7	-	36.8	1,292	31.6	27.2	-	36.0
HISPANIC	1,150	31.8	26.9	-	36.7	1,524	30.9	26.9	-	34.9
ASIAN	261	14.4	8.3	-	20.5	423	4.9	2.3	-	7.5
EDUCATION										
< HIGH SCHOOL	1,395	31.0	26.4	-	35.6	1,623	31.1	27.3	-	34.8
HIGH SCHOOL	3,742	28.0	25.5	-	30.5	5,314	25.2	23.2	-	27.2
COLLEGE 1–3 YRS	3,466	28.0	25.7	-	30.3	4,835	24.1	22.2	-	26.0
COLLEGE 4+ YRS	6,449	19.0	17.5	-	20.4	8,708	17.3	16.1	-	18.5
HOUSEHOLD INCOME										
<$25,000	3,538	27.5	24.9	-	30.1	4,847	27.3	25.0	-	29.5
$25,000–34,999	1,342	23.3	19.7	-	26.8	1,853	22.9	19.9	-	25.9
$35,000–49,999	1,645	25.7	22.3	-	29.0	2,368	25.4	22.5	-	28.3
$50,000–74,999	1,887	27.5	24.3	-	30.8	2,587	24.6	21.8	-	27.3
$75,000+	4,615	21.5	19.8	-	23.2	5,958	19.3	17.9	-	20.8
REGION										
I–WESTERN	2,105	24.9	22.1	-	27.7	2,791	26.1	23.6	-	28.6
II–CENTRAL	2,013	27.6	24.5	-	30.7	2,627	23.1	20.5	-	25.6
III–NORTH EAST	3,535	24.3	21.8	-	26.9	4,733	22.7	20.4	-	25.0
IV–METRO WEST	1,963	19.6	17.3	-	21.9	3,003	17.6	15.7	-	19.5
V–SOUTH EAST	3,727	23.8	21.5	-	26.1	4,988	25.8	23.5	-	28.0
VI–BOSTON	1,668	23.5	20.5	-	26.5	2,124	22.1	19.4	-	24.7

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A7: ANY LEISURE-TIME PHYSICAL ACTIVITY AMONG MA ADULTS, 2010-2011

	ANY LEISURE TIME PHYSICAL ACTIVITY 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					ANY LEISURE TIME PHYSICAL ACTIVITY 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	16,282	79.4	78.4	-	80.4	20,634	76.5	75.5	-	77.4
GENDER										
MALE	6,118	81.8	80.3	-	83.3	7,854	77.9	76.4	-	79.3
FEMALE	10,164	77.2	75.9	-	78.5	12,780	75.2	73.9	-	76.5
AGE GROUP										
18–24	365	85.4	79.6	-	91.2	747	83.8	80.5	-	87.2
25–34	1,361	83.6	80.7	-	86.5	2,017	78.0	75.1	-	80.8
35–44	2,497	81.1	79.0	-	83.2	2,900	79.3	76.9	-	81.7
45–54	3,423	82.0	80.2	-	83.8	4,176	77.7	75.7	-	79.7
55–64	3,587	77.6	75.5	-	79.6	4,553	73.9	71.8	-	75.9
65–74	2,514	75.5	73.1	-	77.9	3,249	72.3	69.9	-	74.7
75 AND OLDER	2,259	65.0	62.3	-	67.7	2,661	63.7	60.8	-	66.6
RACE-ETHNICITY*										
WHITE	13,330	81.3	80.3	-	82.2	16,701	78.1	77.0	-	79.1
BLACK	794	74.1	69.1	-	79.2	1,260	74.2	70.5	-	77.9
HISPANIC	1,253	66.7	62.2	-	71.3	1,548	65.0	61.0	-	69.1
ASIAN	278	78.4	71.5	-	85.3	416	79.6	74.4	-	84.8
EDUCATION										
< HIGH SCHOOL	1,536	56.8	51.9	-	61.7	1,625	60.8	56.8	-	64.9
HIGH SCHOOL	4,049	69.2	66.8	-	71.6	5,213	68.6	66.5	-	70.7
COLLEGE 1–3 YRS	3,722	77.6	75.5	-	79.6	4,898	78.3	76.5	-	80.1
COLLEGE 4+ YRS	6,851	87.5	86.3	-	88.6	8,833	85.7	84.5	-	86.8
HOUSEHOLD INCOME										
<$25,000	3,752	63.9	61.2	-	66.7	4,780	66.4	64.1	-	68.8
$25,000–34,999	1,418	71.0	67.3	-	74.7	1,853	71.8	68.3	-	75.2
$35,000–49,999	1,740	73.9	70.4	-	77.3	2,358	77.0	74.3	-	79.8
$50,000–74,999	1,964	82.4	79.8	-	84.9	2,610	76.1	73.3	-	78.9
$75,000+	4,812	88.6	87.4	-	89.9	5,980	86.0	84.5	-	87.4
REGION										
I–WESTERN	2,248	77.8	75.3	-	80.2	2,797	74.8	72.3	-	77.2
II–CENTRAL	2,137	79.0	76.5	-	81.4	2,665	75.4	72.7		78.0
III–NORTH EAST	3,768	77.6	75.1	-	80.1	4,777	74.7	72.4		77.1
IV–METRO WEST	2,088	84.8	82.8	-	86.9	3,037	81.6	79.5		83.7
V–SOUTH EAST	4,000	78.0	75.9	-	80.2	5,031	73.7	71.5		76.0
VI–BOSTON	1,769	75.4	72.4	-	78.5	2,116	77.4	74.7		80.1

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A8: DIABETES AMONG MA ADULTS, 2010-2011

	DIABETES 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)			DIABETES 2011 "RAKED" DATA (COMBINED SAMPLE)		
	N	%	95% CI	N	%	95% CI
OVERALL	16,287	7.4	6.9 - 8.0	22,292	8.0	7.5 - 8.5
GENDER						
MALE	6,118	7.9	7.1 - 8.8	8,465	8.5	7.7 - 9.3
FEMALE	10,169	7.0	6.3 - 7.6	13,827	7.6	6.9 - 8.2
AGE GROUP						
18–24	†			†		
25–34	†			2,188	2.0	1.2 - 2.7
35–44	2,498	3.0	2.1 - 3.8	3,145	4.2	2.9 - 5.4
45–54	3,429	6.4	5.3 - 7.4	4,472	6.6	5.5 - 7.7
55–64	3,587	12.6	11.0 - 14.1	4,851	14.1	12.6 - 15.6
65–74	2,511	18.9	16.7 - 21.0	3,461	18.2	16.2 - 20.2
75 AND OLDER	2,262	16.3	14.3 - 18.4	2,963	18.9	16.6 - 21.2
RACE-ETHNICITY*						
WHITE	13,335	7.2	6.6 - 7.8	17,905	7.6	7.1 - 8.2
BLACK	794	10.9	8.3 - 13.6	1,407	11.6	9.0 - 14.2
HISPANIC	1,252	10.6	8.0 - 13.3	1,719	10.5	8.3 - 12.8
ASIAN	†			461	4.1	2.1 - 6.2
EDUCATION						
< HIGH SCHOOL	1,538	16.2	13.4 - 19.1	1,814	13.9	11.5 - 16.3
HIGH SCHOOL	4,055	10.4	9.0 - 11.7	5,738	9.3	8.3 - 10.4
COLLEGE 1–3 YRS	3,719	8.0	6.9 - 9.2	5,234	7.8	6.8 - 8.7
COLLEGE 4+ YRS	6,851	4.8	4.2 - 5.5	9,331	5.3	4.7 - 5.9
HOUSEHOLD INCOME						
<$25,000	3,759	15.6	13.7 - 17.4	5,159	12.1	10.7 - 13.5
$25,000–34,999	1,416	10.6	8.2 - 12.9	1,965	10.5	8.5 - 12.5
$35,000–49,999	1,739	9.0	7.1 - 10.9	2,500	8.2	6.6 - 9.9
$50,000–74,999	1,967	6.6	5.2 - 8.0	2,743	6.9	5.7 - 8.2
$75,000+	4,813	3.7	3.1 - 4.3	6,256	4.8	4.0 - 5.5
REGION						
I–WESTERN	2,254	8.6	7.1 - 10.0	2,979	8.9	7.5 - 10.2
II–CENTRAL	2,139	8.2	6.6 - 9.8	2,819	7.6	6.3 - 8.9
III–NORTH EAST	3,770	6.7	5.7 - 7.8	5,120	8.3	7.1 - 9.4
IV–METRO WEST	2,088	5.7	4.6 - 6.8	3,202	6.6	5.5 - 7.7
V–SOUTH EAST	3,995	8.1	7.0 - 9.2	5,353	9.5	8.1 - 10.8
VI–BOSTON	1,769	9.2	7.4 - 11.0	2,263	7.6	6.3 - 8.9

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A9: CURRENT ASTHMA AMONG MA ADULTS, 2010-2011

	CURRENTLY HAVE ASTHMA 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)			CURRENTLY HAVE ASTHMA 2011 "RAKED" DATA COMBINED SAMPLE)		
	N	%	95% CI	N	%	95% CI
OVERALL	16,215	10.4	9.6 - 11.1	22,192	10.7	10.0 - 11.4
GENDER						
MALE	6,092	7.6	6.6 - 8.6	8,425	7.9	6.9 - 8.9
FEMALE	10,123	12.9	11.8 - 13.9	13,767	13.3	12.3 - 14.3
AGE GROUP						
18–24	359	12.3	6.9 - 17.6	799	13.8	10.5 - 17.1
25–34	1,355	13.4	10.8 - 15.9	2,178	11.1	9.0 - 13.3
35–44	2,491	9.9	8.3 - 11.5	3,135	11.7	10.1 - 13.4
45–54	3,421	10.0	8.7 - 11.3	4,462	10.5	9.1 - 11.9
55–64	3,568	9.7	8.3 - 11.1	4,817	9.8	8.6 - 11.0
65–74	2,492	9.5	7.9 - 11.0	3,450	11.0	9.3 - 12.7
75 AND OLDER	2,254	9.3	7.5 - 11.1	2,946	5.4	4.2 - 6.6
RACE-ETHNICITY*						
WHITE	13,276	10.4	9.6 - 11.2	17,820	10.6	9.8 - 11.4
BLACK	791	11.7	7.8 - 15.5	1,398	9.7	7.2 - 12.3
HISPANIC	1,248	12.9	10.0 - 15.9	1,715	15.1	12.0 - 18.3
ASIAN	†			†		
EDUCATION						
< HIGH SCHOOL	1,530	18.2	14.3 - 22.2	1,808	15.0	12.3 - 17.6
HIGH SCHOOL	4,032	10.0	8.5 - 11.6	5,706	11.0	9.5 - 12.5
COLLEGE 1–3 YRS	3,704	11.0	9.5 - 12.6	5,216	10.5	9.0 - 11.9
COLLEGE 4+ YRS	6,826	9.4	8.4 - 10.4	9,287	9.3	8.3 - 10.2
HOUSEHOLD INCOME						
<$25,000	3,731	16.8	14.7 - 19.0	5,143	15.7	13.8 - 17.6
$25,000–34,999	1,416	9.4	7.1 - 11.7	1,954	8.9	7.0 - 10.8
$35,000–49,999	1,734	9.1	7.0 - 11.2	2,490	10.1	8.0 - 12.3
$50,000–74,999	1,963	9.2	7.3 - 11.2	2,731	9.3	7.5 - 11.1
$75,000+	4,793	8.6	7.5 - 9.8	6,229	8.1	7.1 - 9.2
REGION						
I–WESTERN	2,244	12.0	10.0 - 14.1	2,962	14.1	12.0 - 16.2
II–CENTRAL	2,133	11.6	9.4 - 13.9	2,802	10.3	8.3 - 12.2
III–NORTH EAST	3,752	10.1	8.5 - 11.7	5,106	10.6	9.0 - 12.2
IV–METRO WEST	2,076	8.3	6.9 - 9.8	3,191	9.2	7.6 - 10.8
V–SOUTH EAST	3,978	10.9	9.2 - 12.6	5,322	10.7	9.1 - 12.3
VI–BOSTON	1,761	11.4	9.1 - 13.8	2,256	10.4	8.4 - 12.4

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

TABLE A10: FLU VACCINE IN PAST YEAR AMONG MA ADULTS AGES 65 AND OLDER, 2010-2011

	FLU VACCINE IN PAST YEAR, AGES 65+ 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)					FLU VACCINE IN PAST YEAR, AGES 65+ 2011 "RAKED" DATA (COMBINED SAMPLE)				
	N	%	95% CI			N	%	95% CI		
OVERALL	4478	72.8	70.9	-	74.6	5,741	66.9	65.0	-	68.7
GENDER										
MALE	1541	73.5	70.4	-	76.6	1,997	68.2	65.0	-	71.4
FEMALE	2937	72.3	70.0	-	74.6	3,744	65.9	63.6	-	68.2
AGE GROUP										
65–74	2368	70.2	67.5	-	72.8	3,178	63.1	60.5	-	65.7
75 AND OLDER	2110	75.5	73.0	-	78.0	2,563	71.1	68.4	-	73.8
RACE-ETHNICITY*										
WHITE	3953	73.5	71.6	-	75.4	5,120	68.4	66.5	-	70.3
BLACK	149	63.8	52.1	-	75.5	234	47.2	36.8	-	57.6
HISPANIC	183	76.2	68.3	-	84.2	223	60.8	48.1	-	73.5
ASIAN	†					†				
EDUCATION										
< HIGH SCHOOL	642	70.5	64.3	-	76.7	648	62.3	56.0	-	68.7
HIGH SCHOOL	1448	68.3	64.7	-	71.8	1,820	66.4	63.0	-	69.8
COLLEGE 1–3 YRS	937	75.6	71.9	-	79.3	1,357	65.9	62.2	-	69.6
COLLEGE 4+ YRS	1433	75.4	72.5	-	78.4	1,895	71.3	68.5	-	74.1
HOUSEHOLD INCOME										
<$25,000	1490	69.0	65.3	-	72.6	1,752	64.5	60.8	-	68.1
$25,000–34,999	572	75.8	70.8	-	80.9	746	62.9	57.6	-	68.3
$35,000–49,999	527	73.3	68.0	-	78.6	763	64.8	59.6	-	70.1
$50,000–74,999	380	74.3	68.6	-	80.1	577	68.7	62.8	-	74.6
$75,000+	540	76.3	71.7	-	80.8	697	72.3	67.7	-	76.9
REGION										
I–WESTERN	652	71.6	67.0	-	76.3	785	69.6	64.7	-	74.5
II–CENTRAL	558	72.9	68.0	-	77.8	686	65.3	59.8	-	70.9
III–NORTH EAST	983	71.8	67.3	-	76.3	1,344	66.1	61.8	-	70.4
IV–METRO WEST	594	78.5	74.9	-	82.2	840	72.0	68.1	-	75.9
V–SOUTH EAST	1222	70.0	65.9	-	74.2	1,589	63.3	59.4	-	67.2
VI–BOSTON	461	67.6	62.0	-	73.2	491	63.5	57.6	-	69.4

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

† Insufficient Data

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TABLE A11: SEATBELT USE AMONG MA ADULTS, 2010-2011

	ALWAYS USE A SEATBELT 2010 POST-STRATIFIED DATA (LANDLINE SAMPLE)			ALWAYS USE A SEATBELT 2011 "RAKED" DATA (COMBINED SAMPLE)		
	N	%	95% CI	N	%	95% CI
OVERALL	15,180	82.7	81.7 - 83.7	20,061	79.7	78.7 - 80.8
GENDER						
MALE	5,674	76.6	74.9 - 78.3	7,622	74.2	72.5 - 75.8
FEMALE	9,506	88.1	87.1 - 89.2	12,439	84.9	83.7 - 86.1
AGE GROUP						
18–24	339	70.5	62.5 - 78.4	727	69.5	65.0 - 73.9
25–34	1,273	81.4	78.3 - 84.5	1,968	75.7	72.7 - 78.7
35–44	2,338	83.1	81.0 - 85.2	2,839	80.5	78.1 - 82.9
45–54	3,232	84.4	82.6 - 86.3	4,071	81.9	80.0 - 83.9
55–64	3,370	83.7	81.9 - 85.5	4,443	83.5	81.8 - 85.3
65–74	2,338	81.0	78.6 - 83.5	3,156	83.8	81.7 - 85.9
75 AND OLDER	2,062	85.1	82.9 - 87.3	2,544	84.4	82.1 - 86.8
RACE-ETHNICITY*						
WHITE	12,515	82.8	81.7 - 83.9	16,288	79.9	78.8 - 81.0
BLACK	712	75.0	69.4 - 80.6	1,204	74.5	70.1 - 78.9
HISPANIC	1,135	84.1	80.4 - 87.8	1,484	78.7	75.0 - 82.4
ASIAN	261	93.3	89.5 - 97.1	401	89.6	85.1 - 94.1
EDUCATION						
< HIGH SCHOOL	1,380	72.4	67.4 - 77.5	1,528	73.1	69.1 - 77.0
HIGH SCHOOL	3,711	76.0	73.5 - 78.5	5,020	73.1	70.8 - 75.3
COLLEGE 1–3 YRS	3,499	79.4	77.2 - 81.6	4,782	78.1	76.1 - 80.2
COLLEGE 4+ YRS	6,540	88.0	86.8 - 89.2	8,669	87.7	86.5 - 88.9
HOUSEHOLD INCOME						
<$25,000	3,452	76.5	73.9 - 79.2	4,600	74.2	71.8 - 76.6
$25,000–34,999	1,343	79.6	75.9 - 83.3	1,797	77.4	73.9 - 80.9
$35,000–49,999	1,648	79.6	76.4 - 82.8	2,313	75.9	72.8 - 79.0
$50,000–74,999	1,883	80.1	77.0 - 83.3	2,564	79.3	76.1 - 82.4
$75,000+	4,642	86.0	84.5 - 87.5	5,891	84.8	83.2 - 86.4
REGION						
I–WESTERN	2,147	82.0	79.4 - 84.6	2,733	78.9	76.4 - 81.5
II–CENTRAL	2,031	80.3	77.4 - 83.3	2,591	79.6	76.8 - 82.4
III–NORTH EAST	3,545	81.3	78.9 - 83.7	4,627	79.6	77.2 - 82.0
IV–METRO WEST	1,996	88.0	86.2 - 89.8	2,974	82.3	79.9 - 84.6
V–SOUTH EAST	3,754	81.4	79.3 - 83.6	4,893	76.9	74.6 - 79.3
VI–BOSTON	1,664	78.2	74.9 - 81.5	2,036	81.6	78.9 - 84.3

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

† Insufficient Data

This table is provided for illustrative purposes only. Data from 2010 and 2011 are not comparable due to changes in methodology

LIMITATIONS

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

- The health characteristics estimated from the BRFSS pertain to the adult population, aged 18 years and older, who live in households with either a landline telephone or a cell phone.
- As noted above, respondents are identified through telephone-based methods.
- Telephone penetration in the United States is estimated at 96.7%; in Massachusetts, telephone penetration is estimated at 98.3%, meaning that only 1.7% of households do not have any telephone service.[58]
- 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, weighted data are used, which may partially correct for any bias caused by non-telephone coverage. Weighting 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 weighting 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 2011, the MA BRFSS had an average CASRO rate of 49%, which is higher than the required BRFSS standard of 40%.
- 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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