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# Massachusetts Department of Public Health

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## Health Survey Program

Bureau of Health Information, Statistics, Research, and Evaluation

# A Profile of Health Among Massachusetts Adults, 2006

Results from the Behavioral Risk Factor Surveillance System



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*February 2008*

# ACKNOWLEDGEMENTS

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We wish to express our gratitude to the residents of Massachusetts who participated in this survey, and to ORC International, Inc. and the dedicated interviewers who helped make this survey possible. We also wish to acknowledge the contributions of the staff of the many Programs within the Massachusetts Department of Public Health who provided topical overviews and reviewed draft sections of this report relevant to their areas of expertise.

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# NEW IN THIS REPORT

We have made some changes in this year's report. Starting this year, the total number of respondents who provided valid responses to questions is included in table rows. This number gives the reader information about the underlying sample size.

For the first time, we have included disability as a demographic variable in the Massachusetts BRFSS report. Its inclusion as a demographic variable enables us to examine disparities in health status, health care access, preventive care, and chronic disease prevalence among Massachusetts residents by disability status.

To ensure the stability of estimates provided in this report, we suppressed estimates in the tables' cells where relative standard error of the estimate exceeds 30%. This suppression criterion was followed in addition to the 50 sample cases minimum rule suggested by the National Center for Health Statistics. See more in "TERMS, DEFINITIONS, AND STATISTICAL METHODS" section on page 9 of this report.

# HIGHLIGHTS

Highlights from the 2006 Massachusetts Behavioral Risk Factor Surveillance System report are presented below. For details about each indicator, including definitions and variation by population subgroup, please refer to the corresponding sections of the report.

## Overall Health Status

- 12% of Massachusetts adults reported their health was either fair or poor.

## Quality of Life

- 8% of Massachusetts adults reported 15 or more days of poor physical health in the past 30 days.
- 7% of Massachusetts adults reported 15 or more days of feeling sad, blue or depressed in the past 30 days.
- 9% of Massachusetts adults reported that they had 15 or more days of poor mental health in the past 30 days.

## Disability

- 22% of Massachusetts adults reported having a disability for one year or more.
- 6% of Massachusetts adults reported having a disability that caused them to need help with routine activities.

## Health Insurance Status

- 8% of Massachusetts adults (ages 18-64) reported being uninsured at the time of the survey.

## Health Care Access

- 88% of Massachusetts adults reported that they had a personal health care provider.
- 8% of Massachusetts adults reported that they had not seen a doctor at some point in the past year due to cost.

## Dental Health Care

- 77% of Massachusetts adults reported that they had been to a dentist or dental clinic in the past year.
- 15% of Massachusetts adults reported they were missing six or more teeth due to decay or gum disease.

## Tobacco Use

- 18% of Massachusetts adults reported that they were current smokers.
- 1% of Massachusetts adults were heavy smokers (smoking more than 20 cigarettes per day).

## Smoking Cessation

- 58% of Massachusetts smokers had stopped smoking for one day or longer in the past 12 months because they were trying to quit.
- 34% of Massachusetts smokers were planning to quit smoking in the next 30 days.

### **Environmental Tobacco Smoke**

- 80% of Massachusetts adults reported living in a household where smoking was not allowed anywhere.
- 42% of Massachusetts adults had been exposed to environmental tobacco smoke in the past 7 days.

### **Alcohol Use**

- 18% of Massachusetts adults reported binge drinking at some point in the past month.
- 6% of Massachusetts adults reported heavy drinking in the past month.

### **Overweight and Obesity Status**

- 56% of Massachusetts adults were either overweight or obese based on their reported height and weight (BMI  $\geq$  25).
- 20% of Massachusetts adults were obese based on their reported height and weight (BMI  $\geq$  30).

### **Physical Activity**

- 79% of Massachusetts adults reported some form of leisure-time physical activity over the past month.

### **Flu Vaccine and Pneumonia Vaccine**

- 42% of Massachusetts adults ages 50-64 years reported having had a flu vaccine in the past year.
- 73% of Massachusetts adults age 65 and older reported having had a flu vaccine in the past year.
- 71% of Massachusetts adults age 65 and older reported ever having had a pneumonia vaccination.

### **Diabetes**

- 6% of Massachusetts adults reported that they ever had been told by a doctor that they had diabetes.

### **Asthma**

- 15% of Massachusetts adults reported that they ever had been told by a doctor that they had asthma.
- 10% of Massachusetts adults reported that they currently have asthma.

### **Heart Disease and Stroke**

- 8% of Massachusetts adults ages 35 and older reported that they had ever been told by a doctor, nurse, or other health professional that they had heart disease.
- 3% of Massachusetts adults ages 35 and older reported that they had ever been told by a doctor, nurse, or other health professional that they had had a stroke.

### **Colorectal Cancer Screening**

- 28% of Massachusetts adults ages 50 and older reported ever having had a blood stool test using a home kit to determine if their stool contained blood.
- 57% of Massachusetts adults ages 50 and older reported having had a sigmoidoscopy or colonoscopy in the past five years.

### **Prostate Cancer Screening**

- 58% of Massachusetts men ages 50 and older reported having had a prostate-specific antigen test in the past year.
- 60% of Massachusetts men ages 50 and older reported having had a digital rectal exam within the past year.

### **Breast Cancer Screening**

- 85% of Massachusetts women ages 40 and older reported having had a mammogram in the past two years.
- 86% of Massachusetts women reported having had a clinical breast exam in the past two years.

### **Cervical Cancer Screening**

- 84% of Massachusetts women reported having had a Pap smear test within the past three years.

### **Family Planning**

- 22% of Massachusetts women ages 18-44 reported having had an unplanned pregnancy.
- 80% of Massachusetts women ages 18-44 reported that they or their partner use some form of birth control.

### **HIV Testing**

- 37% of Massachusetts adults ages 18-64 reported ever having been tested for HIV.
- 8% of Massachusetts adults ages 18-64 reported that they had been tested for HIV in the past year.

### **Sexual Violence**

- Among Massachusetts men, 7% reported having experienced sexual violence at some point in their lifetimes.
- Among Massachusetts women, 15% reported having experienced sexual violence at some point in their lifetimes.

### **Drinking and Driving**

- 3% of Massachusetts adults reported having driven after drinking too much sometime in the past month.

### **Unintentional Falls**

- 16% of Massachusetts adults ages 45 and older reported at least one unintentional fall in the past 3 months.
- 5% of Massachusetts adults ages 45 and older reported being injured after an unintentional fall in the past 3 months.

### **Seatbelt Use**

- 76% of Massachusetts adults reported always wearing a seatbelt when riding or driving in a car.

# INTRODUCTION

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

Each year, the BRFSS includes a core set of questions developed by the CDC. In 2006, these questions addressed health status, health care access and utilization, overweight and obesity status, asthma, diabetes, oral health, immunizations, tobacco use, alcohol consumption, seatbelt use, HIV/AIDS testing, and other selected public health topics.

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

Interviews were administered in the respondents' preferred language, with a choice of English, Spanish, or Portuguese. Interviews were conducted with 70% of those determined to be eligible to participate in the survey. In 2006, 12,726 interviews were conducted among Massachusetts adults.

## About this Report

This report summarizes selected results from the 2006 Massachusetts BRFSS. In each section of the report, a description of survey questions used for key variables is provided. In addition, overall percentage estimates of these variables are presented, along with key findings of interest. Where possible, figures comparing 2006 results to previous years' results are provided for variables that have been measured for five or more years. When it is available from the CDC, US median data for all participating states and territories for the same variables are presented to enable comparison between Massachusetts and national data. In trend charts that consist of both solid and dashed lines, dashed lines indicate where estimates are unavailable because data are unavailable.

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

A comparison of 2006 Massachusetts results to national data and Healthy People 2010 Objectives is also provided in the Appendix.

All percentages in this report are weighted (see definition in next section) to the total Massachusetts population in 2006 in order to reflect both the probability that an individual is selected to participate in the survey and differential participation by sex, age, and race-ethnicity. There may be slight differences in estimates between this report and previous publications due to updates in sample weighting methods. Trend data also may differ slightly from those contained in previous reports due

to changes in definition for some topics (e.g., birth control use) and in the formulas used in calculating rates.

Readers should be aware that all data collected by the BRFSS are based on self-reported information from respondents. 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 or under-report behaviors they perceive to be less acceptable; and respondents may also report certain risks, behaviors and perceptions differently due to their respective cultural and linguistic backgrounds. Additionally, 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.

## Terms, Definitions, and Statistical Methodology Used in This Report

The BRFSS data are **weighted** to take into account differences in probabilities of selection due to the telephone number, the number of telephones in a household, and the number of adults in a household. Adjustments are also made to account for non-response and non-coverage of households without telephones. All the weighting factors are multiplied together to get the final weight for each respondent so that the weighted BRFSS data represents the adult population of Massachusetts.

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

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.

The **age-adjusted percentage** is a weighted average of the age-specific proportions. The projected 2000 US population was used as a standard for the calculation. These estimates are presented in tables in the Appendix of this report. The age-adjusted percentage is a single, calculated number. Age-adjustment is done in order to be able to compare population subgroups with potentially different age structures (e.g., Hispanic vs. White non-Hispanic). The reader should exercise caution when using age-adjusted percentages for the comparison of survey data subgroups. While the estimates have been adjusted by age, other factors like gender, income, or education and their possible correlation may also have an impact on the results of subgroup comparisons.

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

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

(or stability) of the estimate. Smaller population subgroups or smaller numbers of respondents yield less precise estimates.

**Suppression of the presented estimates:**

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

**Statistical significance** (at the 95% probability level) was considered as a basis when we used the terms “more likely”, “less likely”, “about the same”, “increase” or “decrease.” Differences between percentages for respective subgroups are presented when a difference is statistically significant, but also may be presented when the difference is not statistically significant but is worth noting due to the potential public health impact.

The difference between two percentages is statistically significant (with 95% probability) if the 95% confidence interval surrounding the two percentages does not overlap. The difference may still be statistically significant if the confidence intervals for the two percentages are minimally overlapping. In these cases an additional statistical test was used to determine whether the percentages were different (with 95% probability)[2]. We use the terms “**more likely**” or “**less likely**” when comparing percentages that met one of the criteria for statistical significance.

**Annual Percent Change (APC)** shows how fast or slow a percentage has increased or decreased over the observed period of time. Only statistically significant **APCs** are referred to in the text of this report. The **APC** is a measure used for the analysis of trends over time. This estimation assumes a linear change in the proportion of values over a certain time period. A positive **APC** corresponds to an increasing trend, while a negative **APC** corresponds to a decreasing trend. All **APCs** calculated in this report were statistically tested (95% probability level) against the “null hypothesis”- the proportion value is neither increasing nor decreasing over time. The linear approximation for the trend may not be accurate for longer periods of time (over 5 years) because the trend may change its direction over time. More detailed trend analysis is needed to determine these possible changes.

**Join point regression** was used to calculate the number and location (in time) of points where trends change direction (join points) [3]. The join point regression model describes the trend as a sequence of linear segments between corresponding join points, so that each segment has an associated **APC**, which is tested for its statistical significance [4, 5].

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

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

corresponding Healthy People 2010 Objective, the year 2010 target is shown in the summary table at the end of the document.

# Demographic Characteristics of Respondents

## MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006

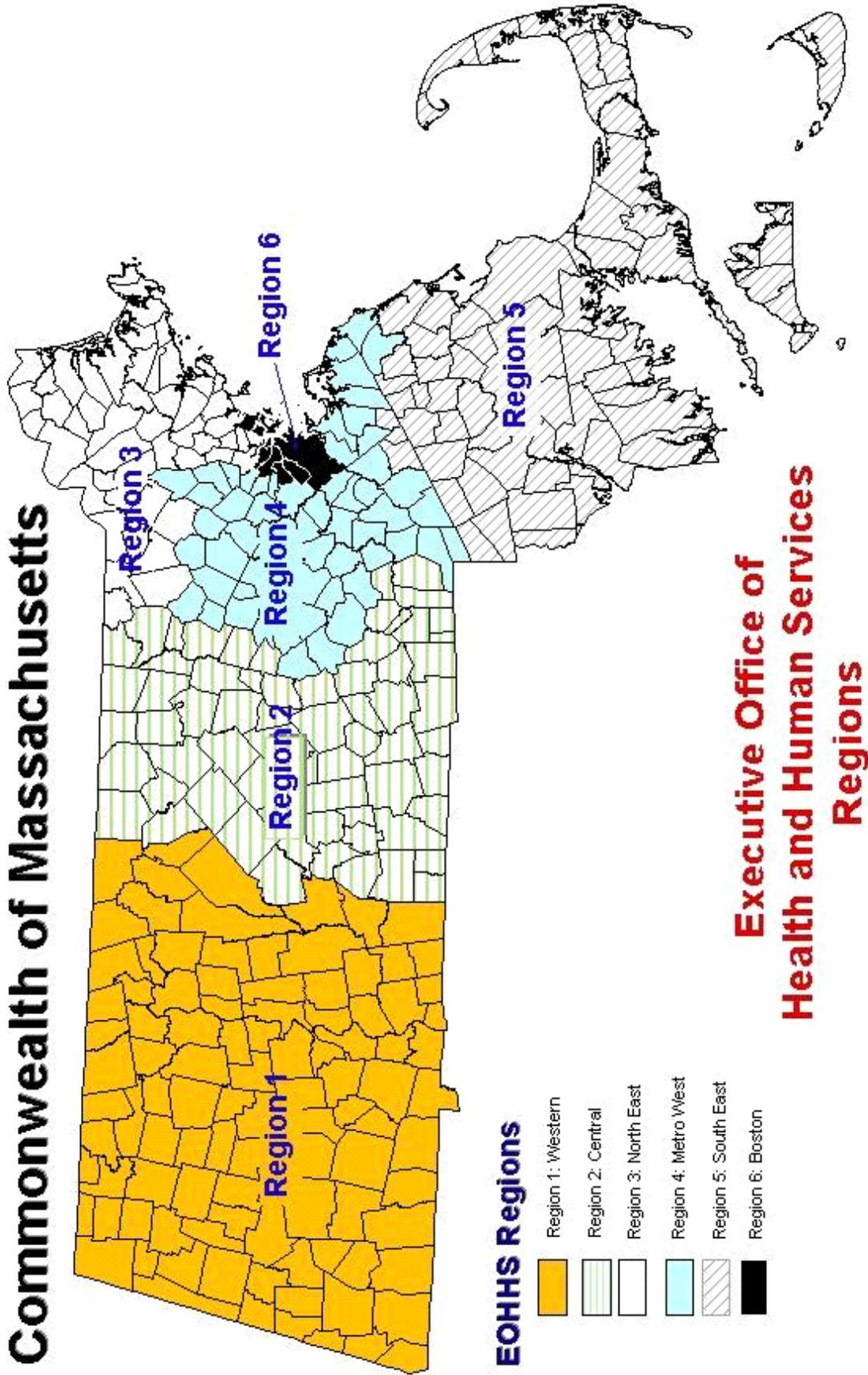
	UNWEIGHTED SAMPLE	WEIGHTED PERCENT
	N	%†
OVERALL	12726	100.0
GENDER		
MALE	4761	47.6
FEMALE	7965	52.4
AGE GROUP		
18–24	501	12.4
25–34	1515	17.2
35–44	2490	20.4
45–54	2558	18.2
55–64	2296	14.1
65–74	1516	8.4
75 AND OLDER	1609	9.3
RACE-ETHNICITY*		
WHITE	10320	84.0
BLACK	586	3.5
HISPANIC	1215	7.7
ASIAN	208	2.4
DISABILITY¶		
DISABILITY	1684	22.0
NO DISABILITY	4606	78.0
EDUCATION		
< HIGH SCHOOL	1404	7.3
HIGH SCHOOL	3479	26.2
COLLEGE 1–3 YRS	2819	23.4
COLLEGE 4+ YRS	4991	43.1
HOUSEHOLD		
<\$25,000	2979	19.0
\$25,000–34,999	1074	8.9
\$35,000–49,999	1447	12.8
\$50,000–74,999	1743	17.3
\$75,000+	3267	42.1
REGION		
I–WESTERN	1854	14.4
II–CENTRAL	1815	15.1
III–NORTH EAST	3090	19.3
IV–METRO WEST	1559	21.2
V–SOUTH EAST	3141	21.3
VI–BOSTON	1263	8.8

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

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

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

# Commonwealth of Massachusetts



## Executive Office of Health and Human Services Regions

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## SECTION 1: OVERALL HEALTH MEASURES

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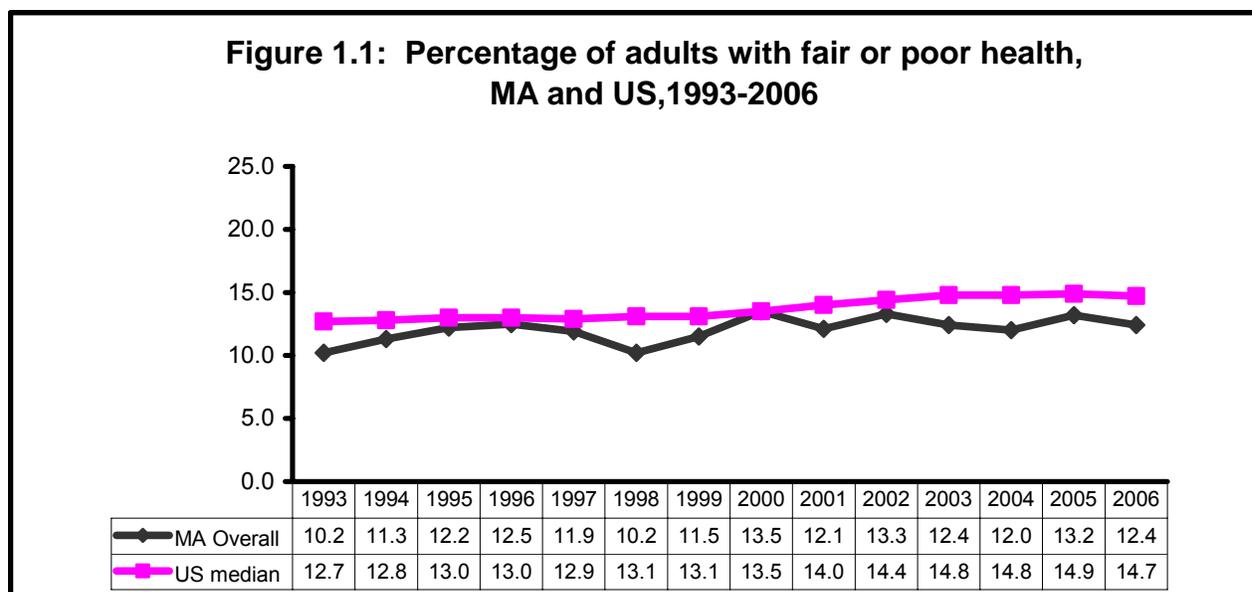
## Section 1.1: Overall Health Status

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

### FAIR OR POOR HEALTH (Table 1.1)

- 12% of Massachusetts adults report fair or poor health.
- The percentages of those ages 25 to 44 reporting fair or poor health were lower than those reporting fair or poor health in all older age groups.
- More Hispanic adults (25%) and Black adults (20%) reported fair or poor health than White adults (11%).
- Adults with a disability (31%) were more likely to report fair or poor health than those without a disability (6%).
- The percentage of those reporting fair or poor health decreased with increasing education: Those with less than a high school education reported the highest percentage (33%) and those with four or more years of college reported the lowest percentage (6%) of fair or poor health.
- Those in the lowest income bracket, with a household income less than \$25,000 a year, were more likely to report fair or poor health (31%) than those in all other income brackets. Those with household incomes of \$75,000 or more were least likely to report fair or poor health (4%).
- Metro West residents (10%) were less likely to report fair or poor health than those living in the Western region (14%) and the Boston region (15%).
- From 1993 to 2006, the percentage of Massachusetts adults who reported fair or poor health increased from 10% to 12%. This is an average annual percentage change of 1.2% per year (Figure 1.1).



**TABLE 1.1 – OVERALL HEALTH STATUS AMONG MASSACHUSETTS ADULTS, 2006**

	FAIR OR POOR HEALTH		
	N	%	95% CI
OVERALL	12646	12.4	11.5 - 13.2
<b>GENDER</b>			
MALE	4726	11.9	10.5 - 13.3
FEMALE	7920	12.8	11.8 - 13.9
<b>AGE GROUP</b>			
18–24	498	11.6	7.2 - 15.9
25–34	1512	5.9	4.3 - 7.6
35–44	2482	7.2	5.9 - 8.5
45–54	2536	11.8	10.2 - 13.4
55–64	2280	17.1	15.0 - 19.1
65–74	1506	19.7	17.0 - 22.3
75 AND OLDER	1591	25.2	22.4 - 28.1
<b>RACE-ETHNICITY*</b>			
WHITE	10254	11.0	10.1 - 11.9
BLACK	581	20.0	15.2 - 24.8
HISPANIC	1211	25.0	20.5 - 29.5
ASIAN	†		
<b>DISABILITY¶</b>			
DISABILITY	1668	31.3	27.9 - 34.8
NO DISABILITY	4586	5.6	4.5 - 6.7
<b>EDUCATION</b>			
< HIGH SCHOOL	1390	32.9	28.9 - 37.0
HIGH SCHOOL	3454	17.9	15.9 - 20.0
COLLEGE 1–3 YRS	2798	12.6	10.4 - 14.7
COLLEGE 4+ YRS	4972	5.5	4.7 - 6.2
<b>HOUSEHOLD INCOME</b>			
<\$25,000	2956	30.6	27.8 - 33.3
\$25,000–34,999	1067	15.9	12.6 - 19.1
\$35,000–49,999	1437	11.1	8.8 - 13.3
\$50,000–74,999	1738	7.6	5.8 - 9.4
\$75,000+	3256	3.9	2.7 - 5.0
<b>REGION</b>			
I–WESTERN	1846	13.9	11.9 - 16.0
II–CENTRAL	1806	12.5	10.0 - 15.0
III–NORTH EAST	3070	13.3	11.0 - 15.6
IV–METRO WEST	1552	9.5	7.8 - 11.3
V–SOUTH EAST	3111	12.3	10.6 - 14.0
VI–BOSTON	1257	14.7	12.3 - 17.2

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

† Insufficient Data

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

## Section 1.2: Quality of Life

A person's perceived physical and mental health is used to measure the effects of numerous disorders, short- and long-term disabilities, and diseases. Healthy People 2010 identified quality of life as a central public health goal. Perceived quality of life can help guide public health policies and interventions to improve health and fulfill unmet health needs [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; (2) the number of days during the past month they would describe their mental health as not good, and; (3) the number of days that they had felt sad, blue, or depressed during the past month. Presented here are the percentages of respondents who reported that (1) they had experienced at least 15 days of poor physical health in the previous month; (2) their mental health was not good for at least 15 days during the past month; and (3) they felt sad, blue, or depressed for at least 15 days in the past month.

### 15+ DAYS OF POOR PHYSICAL HEALTH IN PAST MONTH (Table 1.2)

- Men (7%) were less likely than women (10%) to report 15 or more days of poor physical health.
- Reports of poor physical health increased with age. Adults ages 35 and older were more likely than those ages 18 to 34 to report 15 or more days of poor physical health in the past 30.
- 11% of Hispanic adults, 11% of Black adults, and 8% of White adults reported 15 or more days of poor physical health.
- Adults with a disability (24%) were more likely to report 15 or more days of poor physical health than those without a disability (4%).
- Reports of poor physical health decreased with increasing education. Adults with less than a high school education (17%) were more than three times more likely to report poor physical health than those with four or more years of college education (5%).
- Adults with a household income of less than \$25,000 reported the highest percentage of poor health (20%).
- The percentage who reported poor physical health has fluctuated between 7% and 9% since 1998 (Figure 1.2.1).

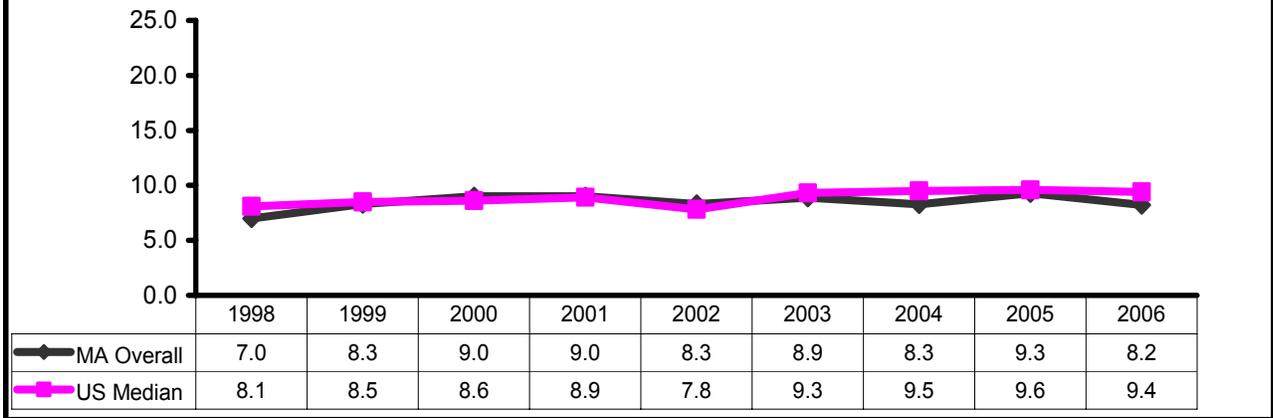
### 15+ DAYS OF POOR MENTAL HEALTH DAYS IN PAST MONTH (Table 1.2)

- 9% of Massachusetts adults reported 15 or more days of poor mental health in the past month.
- The oldest two age groups, 65 to 74 (5%) and those 75 or older (5%) were less likely to report poor mental health than those in younger age groups.
- Black (13%) adults were more likely to report 15 or more days of poor mental health in the past month than White (9%) adults.
- Adults with a disability (21%) were more likely than adults without a disability (4%) to report 15 or more days of poor mental health.
- Adults with the highest level of education, four or more years of college, (6%) were less likely to report poor mental health than those with less education.
- Adults with an annual household income of less than \$25,000 (18%) were more likely to report poor mental health than those with higher annual household incomes.
- Each year since 1993, between 8% and 10% of Massachusetts adults have reported experiencing 15 or more days of poor mental health in the past month (Figure 1.2.2).

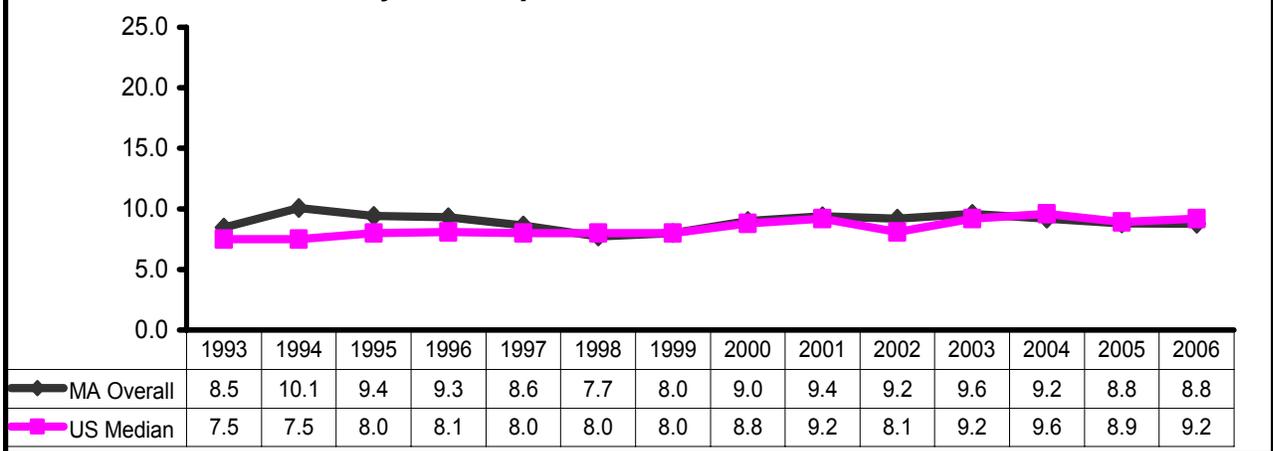
15+ DAYS OF FEELING SAD, BLUE, OR DEPRESSED IN PAST MONTH (Table 1.2)

- Overall, 7% of Massachusetts adults reported 15 or more days of feeling sad, blue, or depressed in the past month.
- Adults with a disability (21%) were more likely than those without a disability (3%) to report 15 or more days of feeling sad, blue, or depressed.
- Adults with four or more years of college (4%) were less likely to report feeling sad, blue, or depressed for 15 or more days in the past 30 than those with less education.
- Adults with a household income less than \$25,000 (17%) were more likely to report feeling sad, blue, or depressed for 15 or more days than those with a household income greater than \$25,000.
- The percentage of Massachusetts adults who have reported feeling sad, blue, or depressed for 15 or more days of the past month has increased an average of 1.8% annually since 1998 (Figure 1.2.3).

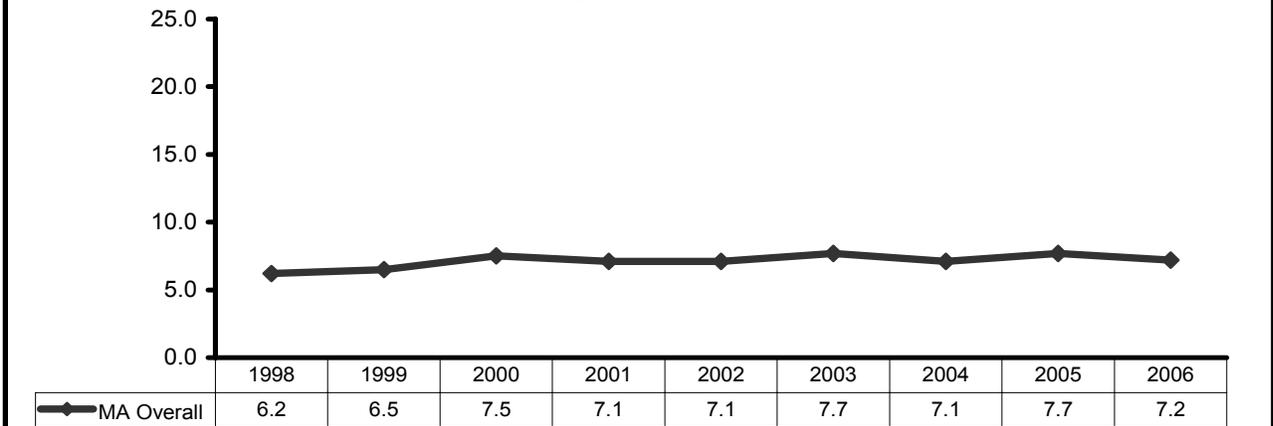
**Figure 1.2.1: Percentage of adults who were in poor physical health for 15 or more days of the past month, MA and US, 1998-2006**



**Figure 1.2.2: Percentage of adults with poor mental health for 15 or more days of the past month, MA and US, 1993-2006**



**Figure 1.2.3: Percentage of Massachusetts adults who were sad, blue, or depressed for 15 or more days of the past month, 1998-2006**



**TABLE 1.2 – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2006**

	15+ DAYS OF POOR PHYSICAL HEALTH		
	N	%	95% CI
OVERALL	12516	8.2	7.6 - 8.9
GENDER			
MALE	4700	6.8	5.9 - 7.8
FEMALE	7816	9.5	8.6 - 10.4
AGE GROUP			
18–24	†		
25–34	1500	4.7	3.3 - 6.1
35–44	2473	5.4	4.3 - 6.6
45–54	2532	9.3	7.8 - 10.8
55–64	2267	12.5	10.7 - 14.4
65–74	1482	12.8	10.5 - 15.0
75 AND OLDER	1534	15.8	13.3 - 18.3
RACE-ETHNICITY*			
WHITE	10151	8.0	7.3 - 8.6
BLACK	572	11.0	7.3 - 14.8
HISPANIC	1196	11.3	7.7 - 14.9
ASIAN	†		
DISABILITY¶			
DISABILITY	1630	23.5	20.5 - 26.5
NO DISABILITY	4575	3.7	2.8 - 4.6
EDUCATION			
< HIGH SCHOOL	1357	16.9	13.9 - 20.0
HIGH SCHOOL	3395	11.1	9.6 - 12.6
COLLEGE 1–3 YRS	2787	8.1	6.6 - 9.6
COLLEGE 4+ YRS	4945	5.1	4.4 - 5.9
HOUSEHOLD INCOME			
<\$25,000	2898	19.7	17.4 - 21.9
\$25,000–34,999	1060	11.2	8.3 - 14.0
\$35,000–49,999	1436	7.0	5.3 - 8.8
\$50,000–74,999	1731	5.1	3.7 - 6.5
\$75,000+	3252	3.5	2.7 - 4.2
REGION			
I–WESTERN	1809	9.6	7.9 - 11.4
II–CENTRAL	1789	8.5	6.4 - 10.6
III–NORTH EAST	3033	8.7	7.3 - 10.1
IV–METRO WEST	1541	6.9	5.5 - 8.2
V–SOUTH EAST	3090	7.9	6.5 - 9.2
VI–BOSTON	1250	8.5	6.5 - 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 for at least one year: (1) impairment or health problem that limited activities or caused cognitive difficulties; (2) used special equipment or required help from others to get around; or (3) reported a disability of any kind.

**TABLE 1.2 (CONTINUED) – QUALITY OF LIFE AMONG MASSACHUSETTS ADULTS, 2006**

	15+ DAYS OF POOR MENTAL HEALTH			15+ DAYS OF SAD, BLUE OR DEPRESSED		
	N	%	95% CI	N	%	95% CI
OVERALL	12546	8.8	8.0 - 9.5	6526	7.2	6.1 - 8.3
GENDER						
MALE	4697	8.0	6.8 - 9.2	2451	6.4	4.6 - 8.1
FEMALE	7849	9.5	8.5 - 10.5	4075	8.0	6.7 - 9.3
AGE GROUP						
18–24	495	10.8	7.2 - 14.3	270	11.5	5.7 - 17.2
25–34	1500	10.1	7.9 - 12.4	776	7.8	5.0 - 10.6
35–44	2465	8.3	6.9 - 9.7	1269	6.1	4.4 - 7.9
45–54	2533	10.1	8.4 - 11.7	1349	7.7	5.8 - 9.6
55–64	2264	8.9	7.5 - 10.4	1208	6.8	4.8 - 8.7
65–74	1487	5.3	3.9 - 6.7	755	4.6	2.6 - 6.6
75 AND OLDER	1566	5.0	3.5 - 6.5	788	4.9	2.9 - 6.8
RACE-ETHNICITY*						
WHITE	10186	8.5	7.7 - 9.4	5383	6.9	5.7 - 8.0
BLACK	576	13.4	8.6 - 18.3	276	9.3	4.1 - 14.5
HISPANIC	1189	10.0	7.5 - 12.4	584	9.4	5.8 - 13.0
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	1643	21.4	18.2 - 24.7	1630	20.6	16.9 - 24.4
NO DISABILITY	4571	4.3	3.4 - 5.1	4525	3.0	2.2 - 3.7
EDUCATION						
< HIGH SCHOOL	1357	13.9	11.1 - 16.7	667	16.1	11.3 - 20.9
HIGH SCHOOL	3429	11.8	10.0 - 13.6	1744	9.2	6.7 - 11.7
COLLEGE 1–3 YRS	2782	10.0	8.3 - 11.7	1465	8.9	6.2 - 11.6
COLLEGE 4+ YRS	4945	5.5	4.5 - 6.4	2637	3.9	2.8 - 5.0
HOUSEHOLD INCOME						
<\$25,000	2916	18.2	15.7 - 20.6	1483	16.5	12.9 - 20.2
\$25,000–34,999	1063	7.2	5.2 - 9.3	558	7.3	3.8 - 10.8
\$35,000–49,999	1438	9.5	7.1 - 11.9	720	5.8	3.0 - 8.7
\$50,000–74,999	1730	7.7	5.7 - 9.8	920	4.2	2.2 - 6.3
\$75,000+	3250	5.7	4.5 - 7.0	1760	4.2	2.7 - 5.8
REGION						
I–WESTERN	1821	9.8	7.7 - 11.8	937	7.1	4.8 - 9.3
II–CENTRAL	1788	9.2	7.2 - 11.3	921	7.0	4.5 - 9.5
III–NORTH EAST	3047	8.7	7.2 - 10.3	1561	8.0	5.4 - 10.6
IV–METRO WEST	1539	7.7	6.0 - 9.5	844	6.6	4.3 - 8.8
V–SOUTH EAST	3096	9.1	7.3 - 10.9	1609	6.2	4.1 - 8.2
VI–BOSTON	1251	8.3	6.3 - 10.4	651	10.3	4.7 - 15.9

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

† Insufficient data

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

## Section 1.3: Disability

*Healthy People 2010* defines disability as the interaction between an individual's health condition and barriers in their environment. These barriers may include limited access to programs, services, and activities aimed at promoting healthy living. Approximately 50 million people (19%) in the United States, ages five and over, have a disability. Thus a major goal of *Healthy People 2010* is to "promote the health of people with disabilities, prevent secondary conditions, and eliminate disparities between people with and without disabilities" [8, 9].

In 2006, respondents to the Massachusetts BRFSS were asked about disabilities and activity limitations. Respondents were classified as having a disability or activity limitation if, for at least one year: (1) they had an impairment or health problem that limited activities or caused cognitive difficulties; (2) they used special equipment or required help from others to get around, or; (3) they reported a disability of any kind. Those who answered yes to one or more of the conditions above but had been limited by their disability for less than one year were not considered to have a disability. Respondents who reported having a disability were also asked if their disability or limitation required them to need help with routine needs or personal care.

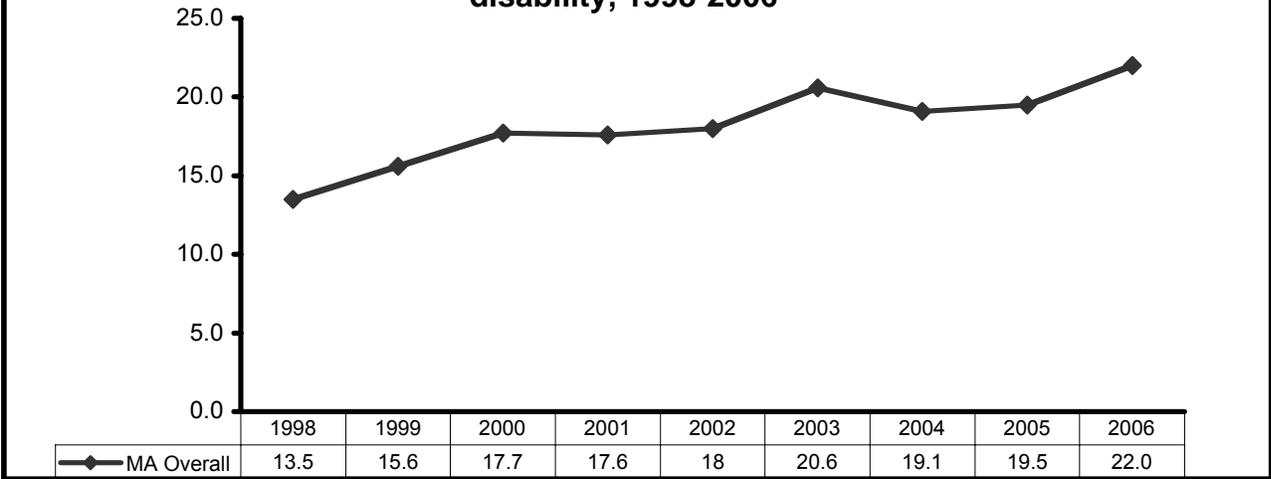
### DISABILITY FOR AT LEAST ONE YEAR (Table 1.3)

- 22% of Massachusetts adults reported having a disability or activity limitation.
- There was no difference between the percentages of men and women who reported having a disability or activity limitation (22%).
- Adults with four or more years of college education (17%) were less likely to report that they had a disability than adults with less education, while those with less than high school level of education (36%) were more likely than those with more education to report a disability.
- Adults with annual household incomes of less than \$25,000 (44%) were more likely to report having a disability than adults with an annual household income of \$25,000 or more.
- From 1998 to 2006 the percentage of adults who reported having a disability increased from 14% to 22%. This represents an average annual percentage increase of 5.0% (Figure 1.3.1).

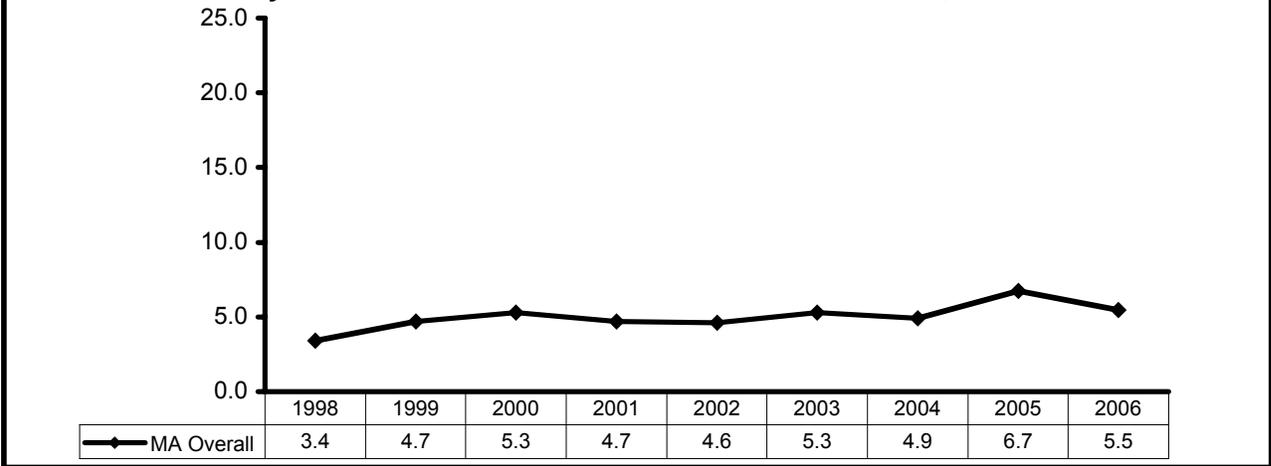
### DISABILITY/NEED HELP WITH ACTIVITIES (Table 1.3)

- 6% of Massachusetts adults had a disability or activity limitation and required assistance with routine or personal care.
- 25% of adults with a disability reported requiring assistance with routine or personal care.
- Women (8%) were more likely than men (3%) to report that they had a disability and required assistance with routine or personal care.
- The percentage of adults who reported that they had a disability and required assistance with routine or personal care decreased with increasing education.
- Adults with an annual household income of less than \$25,000 (16%) per year were more likely to report that they had a disability and required assistance with routine or personal care than adults with an annual household income of \$25,000 or more.
- The percentage of adults who have a disability and require assistance with routine or personal care ranged from 3% to 7% from 1998 to 2006. This represents an average annual percentage increase of 5.0% (Figure 1.3.2).

**Figure 1.3.1: Percentage of Massachusetts adults with a disability, 1998-2006**



**Figure 1.3.2: Percentage of Massachusetts adults who have a disability and need assistance with routine activities, 1998-2006**



**TABLE 1.3 – DISABILITY AMONG MASSACHUSETTS ADULTS, 2006**

	HAVE DISABILITY			DISABILITY / NEED HELP WITH ACTIVITY		
	N	%	95% CI	N	%	95% CI
OVERALL	6290	22.0	20.4 - 23.6	6279	5.5	4.8 - 6.2
GENDER						
MALE	2354	21.7	19.2 - 24.3	2349	3.2	2.4 - 4.0
FEMALE	3936	22.3	20.3 - 24.2	3930	7.5	6.4 - 8.6
AGE GROUP						
18–24	257	22.8	15.6 - 30.0	†		
25–34	745	12.9	9.3 - 16.5	745	3.0	1.6 - 4.3
35–44	1219	14.5	11.9 - 17.0	1217	3.5	2.1 - 4.9
45–54	1308	20.8	17.9 - 23.7	1307	5.4	3.9 - 6.8
55–64	1181	32.9	29.2 - 36.5	1178	8.9	6.8 - 11.0
65–74	726	29.8	25.2 - 34.5	724	7.7	5.1 - 10.3
75 AND OLDER	746	35.5	30.5 - 40.4	745	13.0	9.8 - 16.2
RACE-ETHNICITY*						
WHITE	5204	22.5	20.8 - 24.3	5198	5.1	4.3 - 5.8
BLACK	268	20.6	13.7 - 27.6	†		
HISPANIC	544	18.4	13.2 - 23.5	542	8.7	5.5 - 12.0
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	1684	100.0	100 - 100	1673	25.0	22.0 - 28.0
NO DISABILITY	†			†		
EDUCATION						
< HIGH SCHOOL	628	36.3	29.7 - 42.9	625	18.1	13.1 - 23.1
HIGH SCHOOL	1683	25.1	21.6 - 28.6	1680	6.9	5.3 - 8.5
COLLEGE 1–3 YRS	1401	25.0	21.3 - 28.7	1400	5.9	4.5 - 7.3
COLLEGE 4+ YRS	2568	16.8	14.8 - 18.7	2564	2.7	2.0 - 3.5
HOUSEHOLD INCOME						
<\$25,000	1418	43.8	39.3 - 48.4	1413	16.4	13.5 - 19.4
\$25,000–34,999	535	22.7	17.1 - 28.3	534	6.4	3.7 - 9.1
\$35,000–49,999	689	19.0	15.0 - 23.0	688	4.9	2.8 - 7.0
\$50,000–74,999	889	18.0	14.2 - 21.7	888	3.5	1.9 - 5.0
\$75,000+	1731	14.8	12.4 - 17.1	1731	1.3	0.7 - 1.9
REGION						
I–WESTERN	892	23.7	19.8 - 27.6	892	6.7	4.7 - 8.6
II–CENTRAL	886	22.3	18.4 - 26.3	882	4.7	2.9 - 6.5
III–NORTH EAST	1499	21.5	17.6 - 25.3	1499	5.7	4.1 - 7.2
IV–METRO WEST	824	19.6	16.4 - 22.7	822	5.0	3.5 - 6.5
V–SOUTH EAST	1558	23.1	19.6 - 26.7	1554	5.3	3.9 - 6.8
VI–BOSTON	629	23.6	18.0 - 29.3	628	6.0	3.8 - 8.2

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

† Insufficient data

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

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## SECTION 2: HEALTH CARE ACCESS AND UTILIZATION

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## Section 2.1: Health Insurance Status

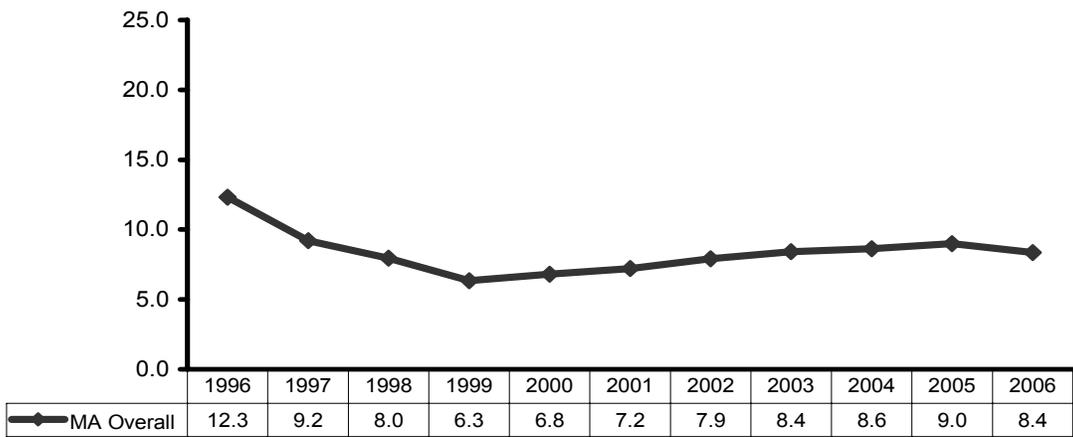
Health insurance status is a key factor affecting access to health care. Adults who do not have health insurance are more likely to have poor health and are at greater risk for chronic diseases than those with health insurance. Those without health insurance are less likely to access health care services, including preventative care, primary care, and tertiary care, and more likely to delay getting needed medical attention [10, 11].

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

### NO HEALTH INSURANCE AMONG ADULTS AGES 18-64 (Table 2.1)

- Overall, 8% of Massachusetts adults reported having no health insurance.
- The percentage of women reporting no health insurance (6%) was less than that of men (11%).
- Individuals 35 years and older were less likely than those under age 35 to report having no health insurance.
- Hispanic adults (20%) and Black adults (15%) were more likely to report being uninsured than White adults (7%).
- There was no significant difference in health insurance status between those with a disability (9%) and those without a disability (8%).
- Adults with four or more years of college (3%) were less likely to report being uninsured than those with less education.
- Adults with annual household incomes of \$34,999 or less were less likely to report having health insurance than those with annual household incomes of \$50,000 or more.
- From 1996 to 1999, the percentage of Massachusetts adults ages 18-64 with no health insurance decreased from 12% to 6% (APC = -19.1), then increased to 9% by 2004 (APC = 7.0). Since 2004, it has remained in the range of 8% to 9% (Figure 2.1.1).

**Figure 2.1.1: Percentage of Massachusetts adults ages 18-64 without health insurance, 1996-2006**



**TABLE 2.1 – NO HEALTH INSURANCE AMONG MASSACHUSETTS ADULTS,  
AGES 18-64, 2006**

	NO HEALTH INSURANCE		
	N	%	95% CI
OVERALL	9342	8.4	7.3 - 9.4
GENDER			
MALE	3632	11.1	9.3 - 12.9
FEMALE	5710	5.7	4.7 - 6.7
AGE GROUP			
18–24	498	17.0	12.3 - 21.8
25–34	1510	10.8	8.1 - 13.4
35–44	2485	5.7	4.4 - 6.9
45–54	2555	5.7	4.3 - 7.0
55–64	2294	5.1	3.8 - 6.5
RACE-ETHNICITY*			
WHITE	7368	6.9	5.8 - 8.0
BLACK	467	15.1	9.3 - 20.9
HISPANIC	1049	20.3	15.2 - 25.3
ASIAN	†		
DISABILITY <sup>¶</sup>			
DISABILITY	1153	8.5	4.8 - 12.3
NO DISABILITY	3547	8.0	6.3 - 9.7
EDUCATION			
< HIGH SCHOOL	854	17.4	13.1 - 21.7
HIGH SCHOOL	2350	13.8	11.1 - 16.4
COLLEGE 1–3 YRS	2122	10.1	7.4 - 12.8
COLLEGE 4+ YRS	4000	3.1	2.2 - 4.0
HOUSEHOLD INCOME			
<\$25,000	1838	18.3	15.1 - 21.4
\$25,000–34,999	715	16.0	11.4 - 20.7
\$35,000–49,999	1095	9.3	6.5 - 12.1
\$50,000–74,999	1490	6.3	3.9 - 8.8
\$75,000+	2985	2.6	1.4 - 3.8
REGION			
I–WESTERN	1325	7.6	5.2 - 10.1
II–CENTRAL	1354	8.1	5.3 - 10.9
III–NORTH EAST	2343	8.8	6.6 - 11.0
IV–METRO WEST	1071	6.2	3.7 - 8.7
V–SOUTH EAST	2290	9.2	7.0 - 11.3
VI–BOSTON	955	11.4	7.4 - 15.5

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

† Insufficient Data

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

## Section 2.2: Health Care Access

All respondents were asked if they had a person that they thought of as their personal doctor or health care provider. All respondents also were asked whether they were unable to see a doctor in the past year due to cost. Presented here are the percentages of respondents who reported that they did have a personal health care provider and the percentages of respondents who reported that cost had prevented them from seeing a doctor at some point in the past year.

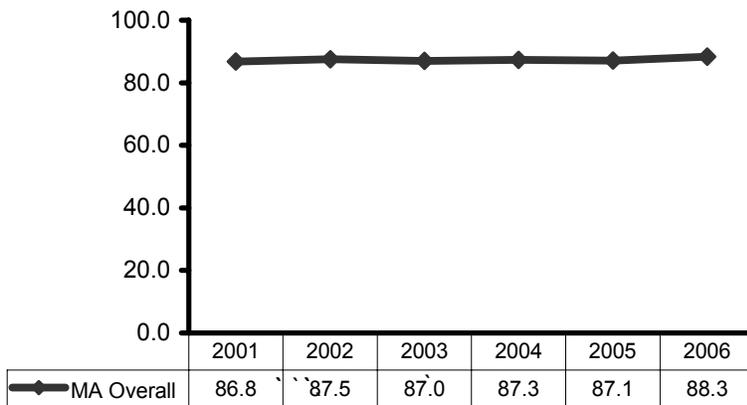
### HAVE PERSONAL HEALTH CARE PROVIDER (Table 2.2)

- Overall, 88% of Massachusetts adults have a personal health care provider.
- Women (92%) were more likely than men (84%) to report having a personal health care provider.
- The percentage of individuals who have a personal health care provider increased with age.
- Hispanic (70%) adults were less likely than White (90%) and Black (87%) adults to have a personal health care provider. Asian adults (80%) were less likely to report a personal health care provider than White adults.
- Adults with a disability (90%) were just as likely as adults without a disability (88%) to report having a personal health care provider.
- Adults with four or more years of college education (92%) were more likely to report having a personal health care provider than those with a high school education (85%) or less (80%).
- Adults with an annual household income of more than \$75,000 (93%) were more likely to have a personal health care provider than adults with an annual household income of less than \$35,000.
- Adults living in Boston (83%) were less likely to report having a personal health care provider than those living in the South East (89%), Metro West (90%), and North East (89%) regions.
- The percentage of adults who report having a personal health care provider has been stable from 2001 to 2006 (Figure 2.2.1).

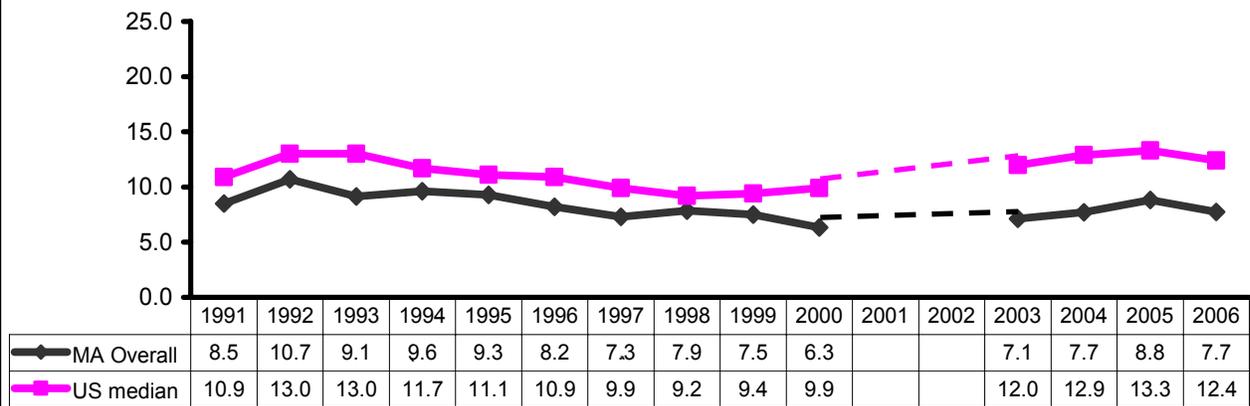
### COULD NOT SEE DOCTOR DUE TO COST (Table 2.2)

- 8% of Massachusetts adults reported that they had not seen a doctor at some point in the past year due to cost.
- Adults ages 18-24 (17%) years were more than twice as likely as those over the age of 25 to report not being able to see a doctor due to cost.
- Hispanic (18%) and Black (17%) adults were more likely than White adults (6%) to report they could not see a doctor due to cost.
- Adults with a disability (15%) were more likely to report that they could not see a doctor due to cost than adults without a disability (6%).
- As the annual household income increased, the percentage of adults reporting that they could not see a doctor due to cost decreased.
- The national estimates for inability to see a doctor due to cost were higher than the Massachusetts estimates from 1991 to 2006. The percentage of Massachusetts adults who could not see a doctor due to cost decreased from 9% to 6% between 1991 and 2000 (representing an annual percentage decline of 4.1%), after which the percentage has remained between 7% and 9% (Figure 2.2.2).

**Figure 2.2.1: Percentage of Massachusetts adults who have a personal health care provider, 2001-2006**



**Figure 2.2.2: Percentage of adults who were unable to see a doctor due to cost, MA and US, 1991-2006**



**TABLE 2.2 HEALTH CARE ACCESS AMONG MASSACHUSETTS ADULTS, 2006**

	HAVE PERSONAL HEALTH CARE PROVIDER			COULD NOT SEE DOCTOR DUE TO COST		
	N	%	95% CI	N	%	95% CI
OVERALL	12688	88.3	87.2 - 89.4	12690	7.7	6.9 - 8.5
GENDER						
MALE	4742	84.0	82.1 - 85.9	4748	7.1	6.0 - 8.3
FEMALE	7946	92.2	91.0 - 93.3	7942	8.3	7.2 - 9.4
AGE GROUP						
18-24	496	69.3	63.3 - 75.3	500	16.8	12.2 - 21.4
25-34	1504	81.7	78.6 - 84.8	1511	7.8	5.7 - 9.9
35-44	2485	88.9	87.1 - 90.8	2486	7.4	6.0 - 8.7
45-54	2554	92.9	91.5 - 94.3	2552	7.4	6.0 - 8.8
55-64	2290	94.4	92.9 - 95.9	2291	5.9	4.6 - 7.2
65-74	1514	97.4	96.3 - 98.4	1510	4.2	2.8 - 5.6
75 AND OLDER	1605	96.7	95.7 - 97.8	1601	2.9	1.8 - 3.9
RACE-ETHNICITY*						
WHITE	10297	90.1	88.9 - 91.2	10294	6.2	5.4 - 7.0
BLACK	584	87.4	83.0 - 91.8	584	16.7	11.2 - 22.2
HISPANIC	1206	70.3	65.0 - 75.5	1210	18.3	14.1 - 22.5
ASIAN	206	80.3	72.0 - 88.7	†		
DISABILITY <sup>¶</sup>						
DISABILITY	1681	90.0	86.5 - 93.4	1680	14.5	11.4 - 17.6
NO DISABILITY	4596	88.2	86.4 - 89.9	4602	6.2	4.9 - 7.4
EDUCATION						
< HIGH SCHOOL	1399	79.9	75.8 - 83.9	1396	15.6	12.3 - 19.0
HIGH SCHOOL	3463	85.3	82.8 - 87.8	3465	10.8	8.8 - 12.8
COLLEGE 1-3 YRS	2812	88.2	85.8 - 90.7	2812	8.9	7.1 - 10.8
COLLEGE 4+ YRS	4981	91.6	90.2 - 92.9	4984	3.9	3.1 - 4.7
HOUSEHOLD INCOME						
<\$25,000	2969	83.4	80.8 - 86.0	2969	17.3	14.8 - 19.8
\$25,000-34,999	1070	82.3	77.2 - 87.3	1073	10.6	7.3 - 13.9
\$35,000-49,999	1444	89.8	87.2 - 92.3	1446	9.0	6.7 - 11.3
\$50,000-74,999	1741	90.7	88.2 - 93.3	1741	5.4	3.6 - 7.3
\$75,000+	3266	93.0	91.5 - 94.6	3265	2.4	1.3 - 3.4
REGION						
I-WESTERN	1847	86.5	83.5 - 89.6	1847	8.2	6.3 - 10.1
II-CENTRAL	1809	88.8	85.6 - 92.1	1808	7.5	5.6 - 9.4
III-NORTH EAST	3077	89.3	87.1 - 91.6	3079	7.3	5.5 - 9.1
IV-METRO WEST	1557	89.8	87.5 - 92.1	1558	5.6	3.8 - 7.4
V-SOUTH EAST	3132	89.1	86.9 - 91.3	3134	9.1	7.2 - 11.0
VI-BOSTON	1262	82.7	78.7 - 86.6	1260	10.3	7.6 - 13.0

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

† Insufficient data

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

## Section 2.3: Dental Health Care

Oral health is an important component of one's general health and well being. Preventive dental services such as teeth cleaning, early diagnosis and treatment of tooth decay and periodontal diseases occur during regular visits to a dental provider. In the United States, one-fourth of adults over age 60 years have lost all of their teeth. The primary cause of tooth loss is tooth decay, affecting more than 90 percent of adults over age 40 years, and advanced gum disease, which affects between 5 to 15 percent of adults [12].

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

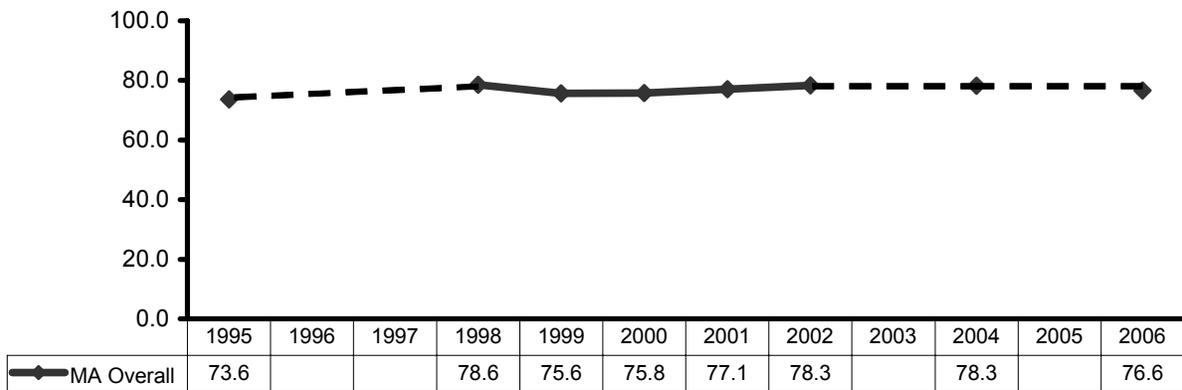
### DENTAL VISIT IN PAST YEAR (Table 2.3)

- 77% of Massachusetts adults reported that they had been to a dentist or a dental clinic in the past year.
- Men (75%) were less likely than women (79%) to report having visited a dentist or a dental clinic in the past year.
- Adults less than age 35 and adults 65 years and older were less likely than those 45 to 54 years of age (82%) to report having visited a dentist or a dental clinic in the past year.
- White adults (78%) were more likely than Hispanic (65%) and Black (61%) adults to have been to a dentist in the past year.
- Adults with a disability (67%) were less likely to report visiting a dentist in the past year than adults without a disability (81%).
- The percentage of adults who had been to a dentist or a dental clinic in the past year increased with increasing education: Only 52% of adults with less than a high school education reported a visit to the dentist within the past year.
- Adults with an annual household income of less than \$25,000 (56%) were less likely than those at all other household income levels to report visiting a dentist in the past year.
- Between 1995 and 2006, the percentage of adults who visited a dentist in the past year remained between 74% and 79% (Figure 2.3.1).

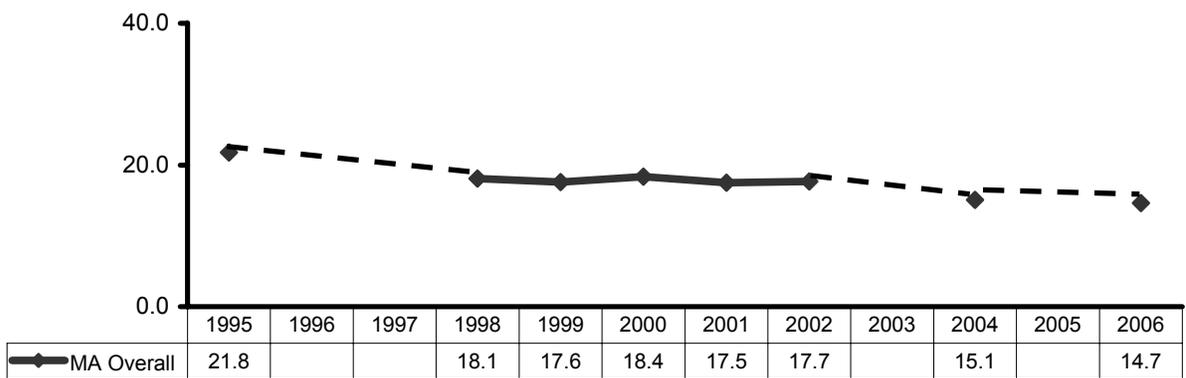
### SIX OR MORE TEETH MISSING DUE TO DECAY (Table 2.3)

- Overall, 15% of Massachusetts adults reported they were missing six or more teeth due to decay or gum disease.
- Men (14%) and women (16%) reported having six or more teeth missing at similar rates.
- The percentage of adults with six or more teeth missing due to decay or gum disease increased with increasing age.
- Adults with a disability (26%) were more likely than adults without a disability (11%) to report having lost six or more teeth due to decay or gum disease.
- The percentage of adults with six or more teeth missing due to decay or gum disease decreased with increasing income and education.
- From 1995 to 2006, the percentage of adults who reported having lost six or more teeth due to decay or gum disease decreased from 22% to 15%. This represents an average annual percentage change of 3.3% (Figure 2.3.2).

**Figure 2.3.1: Percentage of Massachusetts adults who visited a dentist in the past year, 1995-2006**



**Figure 2.3.2: Percentage of Massachusetts adults who have lost six or more teeth to decay or disease, 1995-2006**



**TABLE 2.3– DENTAL HEALTH CARE AMONG MASSACHUSETTS ADULTS, 2006**

	DENTAL VISIT IN PAST YEAR			SIX OR MORE TEETH MISSING		
	N	%	95% CI	N	%	95% CI
OVERALL	12615	76.6	75.4 - 77.8	12501	14.7	13.9 - 15.5
<b>GENDER</b>						
MALE	4716	74.5	72.5 - 76.5	4681	13.7	12.5 - 14.9
FEMALE	7899	78.5	77.1 - 79.8	7820	15.5	14.5 - 16.6
<b>AGE GROUP</b>						
18–24	493	72.6	66.8 - 78.4	†		
25–34	1501	72.8	69.3 - 76.3	1512	1.1	0.5 - 1.7
35–44	2471	79.7	77.6 - 81.8	2472	5.2	4.0 - 6.3
45–54	2547	81.8	79.7 - 83.8	2528	12.6	10.8 - 14.4
55–64	2281	78.3	75.9 - 80.7	2255	23.8	21.3 - 26.2
65–74	1500	72.9	69.8 - 76.0	1470	39.6	36.1 - 43.1
75 AND OLDER	1581	72.2	69.3 - 75.1	1542	48.6	45.1 - 52.0
<b>RACE-ETHNICITY*</b>						
WHITE	10250	78.4	77.1 - 79.6	10130	15.0	14.1 - 15.9
BLACK	577	60.5	53.8 - 67.1	581	16.8	12.6 - 21.1
HISPANIC	1189	64.6	59.5 - 69.8	1202	11.8	9.3 - 14.2
ASIAN	206	75.2	67.1 - 83.2	†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1665	67.2	63.6 - 70.8	1652	26.1	23.0 - 29.2
NO DISABILITY	4571	80.8	79.1 - 82.6	4535	10.7	9.5 - 11.8
<b>EDUCATION</b>						
< HIGH SCHOOL	1377	51.7	47.0 - 56.4	1370	37.8	33.5 - 42.1
HIGH SCHOOL	3431	69.9	67.2 - 72.5	3396	21.0	19.1 - 22.9
COLLEGE 1–3 YRS	2800	74.0	71.2 - 76.9	2775	13.7	12.0 - 15.3
COLLEGE 4+ YRS	4975	86.2	84.8 - 87.6	4929	7.4	6.5 - 8.3
<b>HOUSEHOLD INCOME</b>						
<\$25,000	2935	56.0	52.8 - 59.2	2911	30.9	28.2 - 33.6
\$25,000–34,999	1065	64.8	59.3 - 70.3	1055	22.5	18.9 - 26.2
\$35,000–49,999	1439	74.2	70.8 - 77.5	1427	16.4	13.9 - 18.9
\$50,000–74,999	1733	80.6	77.6 - 83.7	1730	11.5	9.5 - 13.5
\$75,000+	3259	88.8	87.1 - 90.5	3243	5.0	4.1 - 5.9
<b>REGION</b>						
I–WESTERN	1834	73.4	70.3 - 76.5	1819	18.3	16.0 - 20.7
II–CENTRAL	1800	75.6	72.1 - 79.0	1779	14.1	12.0 - 16.2
III–NORTH EAST	3060	76.7	73.8 - 79.6	3040	13.6	11.9 - 15.3
IV–METRO WEST	1546	82.5	80.0 - 85.0	1536	12.1	10.4 - 13.7
V–SOUTH EAST	3114	76.3	73.8 - 78.9	3080	16.5	14.6 - 18.4
VI–BOSTON	1257	69.6	65.8 - 73.4	1243	13.8	11.6 - 16.1

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

† Insufficient data

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

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## SECTION 3: RISK FACTORS & PREVENTIVE BEHAVIORS

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## Section 3.1: Tobacco Use

Tobacco use is the leading preventable cause of death in the United States, resulting in approximately 440,000 deaths each year. More than 8.6 million people in the United States have at least one serious illness caused by smoking. It is a major risk factor for cancer, heart, and lung diseases. The health and economic burden of tobacco use has resulted in more than 2.7 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] (Figure 3.1.1).

A current smoker was defined as someone who has smoked at least 100 cigarettes in their lifetime and who currently smokes either some days or everyday. A current smoker who reported smoking 21 or more cigarettes per day was defined as a heavy smoker. Presented here are the percentage of adults who reported being current smokers and the percentage of adults who reported being heavy smokers.

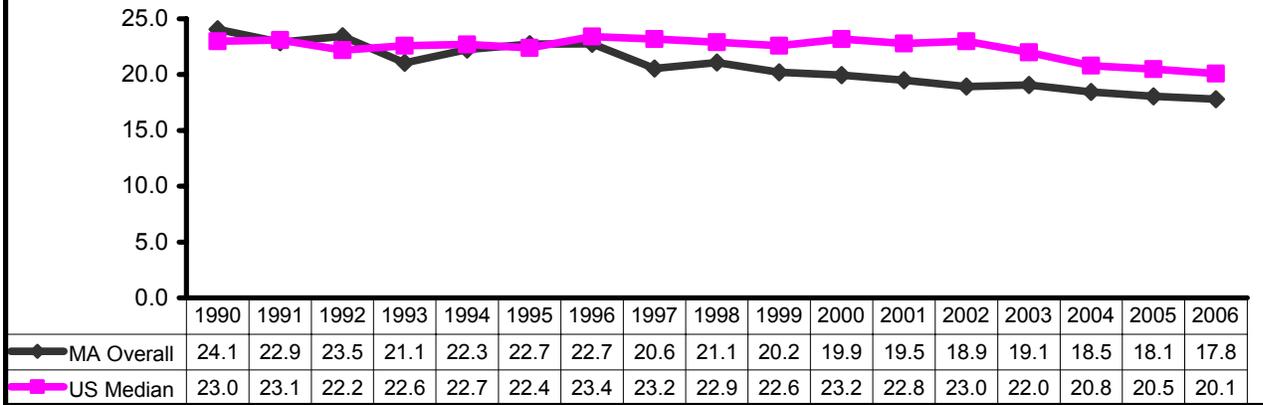
### CURRENT SMOKER (Table 3.1)

- 18% of Massachusetts adults reported being current smokers.
- Adults ages 18-24 (27%) reported current smoking at a rate more than five times higher than those 75 and older (5%).
- White (18%), Black (19%), and Hispanic (21%) adults reported similar rates of current smoking.
- Adults with a disability (24%) were more likely to report being current smokers than adults without a disability (17%).
- Adults with an education level of 4 or more years of college (9%) were less likely than adults with an education level of less than high school (31%), high school (26%), and 1-3 years of college (21%) to report current smoking.
- Adults with an annual household income of \$75,000 or more (12%) were less likely than all other income groups to report current smoking.
- Those living in the Metro West region (12%) were less likely to smoke than those living in most other regions of the state.
- The percentage of Massachusetts adults reporting current smoking decreased from 24% in 1990 to 18% in 2006, an annual percentage change of 1.8% (Figure 3.1.1).

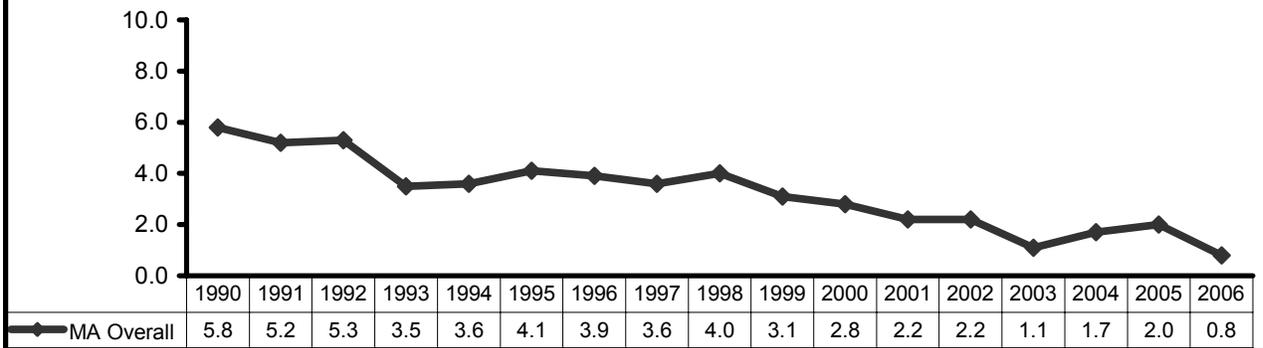
### HEAVY SMOKER (Table 3.1)

- One percent of Massachusetts adults were classified as heavy smokers.
- Men and women reported similar rates of heavy smoking (1%).
- Two percent of adults with a disability reported heavy smoking.
- Adults with four or more years of college education (0.2%) were less likely than those with a high school education (2%) and those with 1-3 years of college education (1%) to be heavy smokers.
- Between 1990 and 2006, the percentage of heavy smokers among Massachusetts adults dropped from 6% to just under 1%. This represents an average annual change of 9.3% (Figure 3.1.2).

**Figure 3.1.1: Percentage of adults who currently smoke, MA and US, 1990-2006**



**Figure 3.1.2: Percentage of Massachusetts adults who are heavy smokers, 1990-2006**



**TABLE 3.1 – TOBACCO USE AMONG MASSACHUSETTS ADULTS, 2006**

	CURRENT SMOKER			HEAVY SMOKER		
	N	%	95% CI	N	%	95% CI
OVERALL	12660	17.8	16.6 - 18.9	11363	0.8	0.6 - 1.1
<b>GENDER</b>						
MALE	4738	19.3	17.4 - 21.2	4207	1.1	0.7 - 1.5
FEMALE	7922	16.4	15.0 - 17.7	7156	0.6	0.3 - 0.9
<b>AGE GROUP</b>						
18–24	500	26.6	20.7 - 32.5	†		
25–34	1511	21.5	18.3 - 24.8	†		
35–44	2486	18.0	15.9 - 20.0	2179	1.1	0.5 - 1.7
45–54	2544	21.1	18.9 - 23.3	2202	1.3	0.7 - 1.9
55–64	2287	15.2	13.2 - 17.2	2088	1.3	0.6 - 1.9
65–74	1507	9.1	7.2 - 11.0	†		
75 AND OLDER	1592	4.6	3.2 - 5.9	†		
<b>RACE-ETHNICITY*</b>						
WHITE	10270	17.6	16.3 - 18.8	9277	0.9	0.7 - 1.2
BLACK	581	18.8	13.6 - 24.0	†		
HISPANIC	1209	21.0	15.8 - 26.2	†		
ASIAN	†			†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1676	23.9	20.5 - 27.4	1456	1.8	0.9 - 2.8
NO DISABILITY	4582	16.5	14.5 - 18.4	†		
<b>EDUCATION</b>						
< HIGH SCHOOL	1393	30.9	26.4 - 35.4	†		
HIGH SCHOOL	3460	25.8	23.2 - 28.5	2948	1.8	1.0 - 2.5
COLLEGE 1–3 YRS	2809	21.4	18.6 - 24.3	2492	1.0	0.5 - 1.4
COLLEGE 4+ YRS	4967	8.8	7.6 - 9.9	4710	0.2	0.1 - 0.2
<b>HOUSEHOLD INCOME</b>						
<\$25,000	2965	27.8	24.8 - 30.7	2511	1.7	0.7 - 2.7
\$25,000–34,999	1070	18.9	15.0 - 22.8	950	1.4	0.6 - 2.2
\$35,000–49,999	1439	20.3	17.0 - 23.6	†		
\$50,000–74,999	1736	19.8	16.6 - 22.9	†		
\$75,000+	3258	11.5	9.7 - 13.3	†		
<b>REGION</b>						
I–WESTERN	1842	19.1	16.3 - 21.8	†		
II–CENTRAL	1808	21.2	17.9 - 24.5	1621	1.4	0.7 - 2.2
III–NORTH EAST	3071	17.5	14.7 - 20.3	2759	1.0	0.5 - 1.6
IV–METRO WEST	1553	11.6	9.3 - 14.0	†		
V–SOUTH EAST	3128	22.0	19.2 - 24.7	†		
VI–BOSTON	1254	14.9	12.2 - 17.7	†		

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

† Insufficient data

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

## Section 3.2: Smoking Cessation

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

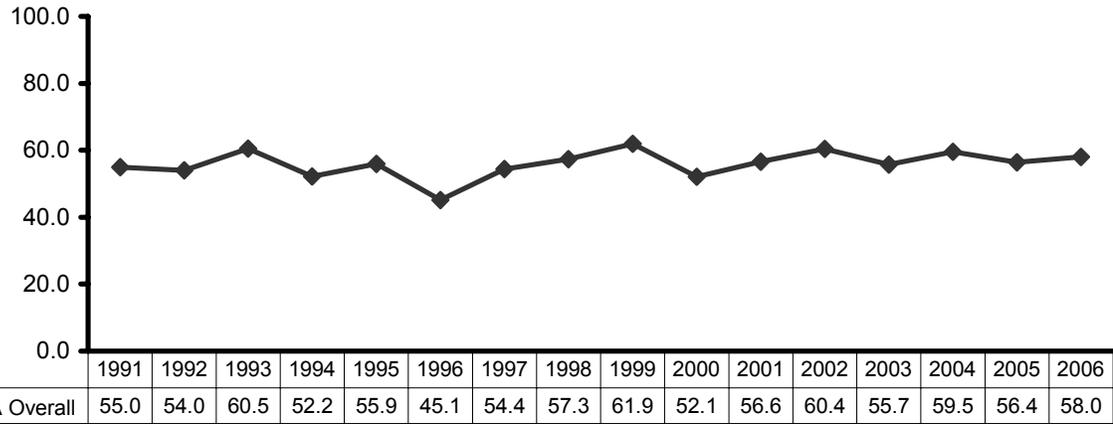
### QUIT ATTEMPT AMONG CURRENT SMOKERS (Table 3.2)

- 58% of Massachusetts adults reported making an attempt to quit smoking in the past year.
- All age groups reported similar percentages of quit attempts, ranging from 57% – 68%.
- Hispanic adults (73%) were more likely to report making a quit attempt than White adults (56%).
- 64% of adults with a disability reported a quit attempt compared to 57% of adults without a disability.
- Adults with less than a high school education (56%) were about as likely to report having made a quit attempt as adults with 4 or more years of college education (58%).
- Adults with an annual household income of \$50,000 to \$74,999 (68%) were more likely to report having made a quit attempt than those with an annual household income of \$35,000 to \$49,000 (49%).
- Adults living in Boston (48%) reported a lower percentage of quit attempts compared to those living in the North East (69%).
- Between 1991 and 2006, the percentage of Massachusetts adult smokers who reported having made a quit attempt in the past year fluctuated between 45% and 62% (Figure 3.2.1).

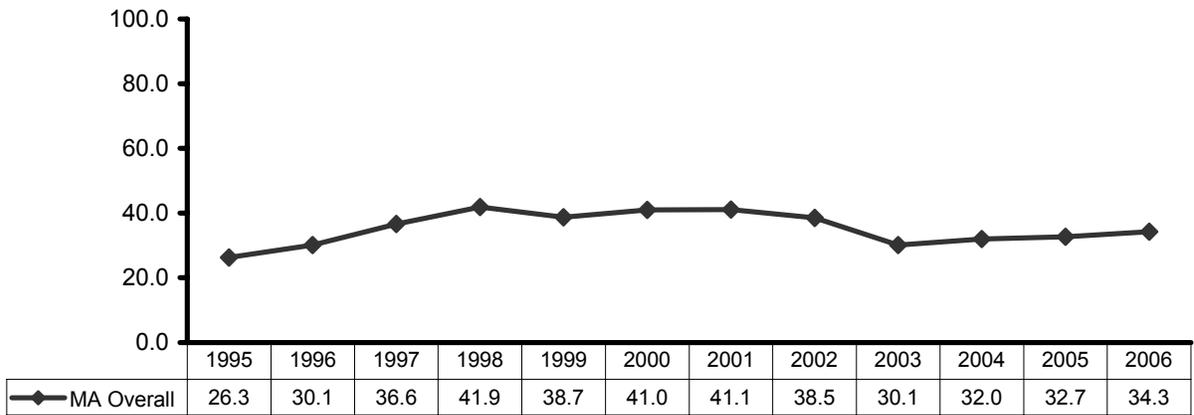
### PLANNING TO QUIT AMONG CURRENT SMOKERS (Table 3.2)

- 34% of Massachusetts adults reported that they were planning to quit smoking within the next month.
- Equal percentages of men and women reported that they plan to quit in the next 30 days (34%).
- An equal percent of adults with and without a disability reported planning to quit smoking within the next month (35%).
- Adults with an annual household income of \$75,000 or more were more likely to report that they were planning to quit than those living in a household earning less than \$35,000.
- From 1995 to 1998, the percentage of Massachusetts adult smokers who reported having a plan to quit smoking in the next month rose from 26% to 42%, an average annual increase of 17.1%. Beginning in 1999, the percentage declined by an average annual 3.5%. (Figure 3.2.2)

**Figure 3.2.1: Percentage of Massachusetts smokers who quit for at least one day in the past year, 1991-2006**



**Figure 3.2.2: Percentage of Massachusetts smokers who plan to quit smoking in next 30 days, 1995-2006**



**TABLE 3.2 – SMOKING CESSATION AMONG MASSACHUSETTS ADULTS, 2006**

	QUIT ATTEMPT			PLANNING TO QUIT		
	N	%	95% CI	N	%	95% CI
OVERALL	2338	58.0	54.4 - 61.6	1001	34.3	29.4 - 39.2
<b>GENDER</b>						
MALE	959	58.6	53.1 - 64.1	421	34.3	27.3 - 41.4
FEMALE	1379	57.4	52.8 - 61.9	580	34.2	27.4 - 41.0
<b>AGE GROUP</b>						
18–24	130	59.8	46.9 - 72.6	†		
25–34	351	57.0	48.6 - 65.5	147	33.6	21.0 - 46.3
35–44	525	58.7	52.4 - 65.0	217	35.2	26.0 - 44.4
45–54	614	56.7	50.8 - 62.5	264	39.1	30.3 - 47.8
55–64	433	57.2	50.2 - 64.2	221	44.2	34.2 - 54.1
65–74	170	57.1	46.4 - 67.7	62	37.7	19.6 - 55.8
75 AND OLDER	80	67.6	53.6 - 81.5	†		
<b>RACE-ETHNICITY*</b>						
WHITE	1873	55.9	51.9 - 59.8	841	33.5	28.1 - 38.8
BLACK	122	67.3	54.1 - 80.5	†		
HISPANIC	230	73.0	63.0 - 83.0	79	33.9	16.3 - 51.4
ASIAN	†			†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	414	64.3	56.0 - 72.5	187	34.6	24.2 - 45.0
NO DISABILITY	739	56.8	50.3 - 63.3	349	35.4	26.5 - 44.3
<b>EDUCATION</b>						
< HIGH SCHOOL	360	56.1	47.1 - 65.2	141	23.3	13.5 - 33.2
HIGH SCHOOL	893	57.8	51.9 - 63.8	364	36.4	27.3 - 45.5
COLLEGE 1–3 YRS	589	59.1	51.6 - 66.6	260	34.6	25.4 - 43.7
COLLEGE 4+ YRS	493	58.1	51.6 - 64.6	235	36.6	27.4 - 45.9
<b>HOUSEHOLD INCOME</b>						
<\$25,000	796	53.9	47.3 - 60.5	327	28.8	20.8 - 36.8
\$25,000–34,999	221	57.7	46.8 - 68.6	94	26.8	12.8 - 40.8
\$35,000–49,999	297	49.3	40.1 - 58.5	124	34.4	21.1 - 47.7
\$50,000–74,999	325	68.1	60.3 - 75.8	156	28.0	18.2 - 37.9
\$75,000+	367	59.2	51.5 - 66.9	162	52.5	41.2 - 63.9
<b>REGION</b>						
I–WESTERN	378	55.1	47.2 - 63.0	168	40.3	28.5 - 52.1
II–CENTRAL	344	52.2	43.3 - 61.2	151	28.6	17.4 - 39.8
III–NORTH EAST	568	68.6	60.8 - 76.4	248	37.3	27.4 - 47.2
IV–METRO WEST	157	58.5	48.0 - 69.0	61	35.9	21.1 - 50.6
V–SOUTH EAST	694	58.6	51.4 - 65.7	288	32.5	21.6 - 43.5
VI–BOSTON	197	48.1	38.2 - 58.0	85	28.2	16.5 - 40.0

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

† Insufficient data

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

### Section 3.3: Environmental Tobacco Smoke

Environmental tobacco smoke (ETS) is also referred to as secondhand smoke. Secondhand smoke includes both the smoke given off the burning end of tobacco products and the smoke exhaled by the smoker. Secondhand smoke has been linked to lung cancer deaths, heart disease, and respiratory illnesses, such as asthma and bronchitis in non-smoking adults. Nonsmokers exposed to secondhand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent compared to those not exposed to secondhand smoke [14].

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

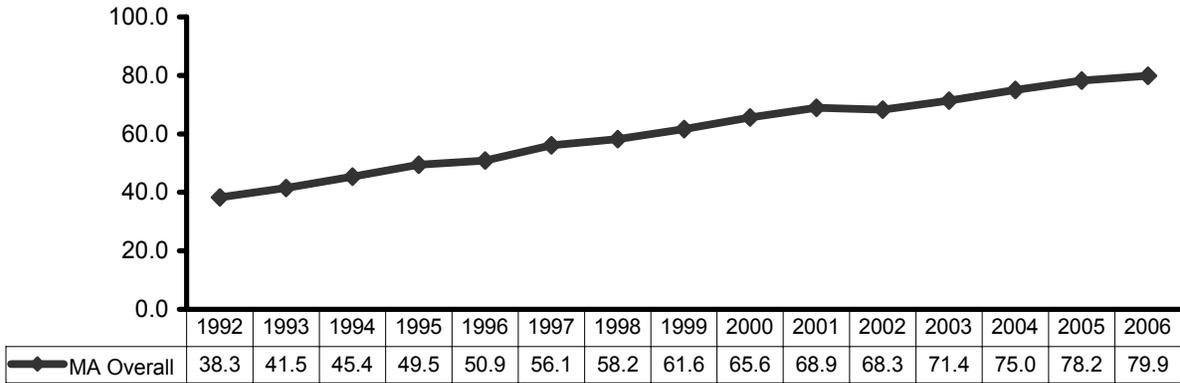
#### LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED (Table 3.3)

- 80% of Massachusetts adults live in a household where smoking is not allowed.
- Adults ages 25 to 34 (85%) were more likely to report living in a household where smoking is not allowed than adults ages 55 to 64 (77%).
- Asian (96%) adults were more likely to report living in a household where smoking is not allowed than White (80%), Black (74%), and Hispanic (80%) adults.
- 75% of adults with a disability reported living in a household where smoking is not allowed, compared to 81% of adults without a disability.
- Reports of living in a household where smoking is not allowed increased with both education and annual household income.
- The percentage of adults who reported living in a household where smoking is not allowed increased from 38% in 1992 to 58% in 1998, representing an average annual percentage increase of 7.5%. Since 1998, the percentage of Massachusetts adults who reported living in a household where smoking is not allowed has continued to increase, but at a slower rate (APC = 3.8%; Figure 3.3.1).

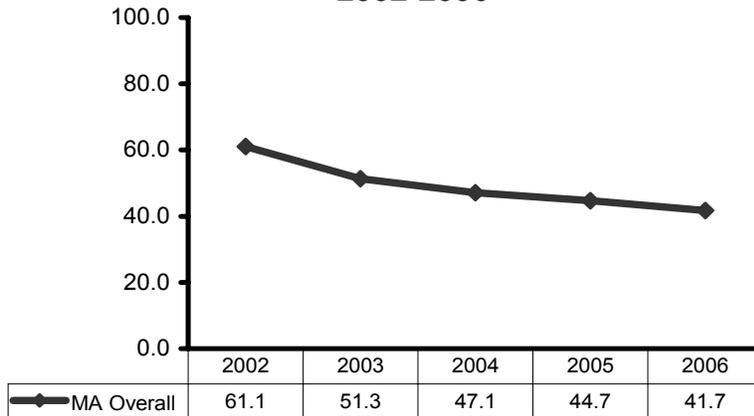
#### ANY EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE (Table 3.3)

- 42% of Massachusetts adults reported exposure to environmental tobacco smoke (ETS) in the past seven days.
- Men (46%) were more likely to report ETS than women (38%).
- Exposure to ETS decreased as age increased. Adults ages 18 to 24 (70%) were nearly three and a half times more likely to report exposure to ETS than those 75 and older (21%).
- Black adults (57%) were more likely to report exposure to ETS than White adults (41%).
- 46% of adults with a disability and 41% of adults without a disability reported ETS exposure.
- Those with a high school education (51%) and those with 1 to 3 years of college (43%) were more likely to report exposure to ETS than those with 4 or more years of college (35%).
- Adults living in Metro West (31%) were less likely to report exposure to ETS than those living in most other regions of Massachusetts.
- The percentage of Massachusetts adults who reported exposure to environmental tobacco smoke in the past seven days declined by an average of 8.6% from a high of 61% in 2002 to 42% in 2006 (Figure 3.3.2).

**Figure 3.3.1: Percentage of Massachusetts adults who live in a household where smoking is not allowed, 1992-2006**



**Figure 3.3.2: Percentage of Massachusetts adults who were exposed to environmental tobacco smoke in past seven days, 2002-2006**



**TABLE 3.3 – ENVIRONMENTAL TOBACCO AMONG MASSACHUSETTS ADULTS, 2006**

	LIVE IN A HOUSEHOLD WHERE SMOKING IS NOT ALLOWED			EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE		
	N	%	95% CI	N	%	95% CI
OVERALL	5865	79.9	78.2 - 81.5	5729	41.7	39.6 - 43.7
GENDER						
MALE	2203	78.1	75.4 - 80.8	2147	45.7	42.4 - 49.0
FEMALE	3662	81.4	79.5 - 83.3	3582	38.0	35.4 - 40.5
AGE GROUP						
18–24	212	73.2	64.8 - 81.6	201	69.8	60.9 - 78.6
25–34	718	84.9	81.0 - 88.7	698	50.2	44.7 - 55.8
35–44	1137	83.2	80.2 - 86.2	1111	41.0	37.0 - 45.0
45–54	1152	79.0	75.7 - 82.3	1136	39.4	35.4 - 43.3
55–64	1120	76.8	73.4 - 80.3	1082	36.2	32.2 - 40.3
65–74	710	78.5	74.1 - 82.9	702	28.0	23.3 - 32.7
75 AND OLDER	711	79.0	75.0 - 83.0	692	20.6	16.4 - 24.7
RACE-ETHNICITY*						
WHITE	4867	79.8	78.0 - 81.6	4769	40.9	38.6 - 43.1
BLACK	249	73.8	64.9 - 82.6	238	56.8	46.1 - 67.5
HISPANIC	499	79.6	72.7 - 86.5	478	42.6	35.0 - 50.1
ASIAN	93	95.5	91.3 - 99.6	91	47.6	33.0 - 62.1
DISABILITY <sup>†</sup>						
DISABILITY	833	75.1	70.6 - 79.7	811	46.2	40.8 - 51.7
NO DISABILITY	2343	80.8	78.1 - 83.5	2298	40.8	37.5 - 44.0
EDUCATION						
< HIGH SCHOOL	607	66.6	59.4 - 73.9	571	44.8	37.3 -- 52.3
HIGH SCHOOL	1547	70.5	66.4 - 74.5	1508	51.0	46.5 - 55.4
COLLEGE 1–3 YRS	1307	78.9	75.8 - 82.0	1274	43.4	39.1 - 47.7
COLLEGE 4+ YRS	2396	87.6	85.8 - 89.5	2368	35.2	32.4 - 38.0
HOUSEHOLD INCOME						
<\$25,000	1295	66.6	62.0 - 71.2	1253	46.0	41.2 - 50.8
\$25,000–34,999	508	73.6	67.8 - 79.4	499	46.3	39.4 - 53.2
\$35,000–49,999	672	75.0	70.1 - 79.9	655	42.0	36.4 - 47.6
\$50,000–74,999	858	76.3	72.0 - 80.7	849	46.5	41.5 - 51.5
\$75,000+	1600	89.3	86.9 - 91.7	1586	37.9	34.3 - 41.6
REGION						
I–WESTERN	881	77.2	72.3 - 82.1	857	46.5	41.0 - 52.0
II–CENTRAL	823	78.8	74.7 - 82.9	803	45.9	40.5 - 51.3
III–NORTH EAST	1414	82.0	78.6 - 85.4	1376	39.8	35.2 - 44.4
IV–METRO WEST	739	83.5	80.1 - 87.0	729	31.4	27.1 - 35.7
V–SOUTH EAST	1432	77.5	74.0 - 81.1	1397	46.6	42.0 - 51.3
VI–BOSTON	573	77.4	72.2 - 82.6	564	45.5	39.7 - 51.2

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

† Insufficient data

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

## Section 3.4: Alcohol Use

Excessive alcohol consumption is the third leading preventable cause of death in the United States [15]. 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 [16]. In 2005, driving while under the influence of alcohol accounted for 171 alcohol-related fatalities in Massachusetts – 39% of the total traffic fatalities for the year [17].

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 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.

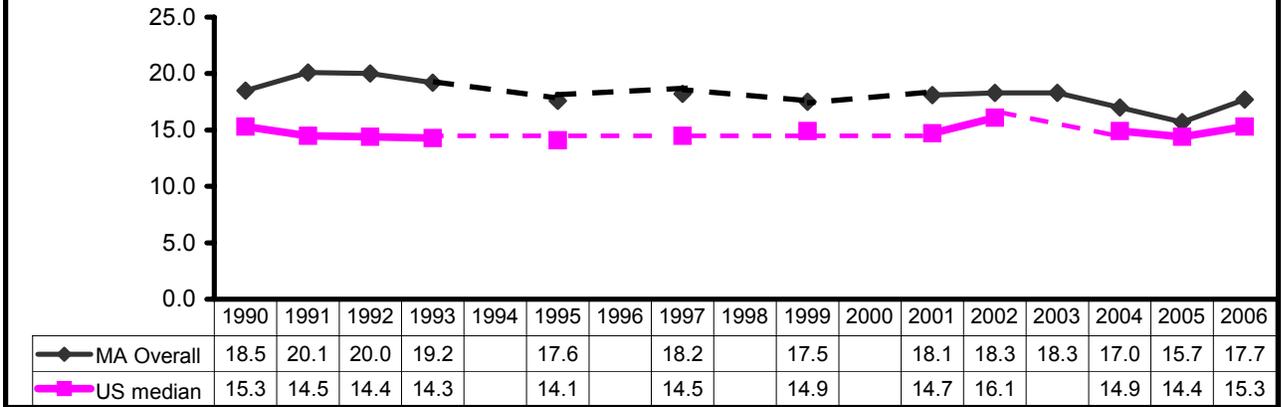
### BINGE DRINKING (Table 3.4)

- Men (25%) were twice as likely to report binge drinking as women (12%).
- Young adults, 18 to 24 years old (37%), were more likely to report binge drinking than adults 35 years and older.
- Black adults (9%) were less likely to report binge drinking than White adults (19%).
- There was no statistically significant difference between the percentage of adults with a disability (17%) who reported binge drinking and the percentage of adults without a disability (18%) who reported binge drinking.
- Those with less than a high school education (10%) were less likely to report binge drinking than those with a high school education or greater.
- Adults with an annual household income of \$50,000 - \$74,999 (20%) and \$75,000 or higher (22%) were more likely to report binge drinking compared to adults with an annual household income of less than \$25,000 (13%).
- The South East (20%) region had more adults reporting binge drinking than those living in the Metro West (14%) region.
- The percentage of Massachusetts adults who report binge drinking has been consistently higher than the national average over the years, but Massachusetts rates have been decreasing at an average annual percentage change of just under 1% (Figure 3.4.1).

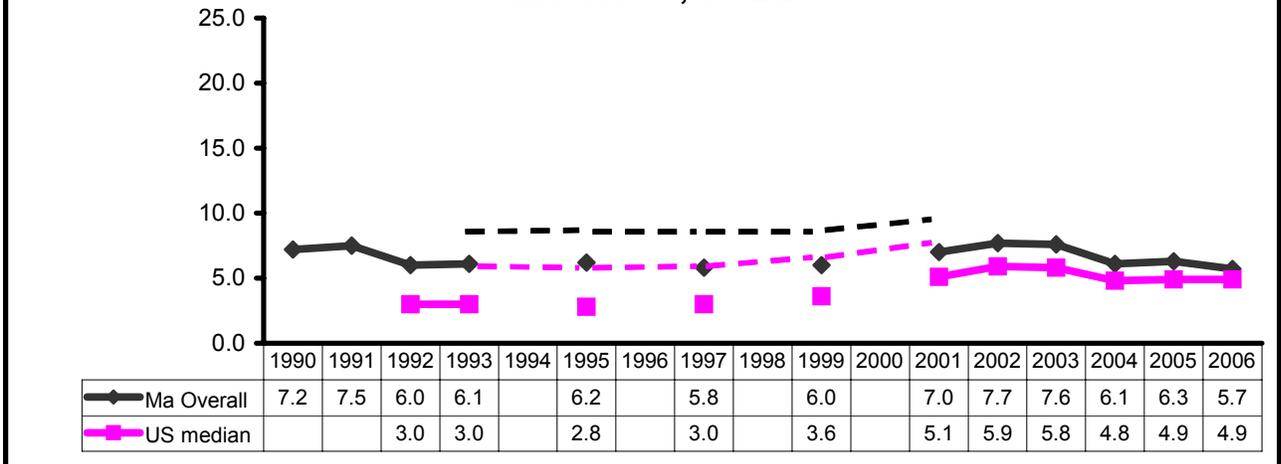
### HEAVY DRINKING (Table 3.4)

- Overall, 6% of Massachusetts adults reported heavy drinking.
- Adults ages 75 and older (2%) were less likely to report heavy drinking than those 18 to 24 (8%) years old.
- The percentages of adults with and without a disability who reported heavy drinking were the same (5%).
- Adults with less than a high school education (3%) were less likely to report heavy drinking than those with a higher education level.
- Since 1990, the percentage of adults who reported heavy drinking in the past 30 days has remained within the range of 6% to 8% (Figure 3.4.2).

**Figure 3.4.1: Percentage of adults who report binge drinking  
MA and US, 1990-2006**



**Figure 3.4.2: Percentage of adults who report heavy drinking  
MA and US, 1992-2006**



**TABLE 3.4 – ALCOHOL USE AMONG MASSACHUSETTS ADULTS, 2006**

	BINGE DRINKING			HEAVY DRINKING**		
	N	%	95% CI	N	%	95% CI
OVERALL	12232	17.7	16.4 - 19.0	12239	5.7	5.0 - 6.4
GENDER						
MALE	4554	24.5	22.3 - 26.7	4554	6.5	5.2 - 7.7
FEMALE	7678	11.6	10.2 - 12.9	7685	5.1	4.3 - 5.8
AGE GROUP						
18–24	485	36.7	30.2 - 43.2	483	8.4	4.9 - 12.0
25–34	1467	24.7	21.3 - 28.1	1465	6.2	4.1 - 8.3
35–44	2395	19.8	17.6 - 22.1	2403	5.6	4.4 - 6.9
45–54	2455	16.1	13.9 - 18.3	2457	6.4	5.1 - 7.8
55–64	2200	11.0	9.0 - 12.9	2196	5.5	4.2 - 6.8
65–74	1460	4.1	2.7 - 5.5	1468	4.3	2.8 - 5.8
75 AND OLDER	1561	1.6	0.8 - 2.4	1560	2.1	1.2 - 3.0
RACE-ETHNICITY*						
WHITE	9932	18.9	17.4 - 20.3	9945	6.2	5.4 - 7.0
BLACK	562	8.7	5.1 - 12.4	†		
HISPANIC	1169	14.5	10.4 - 18.7	†		
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	1657	17.4	13.5 - 21.3	1655	5.3	3.6 - 7.0
NO DISABILITY	4487	18.0	16.0 - 20.1	4492	5.0	4.0 - 6.0
EDUCATION						
< HIGH SCHOOL	1355	10.4	7.1 - 13.7	1348	2.6	1.1 - 4.0
HIGH SCHOOL	3342	18.2	15.5 - 20.9	3347	5.3	4.1 - 6.6
COLLEGE 1–3 YRS	2711	21.4	18.2 - 24.5	2725	7.7	5.7 - 9.8
COLLEGE 4+ YRS	4805	16.7	15.0 - 18.4	4800	5.4	4.5 - 6.3
HOUSEHOLD INCOME						
<\$25,000	2890	12.9	10.2 - 15.6	2883	4.2	2.4 - 6.0
\$25,000–34,999	1033	16.5	12.4 - 20.6	1035	7.4	4.1 - 10.7
\$35,000–49,999	1398	16.1	13.2 - 19.1	1402	5.9	4.1 - 7.7
\$50,000–74,999	1696	20.2	17.0 - 23.4	1702	5.9	4.5 - 7.4
\$75,000+	3162	21.9	19.5 - 24.2	3169	6.5	5.2 - 7.7
REGION						
I–WESTERN	1771	18.5	15.0 - 21.9	1780	6.1	4.2 - 8.1
II–CENTRAL	1750	19.3	16.0 - 22.7	1753	6.4	4.3 - 8.5
III–NORTH EAST	2954	16.8	14.0 - 19.6	2953	4.6	3.4 - 5.7
IV–METRO WEST	1508	13.8	11.2 - 16.5	1507	5.0	3.3 - 6.8
V–SOUTH EAST	3022	20.4	17.5 - 23.4	3023	7.2	5.6 - 8.7
VI–BOSTON	1223	18.6	14.6 - 22.5	1219	4.7	2.8 - 6.6

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

† Insufficient data

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

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

### Section 3.5: Overweight and Obesity Status

Obese and/or overweight adults are at increased risk of developing serious health conditions such as hypertension, dyslipidemia, non-insulin dependent (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 [18].

All respondents were asked to report their height and weight. Respondents were categorized based on their Body Mass Index (BMI), which equals weight in kilograms divided by height in meters squared. Using the Healthy People 2010 standards (HP2010), all adults with a BMI between 25.0 and 29.9 were classified as being overweight and adults with a BMI greater than or equal to 30.0 were classified as being obese. For example, a person who is 5'6" would be considered overweight at 155 pounds (BMI = 25) and obese at 186 pounds (BMI = 30). Presented here are the percentages of respondents who were determined to be overweight and obese. Please note that the overweight category includes all adults with a BMI of greater than 25.0. This includes obese respondents.

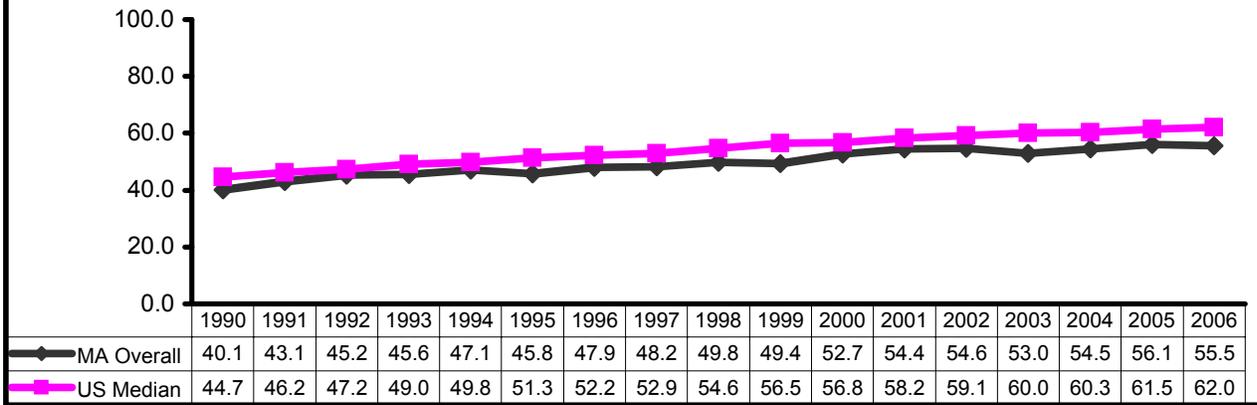
#### OVERWEIGHT (BMI greater than or equal to 25.0) (Table 3.5)

- 56% of Massachusetts adults reported that they were overweight.
- Men (66%) were more likely to report being overweight than women (46%).
- Adults ages 18 to 24 (39%) were less likely to report being overweight than any other age group.
- Black adults (71%) were more likely to report being overweight than White (55%) adults and Asian (31%) adults.
- Adults with a disability (61%) were more likely than adults without a disability (54%) to be overweight.
- Adults with 4 or more years of college (51%) were less likely to report being overweight than those with less education.
- Adults living in the Metro West region (49%) were less likely to report being overweight than those in most other regions of Massachusetts.
- The percentage of Massachusetts adults who were overweight increased by an average of 2% per year from 1990 to 2006 (Figure 3.5.1).

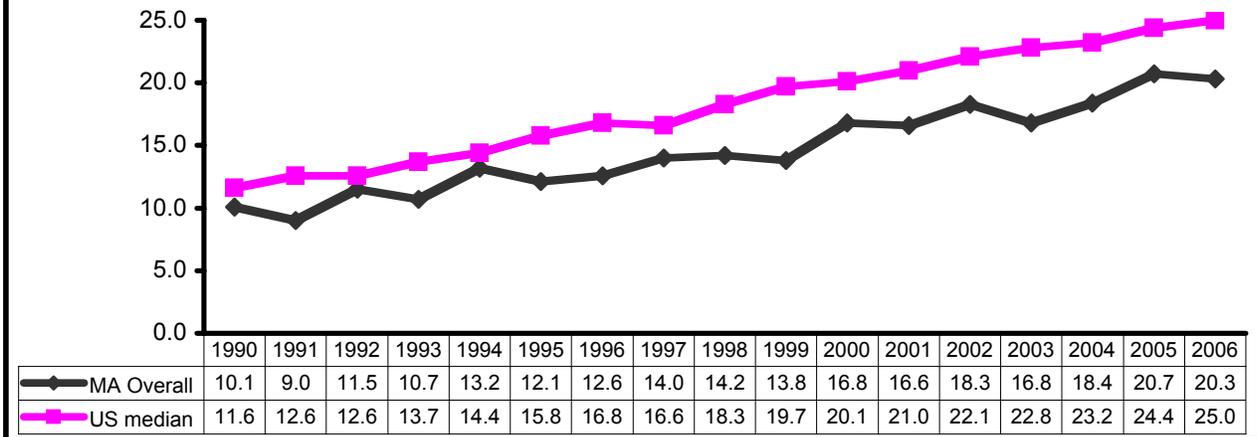
#### OBESITY (BMI greater than or equal to 30.0) (Table 3.5)

- 20% of Massachusetts adults were obese, with more men (22%) than women (19%) reporting obesity.
- Adults ages 55 to 64 (24%) were more likely to be obese than those 18 to 24 (17%) and those 25 to 34 (18%).
- Black adults (38%) were more likely to be obese than Hispanic adults (26%), who were more likely to be obese than White adults (20%).
- Adults with a disability (28%) were more likely than adults without a disability (18%) to be obese.
- Those with less than a high school education (33%) were more likely to be obese than those with greater education. Those with more than 4 years of college education (16%) were less likely to be obese than those with less education.
- Adults living in a household earning less than \$25,000 (28%) were more likely to be obese than those with an annual household income of more than \$35,000.
- Adults living in the Metro West region (14%) were less likely to be obese than adults living in any other region of Massachusetts.
- The percentage of adults who were obese increased from 10% in 1990 to 20% in 2006, representing an average annual percentage change of 5% (Figure 3.5.2).

**Figure 3.5.1: Percentage of adults who are overweight or obese, MA and US, 1990-2006**



**Figure 3.5.2: Percentage of adults who are obese, MA and US, 1990-2006**



**TABLE 3.5 – OVERWEIGHT AND OBESE AMONG MASSACHUSETTS ADULTS, 2006**

	OVERWEIGHT (BMI ≥ 25.0)			OBESE (BMI ≥ 30.0)		
	N	%	95% CI	N	%	95% CI
OVERALL	11890	55.5	54.0 - 56.9	11890	20.3	19.1 - 21.4
<b>GENDER</b>						
MALE	4649	65.6	63.4 - 67.8	4649	22.1	20.2 - 24.0
FEMALE	7241	45.6	43.8 - 47.4	7241	18.5	17.2 - 19.8
<b>AGE GROUP</b>						
18–24	483	39.4	32.9 - 45.8	483	16.5	11.4 - 21.6
25–34	1432	52.0	48.1 - 55.9	1432	17.5	14.6 - 20.4
35–44	2339	57.1	54.3 - 59.9	2339	21.5	19.1 - 23.8
45–54	2376	60.5	57.8 - 63.3	2376	22.3	20.0 - 24.6
55–64	2163	65.7	62.8 - 68.5	2163	24.3	21.8 - 26.7
65–74	1428	60.8	57.3 - 64.3	1428	23.9	20.8 - 26.9
75 AND OLDER	1526	50.6	47.1 - 54.1	1526	15.3	12.8 - 17.8
<b>RACE-ETHNICITY*</b>						
WHITE	9688	54.8	53.2 - 56.4	9688	19.5	18.3 - 20.7
BLACK	549	70.9	64.6 - 77.3	549	38.2	31.2 - 45.1
HISPANIC	1103	61.4	55.6 - 67.2	1103	26.0	21.1 - 31.0
ASIAN	194	31.4	22.8 - 40.0	†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1586	60.8	56.6 - 65.0	1586	27.9	24.4 - 31.5
NO DISABILITY	4339	53.5	51.1 - 55.8	4339	18.4	16.5 - 20.3
<b>EDUCATION</b>						
< HIGH SCHOOL	1282	64.3	59.4 - 69.3	1282	32.5	27.9 - 37.1
HIGH SCHOOL	3257	57.9	54.8 - 61.0	3257	23.8	21.2 - 26.3
COLLEGE 1–3 YRS	2626	58.7	55.5 - 61.9	2626	21.6	19.1 - 24.1
COLLEGE 4+ YRS	4710	50.8	48.8 - 52.9	4710	15.5	14.0 - 16.9
<b>HOUSEHOLD INCOME</b>						
<\$25,000	2815	60.0	56.7 - 63.3	2815	27.7	24.9 - 30.6
\$25,000–34,999	1020	55.1	49.5 - 60.8	1020	22.8	18.6 - 27.0
\$35,000–49,999	1373	60.1	56.2 - 64.1	1373	21.1	18.0 - 24.3
\$50,000–74,999	1647	57.9	54.2 - 61.6	1647	20.1	17.3 - 23.0
\$75,000+	3136	54.4	51.9 - 56.9	3136	17.5	15.6 - 19.5
<b>REGION</b>						
I–WESTERN	1743	60.8	57.2 - 64.4	1743	25.3	21.9 - 28.7
II–CENTRAL	1678	59.1	55.2 - 63.0	1678	22.6	19.4 - 25.7
III–NORTH EAST	2867	57.4	54.1 - 60.8	2867	21.1	18.4 - 23.7
IV–METRO WEST	1461	48.5	45.3 - 51.6	1461	14.2	11.9 - 16.6
V–SOUTH EAST	2949	54.3	51.1 - 57.6	2949	20.2	17.9 - 22.5
VI–BOSTON	1189	56.4	52.2 - 60.6	1189	21.2	18.1 - 24.3

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

† Insufficient data

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

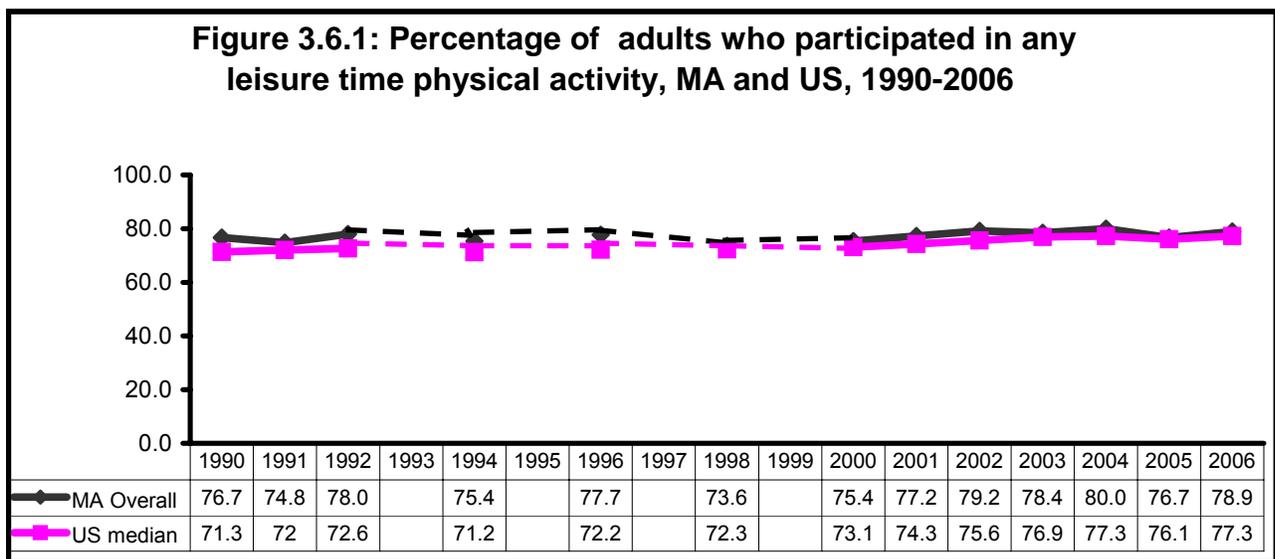
### Section 3.6: Physical Activity

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 [19].

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

#### ANY LEISURE TIME PHYSICAL ACTIVITY (Table 3.6)

- 79% Massachusetts adults participated in any leisure time physical activity in the past month.
- Women (77%) were less likely than men (81%) to report any leisure time physical activity.
- Adults ages 65 and older were less likely to participate in leisure time physical activity than those under 55 years of age.
- Asian adults (76%) were more likely to report leisure time physical activity than Hispanic adults (58%). White adults (82%) were more likely to report leisure time physical activity than Black (68%), Hispanic (58%), and Asian (76%) adults.
- Adults with a disability (65%) were less likely to report any leisure time physical activity than adults without a disability (84%).
- Reporting of any leisure time physical activity increased with increasing education and household income.
- Adults living in Boston (75%) were less likely to report any leisure time physical activity than those living in the Metro West (85%) region.
- The percentage of Massachusetts adults who reported participating in any leisure time physical activity has remained within the range of 74% to 80% since 1990 (Figure 3.6.1).



**TABLE 3.6 – ANY LEISURE TIME PHYSICAL ACTIVITY AMONG MASSACHUSETTS ADULTS, 2006**

	ANY LEISURE TIME PHYSICAL ACTIVITY		
	N	%	95% CI
OVERALL	12715	78.9	77.8 - 79.9
GENDER			
MALE	4757	80.6	78.9 - 82.3
FEMALE	7958	77.3	75.9 - 78.6
AGE GROUP			
18–24	499	82.5	77.8 - 87.2
25–34	1515	81.9	79.1 - 84.8
35–44	2487	82.2	80.2 - 84.2
45–54	2557	80.4	78.3 - 82.5
55–64	2293	76.2	73.8 - 78.7
65–74	1515	74.0	71.0 - 76.9
75 AND OLDER	1609	66.1	63.0 - 69.2
RACE-ETHNICITY*			
WHITE	10311	81.6	80.5 - 82.7
BLACK	585	67.8	61.6 - 73.9
HISPANIC	1215	58.2	52.8 - 63.6
ASIAN	208	75.7	68.2 - 83.1
DISABILITY <sup>†</sup>			
DISABILITY	1683	65.1	61.5 - 68.7
NO DISABILITY	4602	83.7	82.1 - 85.3
EDUCATION			
< HIGH SCHOOL	1403	50.8	46.1 - 55.4
HIGH SCHOOL	3475	70.1	67.5 - 72.7
COLLEGE 1–3 YRS	2815	79.8	77.6 - 82.1
COLLEGE 4+ YRS	4989	88.4	87.2 - 89.7
HOUSEHOLD INCOME			
<\$25,000	2975	59.8	56.7 - 62.9
\$25,000–34,999	1074	71.2	66.6 - 75.8
\$35,000–49,999	1447	76.5	73.2 - 79.7
\$50,000–74,999	1742	83.7	81.2 - 86.2
\$75,000+	3266	90.2	88.8 - 91.5
REGION			
I–WESTERN	1852	76.3	73.3 - 79.3
II–CENTRAL	1812	80.1	77.5 - 82.8
III–NORTH EAST	3086	76.0	73.3 - 78.8
IV–METRO WEST	1559	84.7	82.6 - 86.8
V–SOUTH EAST	3139	78.3	75.9 - 80.6
VI–BOSTON	1263	74.7	71.2 - 78.2

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

† Insufficient Data

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

## Section 3.7: Flu Vaccine and Pneumonia Vaccine

Influenza, or the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness and can even lead to death. Every year in the United States, on average, between 5 and 20 percent of the population acquires the flu; more than 200,000 people are hospitalized from flu complications, and about 36,000 people die from the flu [20]. Adults 65 years or older, children younger than 2 years old, and individuals with chronic medical conditions are at increased risk for pneumococcal infection. In Massachusetts, flu and pneumonia were the fifth leading causes of death in 2005 among adults 65 and older [21].

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 respondents receiving a flu vaccine or spray in the past year for ages 50-64 years and ages 65 years and older, and the percentage of adults, ages 65 and older, reporting that they had ever had a pneumonia vaccination.

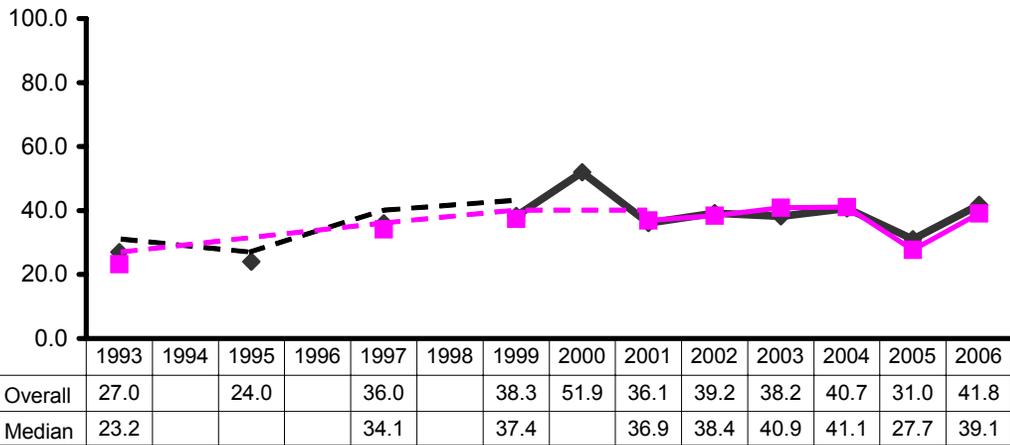
### FLU VACCINE IN PAST YEAR, AGES 50 AND OLDER (Table 3.7.1)

- 42% of Massachusetts adults ages 50 to 64 years reported that they had received a flu vaccine in the past year.
- 73% percent of adults ages 65 and older reported that they had received a flu vaccine in the past year.
- Adults, ages 50 to 64, without a disability (37%) were less likely to report having received a flu vaccine in the past year than adults, ages 50 to 64, with a disability (50%).
- From 1993 to 2000, the percentage of adults ages 50 to 64 who reported having had a flu shot increased from 27% to 52%, an average annual increase of 8% per year. Since 2000, the percentage reporting a flu shot has been in the range of 36% to 42% (Figure 3.7.1).
- Among adults ages 65 and older, the percentage who reported receiving a flu vaccine in the past year rose from 49% in 1993 to 68% in 1999, representing an average annual increase of 7.5%. Since 1999, the percentage of adults in this age group who report receiving a flu vaccine in the past year has continued to increase, but at a rate that is not statistically significant (Figure 3.7.2).

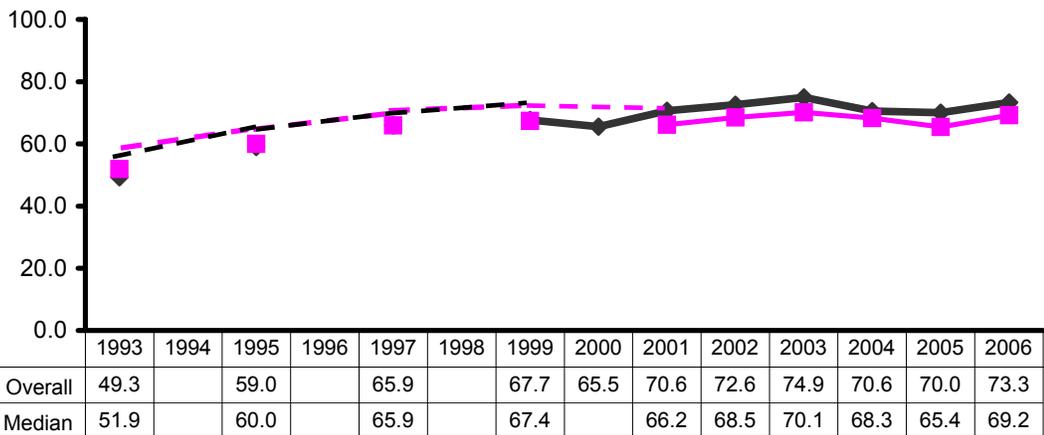
### EVER HAD PNEUMONIA VACCINE, AGES 65 AND OLDER (Table 3.7.2)

- 71% of Massachusetts adults ages 65 and older reported ever having had a pneumonia vaccine.
- Men (63%) were less likely than women (70%) to report having had a pneumonia vaccine.
- 70% of adults, ages 65 and older, without a disability reported ever having had a pneumonia vaccine, while 73% of adults with a disability, ages 65 and older, reported ever having had pneumonia vaccine.
- From 1993 to 1997 the percentage of adults ages 65 and older who reported having had a pneumonia vaccine increased from 22% to 54%. This represents an average annual increase of 26.4%. Since 1997, the average annual increase in adults 65 and older who report having had a pneumonia shot in the past year has been 2.9% (Figure 3.7.3).

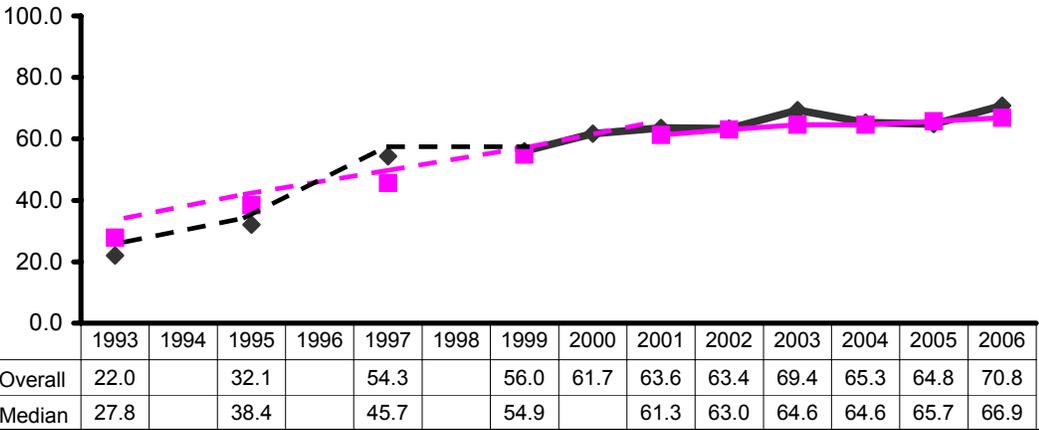
**Figure 3.7.1: Percentage of adults ages 50-64 who have had a flu vaccine, MA and US, 1993-2006**



**Figure 3.7.2: Percentage of adults ages 65 and older who have had a flu vaccine, MA and US, 1993-2006**



**Figure 3.7.3: Percentage of adults ages 65 and older who have had a pneumonia vaccine, MA and US, 1993-2006**



**TABLE 3.7.1 – FLU VACCINE AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2006**

	AGES 50-64			AGES 65+		
	N	%	95% CI	N	%	95% CI
OVERALL	3489	41.8	39.5 - 44.2	3072	73.3	71.2 - 75.5
GENDER						
MALE	1412	41.2	37.6 - 44.9	1039	74.2	70.6 - 77.8
FEMALE	2077	42.4	39.4 - 45.4	2033	72.7	70.1 - 75.4
AGE GROUP						
50-64	3489	41.8	39.5 - 44.2			
65-74				1496	67.6	64.3 - 70.9
75 AND OLDER				1576	78.6	75.8 - 81.3
RACE-ETHNICITY*						
WHITE	2990	41.9	39.5 - 44.4	2728	73.6	71.4 - 75.9
BLACK	144	47.2	35.2 - 59.2	102	57.9	44.2 - 71.5
HISPANIC	231	35.7	25.8 - 45.5	146	72.8	61.3 - 84.3
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	629	50.1	44.4 - 55.7	505	78.5	73.4 - 83.5
NO DISABILITY	1197	37.2	33.4 - 41.0	962	70.7	66.7 - 74.7
EDUCATION						
< HIGH SCHOOL	345	42.1	33.2 - 51.0	528	68.0	61.9 - 74.2
HIGH SCHOOL	860	41.6	36.5 - 46.7	1044	68.5	64.6 - 72.4
COLLEGE 1-3 YRS	765	41.4	36.4 - 46.4	626	75.6	70.9 - 80.2
COLLEGE 4+ YRS	1516	42.0	38.7 - 45.4	868	78.0	74.5 - 81.6
HOUSEHOLD INCOME						
<\$25,000	737	44.0	38.5 - 49.4	1086	72.6	68.7 - 76.5
\$25,000-34,999	268	34.6	26.2 - 42.9	344	73.1	66.6 - 79.7
\$35,000-49,999	399	43.7	36.6 - 50.8	331	77.8	72.1 - 83.5
\$50,000-74,999	562	40.7	34.9 - 46.5	221	73.8	66.2 - 81.5
\$75,000+	1036	41.0	37.1 - 45.0	248	70.6	63.1 - 78.0
REGION						
I-WESTERN	518	38.5	32.5 - 44.4	484	74.3	69.3 - 79.3
II-CENTRAL	467	40.8	34.6 - 47.0	405	73.9	67.7 - 80.1
III-NORTH EAST	833	41.8	36.3 - 47.3	664	72.6	67.7 - 77.6
IV-METRO WEST	424	45.0	39.6 - 50.4	447	76.9	72.5 - 81.3
V-SOUTH EAST	913	40.7	35.8 - 45.7	793	68.1	63.2 - 73.1
VI-BOSTON	334	44.7	37.8 - 51.6	279	75.3	69.2 - 81.3

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

† Insufficient data

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

**TABLE 3.7.2 – PNEUMONIA VACCINE AMONG MASSACHUSETTS ADULTS, AGES 65 YEARS AND OLDER, 2006**

	EVER HAD PNEUMONIA VACCINE		
	N	%	95% CI
OVERALL	2912	70.8	68.5 - 73.0
GENDER			
MALE	959	68.4	64.5 - 72.3
FEMALE	1953	72.3	69.6 - 75.1
AGE GROUP			
65–74	1416	65.1	61.7 - 68.5
75 AND OLDER	1496	75.9	73.0 - 78.9
RACE-ETHNICITY*			
WHITE	2608	71.6	69.3 - 74.0
BLACK	93	59.5	45.4 - 73.6
HISPANIC	120	45.4	31.4 - 59.3
ASIAN	†		
DISABILITY <sup>¶</sup>			
DISABILITY	474	73.0	67.2 - 78.7
NO DISABILITY	919	69.5	65.4 - 73.6
EDUCATION			
< HIGH SCHOOL	484	66.8	60.5 - 73.0
HIGH SCHOOL	997	71.7	67.9 - 75.5
COLLEGE 1–3 YRS	607	73.6	68.7 - 78.5
COLLEGE 4+ YRS	818	69.3	65.3 - 73.4
HOUSEHOLD INCOME			
<\$25,000	1035	73.1	69.3 - 76.9
\$25,000–34,999	325	70.3	63.1 - 77.6
\$35,000–49,999	321	78.5	72.8 - 84.2
\$50,000–74,999	208	69.6	61.4 - 77.7
\$75,000+	231	60.2	52.2 - 68.1
REGION			
I–WESTERN	462	73.2	67.9 - 78.5
II–CENTRAL	387	63.5	56.5 - 70.4
III–NORTH EAST	621	73.9	69.0 - 78.8
IV–METRO WEST	423	73.3	68.6 - 78.0
V–SOUTH EAST	766	69.8	64.8 - 74.9
VI–BOSTON	253	62.1	54.7 - 69.5

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

† Insufficient Data

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

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## SECTION 4: CHRONIC HEALTH CONDITIONS

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## Section 4.1: Diabetes

Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is a hormone which is used to convert sugar, starches, and other food into the energy needed for everyday life [21]. 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.

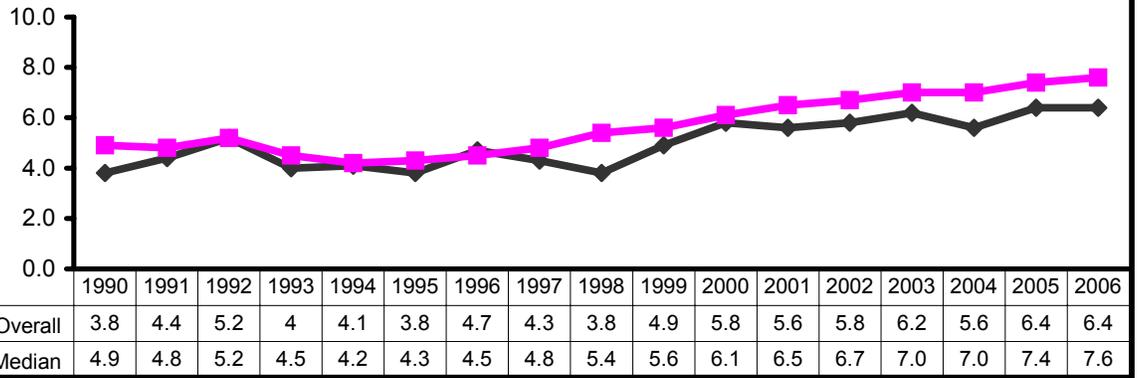
Obesity, poor diet, and physical inactivity are risk factors associated with the increase in the prevalence of type 2 diabetes. In 2005, diabetes was the ninth leading cause of death in Massachusetts [22]. In 2002, the direct and indirect cost of diabetes in the United States surpassed 132 billion dollars. In Massachusetts, 9.9 percent of the Commonwealth's medical care costs were attributed to diabetes [24]. Overall, the risk for death among people with diabetes is about twice that of people without diabetes of a similar age [22].

All respondents were asked if a doctor had ever told them that they had diabetes. Women who reported that they had diabetes only during pregnancy (gestational diabetes) were categorized as not having diabetes. Presented here is the percentage of respondents who reported that a doctor had ever told them that they had diabetes.

### DIABETES (Table 4.1)

- 6.4% of Massachusetts adults reported they ever had been told that they have diabetes.
- The difference between men (7%) and women (6%) who reported ever being told they have diabetes was not significantly different.
- Adults ages 55 and older were more likely than adults under the age of 55 to report having been told they have diabetes.
- Black adults (10%) were more likely than White adults (6%) to report diabetes.
- Adults with a disability (12%) reported diabetes more than twice as often as adults without a disability (5%).
- Adults with less than a high school education (16%) were twice as likely to report diabetes compared to adults with a high school education (8%).
- Adults with an annual household income of less than \$25,000 (12%) were more likely to report diabetes than adults with an annual household income of more than \$25,000.
- The percentage of adults who reported having diabetes was lowest in the Metro West region (5%) and highest in the South East region (8%) of the state.
- From 1990 to 2006, the percentage of adults who reported having diabetes increased from 4% to 6%. This represents an average annual increase of 3.1% (Figure 4.1).

**Figure 4.1: Percentage of adults who have diabetes, MA and US, 1990-2006**



**TABLE 4.1 – DIABETES AMONG MASSACHUSETTS ADULTS, 2006**

	DIABETES		
	N	%	95% CI
OVERALL	12710	6.4	5.8 - 6.9
GENDER			
MALE	4755	6.9	6.0 - 7.8
FEMALE	7955	5.9	5.3 - 6.6
AGE GROUP			
18–24	†		
25–34	1515	1.0	0.4 - 1.5
35–44	2489	3.7	2.6 - 4.7
45–54	2554	4.8	3.7 - 5.8
55–64	2292	12.3	10.4 - 14.1
65–74	1512	15.7	13.2 - 18.1
75 AND OLDER	1608	15.2	12.9 - 17.5
RACE-ETHNICITY*			
WHITE	10310	6.0	5.4 - 6.6
BLACK	586	10.2	7.3 - 13.2
HISPANIC	1210	8.3	6.0 - 10.6
ASIAN	†		
DISABILITY¶			
DISABILITY	1682	12.3	10.3 - 14.4
NO DISABILITY	4603	4.5	3.7 - 5.3
EDUCATION			
< HIGH SCHOOL	1400	15.6	12.4 - 18.9
HIGH SCHOOL	3474	7.9	6.8 - 9.1
COLLEGE 1–3 YRS	2815	5.4	4.5 - 6.4
COLLEGE 4+ YRS	4989	4.4	3.7 - 5.1
HOUSEHOLD INCOME			
<\$25,000	2976	12.2	10.6 - 13.9
\$25,000–34,999	1072	8.0	6.0 - 10.0
\$35,000–49,999	1445	7.0	5.4 - 8.7
\$50,000–74,999	1743	5.5	4.2 - 6.9
\$75,000+	3266	2.8	2.2 - 3.5
REGION			
I–WESTERN	1852	7.0	5.6 - 8.4
II–CENTRAL	1811	6.4	5.0 - 7.7
III–NORTH EAST	3085	5.7	4.6 - 6.7
IV–METRO WEST	1557	4.9	3.9 - 5.9
V–SOUTH EAST	3140	7.7	6.2 - 9.2
VI–BOSTON	1261	7.5	5.9 - 9.0

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

† Insufficient Data

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

## Section 4.2: Asthma

Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness [25]. 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 [26].

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

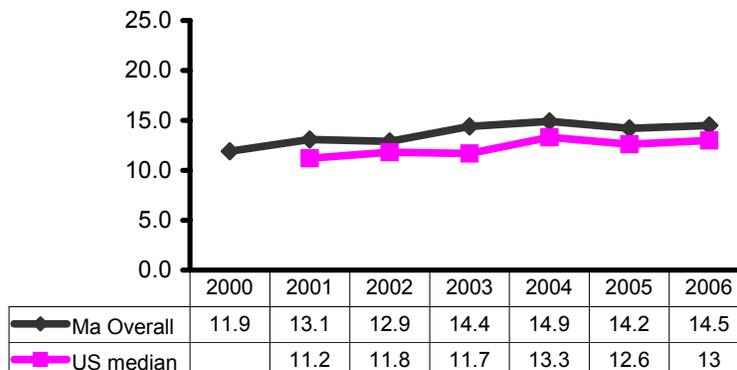
### EVER HAD ASTHMA (Table 4.2)

- Men (13%) were less likely to report ever having asthma than women (16%).
- Adults ages 25 to 34 (19%) were more likely to report ever having asthma than older adults.
- Asian adults (7%) were less likely to report ever having asthma than White (14%), Black (18%), and Hispanic (16%) adults.
- Adults with a disability (24%) were two times more likely to report ever having asthma than adults without a disability (12%).
- Those with less than a high school education (20%) were more likely to report ever having asthma compared to those with 4 or more years of college (13%).
- The percentage of Massachusetts adults who reported ever having had asthma has increased from 12% to 15% since 2000. This represents an average annual increase of 3.3% (Figure 4.2.1).

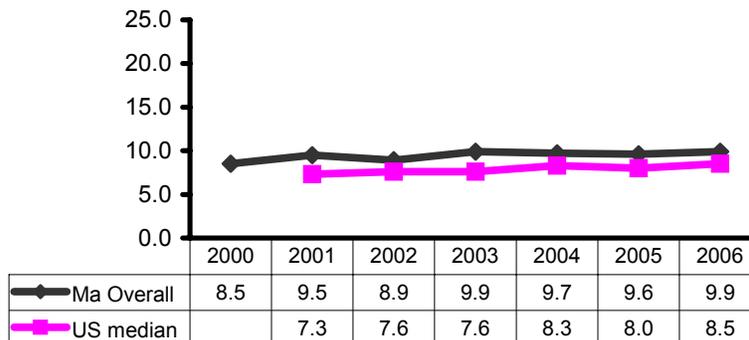
### CURRENTLY HAVE ASTHMA (Table 4.2)

- 10% of Massachusetts adults report currently having asthma.
- Men (8%) were less likely to report current asthma than women (12%).
- Adults ages 75 and older (6%) were less likely to report current asthma than any other age group.
- Adults with a disability (19%) were more than twice as likely as adults without a disability (7%) to report current asthma
- Adults with less than a high school education (16%) were more likely to report currently having asthma than those with 4 or more years of college (8%).
- Adults with an annual household income of less than \$25,000 (15%) were more likely to report currently having asthma than adults whose annual household income is \$35,000 or more.
- Since 2000 the percentage of adults reporting current asthma has remained between 9% and 10%, slightly higher than the national average of 7% to 8% (Figure 4.2.2).

**Figure 4.2.1: Percentage of adults who have ever had asthma, MA and US, 2000-2006**



**Figure 4.2.2: Percentage of adults who currently have asthma, MA and US, 2000-2006**



**TABLE 4.2 – ASTHMA AMONG MASSACHUSETTS ADULTS, 2006**

	EVER HAD ASTHMA			CURRENTLY HAVE ASTHMA		
	N	%	95% CI	N	%	95% CI
OVERALL	12692	14.5	13.5 - 15.5	12643	9.9	9.0 - 10.7
<b>GENDER</b>						
MALE	4748	12.9	11.3 - 14.5	4728	8.0	6.6 - 9.3
FEMALE	7944	16.0	14.8 - 17.2	7915	11.6	10.6 - 12.7
<b>AGE GROUP</b>						
18–24	498	17.5	12.8 - 22.3	495	12.6	8.3 - 17.0
25–34	1509	19.3	16.2 - 22.3	1502	10.5	8.3 - 12.8
35–44	2486	13.3	11.5 - 15.1	2478	9.4	7.9 - 10.9
45–54	2553	14.5	12.7 - 16.4	2544	10.3	8.7 - 11.9
55–64	2291	13.8	11.9 - 15.7	2280	10.3	8.7 - 12.0
65–74	1511	12.8	10.5 - 15.0	1504	9.2	7.2 - 11.1
75 AND OLDER	1604	7.5	5.8 - 9.1	1601	5.8	4.3 - 7.2
<b>RACE-ETHNICITY*</b>						
WHITE	10289	14.3	13.2 - 15.4	10251	9.8	8.9 - 10.8
BLACK	586	17.8	12.8 - 22.8	583	13.3	8.8 - 17.9
HISPANIC	1213	16.0	12.4 - 19.6	1210	9.2	7.0 - 11.3
ASIAN	207	6.9	3.1 - 10.8	†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1675	24.2	20.7 - 27.8	1669	19.4	16.2 - 22.7
NO DISABILITY	4595	11.6	10.1 - 13.1	4578	7.0	5.8 - 8.1
<b>EDUCATION</b>						
< HIGH SCHOOL	1401	20.0	16.3 - 23.7	1393	16.2	13.0 - 19.3
HIGH SCHOOL	3469	14.5	12.4 - 16.6	3457	10.5	8.7 - 12.3
COLLEGE 1–3 YRS	2812	15.6	13.2 - 18.0	2800	10.7	8.7 - 12.8
COLLEGE 4+ YRS	4977	13.1	11.7 - 14.4	4960	8.0	6.9 - 9.0
<b>HOUSEHOLD INCOME</b>						
<\$25,000	2970	18.8	16.2 - 21.4	2955	15.1	12.8 - 17.4
\$25,000–34,999	1071	13.4	10.3 - 16.6	1069	11.0	8.1 - 14.0
\$35,000–49,999	1445	13.2	10.5 - 15.9	1441	9.4	7.1 - 11.8
\$50,000–74,999	1737	14.3	11.7 - 16.8	1732	8.6	6.7 - 10.4
\$75,000+	3262	14.2	12.3 - 16.1	3253	8.6	7.1 - 10.2
<b>REGION</b>						
I–WESTERN	1849	16.0	13.4 - 18.5	1834	10.8	8.8 - 12.9
II–CENTRAL	1809	13.3	11.0 - 15.7	1804	9.5	7.6 - 11.4
III–NORTH EAST	3081	16.0	13.3 - 18.7	3077	11.6	9.1 - 14.0
IV–METRO WEST	1551	13.1	11.0 - 15.2	1545	8.2	6.4 - 10.0
V–SOUTH EAST	3137	14.5	12.3 - 16.6	3122	10.2	8.4 - 12.0
VI–BOSTON	1261	14.6	11.8 - 17.4	1257	8.6	6.7 - 10.6

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

† Insufficient data

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

### Section 4.3: Heart Disease and Stroke

Heart disease includes a number of different heart conditions, the most common of which is coronary heart disease, a condition that can lead to a heart attack. A stroke occurs when blood to the brain is blocked or a blood vessel in the brain bursts, causing damage to the individual's brain. Heart disease and stroke are the principal causes of more than 910,000 cardiovascular disease deaths each year in the United States. They are also major causes of disability. In 2005, heart disease and stroke were, respectively, the first and third leading causes of death in Massachusetts [21, 27].

All respondents ages 35 and older were asked about heart disease and stroke. If a doctor, nurse, or other health professional had ever told them that they had had a heart attack or myocardial infarction, or if they had been told they had angina or coronary heart disease, respondents were classified as having heart disease. Respondents were also asked if they had been told by a doctor, nurse, or other health professional that they had a stroke. Presented here is the percentage of adults with heart disease and the percentage of adults who report having had a stroke.

#### HEART DISEASE, AGES 35 AND OLDER (Table 4.3)

- Overall, 8% of Massachusetts adults reported being told by a health professional that they had heart disease.
- Men (10%) were more likely to report having heart disease than women (6%).
- As age increases up to age 74, so does the percentage of those reporting heart disease.
- Adults with a disability (18%) were more likely than adults without a disability (5%) to report having heart disease.
- Those with more than four years of college education (6%) were less likely to report having heart disease than those with a high school education (10%) or less (17%).
- Adults with an annual household income less than \$25,000 were more likely to report heart disease than all other income groups.

#### STROKE, AGES 35 AND OLDER (Table 4.3)

- 3% of Massachusetts adults, ages 35 and older, reported that they had had a stroke.
- The percentage of adults reporting having had a stroke increased with increasing age.
- Adults with a disability (6%) were more likely than those without a disability (1%) to report having had a stroke.
- The percentage of those reporting having had a stroke decreased with increasing education. Adults with less than a high school education (6%) were more likely than those with four or more years of college education (2%) to report having had a stroke.
- Adults with an annual household income less than \$25,000 were six times more likely to report having had a stroke than adults with an annual household income of \$75,000 or more.

**TABLE 4.3 – HEART DISEASE AND STROKE AMONG MASSACHUSETTS ADULTS,  
AGES 35 YEARS AND OLDER, 2006**

	HEART DISEASE			STROKE		
	N	%	95% CI	N	%	95% CI
OVERALL	10369	8.2	7.5 - 8.9	10437	2.7	2.3 - 3.0
<b>GENDER</b>						
MALE	3934	10.4	9.1 - 11.6	3964	2.7	2.1 - 3.3
FEMALE	6435	6.3	5.5 - 7.1	6473	2.6	2.1 - 3.1
<b>AGE GROUP</b>						
35–44	2481	1.6	0.7 - 2.4	†		
45–54	2540	3.9	2.8 - 5.0	2554	1.0	0.5 - 1.4
55–64	2270	9.6	7.9 - 11.2	2290	2.7	1.9 - 3.6
65–74	1502	17.6	14.8 - 20.4	1509	6.0	4.3 - 7.7
75 AND OLDER	1576	20.6	17.9 - 23.3	1599	7.8	6.0 - 9.6
<b>RACE-ETHNICITY*</b>						
WHITE	8737	8.1	7.3 - 8.8	8782	2.6	2.2 - 3.1
BLACK	429	10.1	5.4 - 14.8	†		
HISPANIC	786	7.4	4.9 - 10.0	†		
ASIAN	†			†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1474	17.6	14.9 - 20.3	1487	6.0	4.4 - 7.7
NO DISABILITY	3672	5.0	4.0 - 5.9	3679	1.5	1.0 - 2.0
<b>EDUCATION</b>						
< HIGH SCHOOL	1158	16.7	13.1 - 20.3	1183	5.9	3.8 - 8.1
HIGH SCHOOL	2850	10.1	8.6 - 11.7	2873	3.4	2.5 - 4.2
COLLEGE 1–3 YRS	2247	7.5	6.0 - 8.9	2258	3.0	2.1 - 3.9
COLLEGE 4+ YRS	4093	6.0	5.1 - 7.0	4101	1.5	1.1 - 2.0
<b>HOUSEHOLD INCOME</b>						
<\$25,000	2426	17.1	14.7 - 19.6	2458	6.4	5.0 - 7.9
\$25,000–34,999	850	9.1	6.2 - 11.9	858	4.7	2.7 - 6.8
\$35,000–49,999	1187	9.9	7.4 - 12.3	1189	1.9	0.9 - 2.9
\$50,000–74,999	1422	7.0	5.3 - 8.8	1422	1.8	0.9 - 2.7
\$75,000+	2697	3.1	2.3 - 4.0	2700	0.6	0.2 - 0.9
<b>REGION</b>						
I–WESTERN	1500	10.0	7.9 - 12.2	1511	2.6	1.6 - 3.7
II–CENTRAL	1462	8.0	6.2 - 9.9	1470	3.0	1.8 - 4.2
III–NORTH EAST	2495	7.7	6.2 - 9.1	2514	2.4	1.6 - 3.2
IV–METRO WEST	1336	7.1	5.7 - 8.5	1341	2.1	1.4 - 2.9
V–SOUTH EAST	2615	8.4	6.8 - 10.1	2627	3.3	2.3 - 4.3
VI–BOSTON	958	9.0	6.3 - 11.7	971	2.3	1.3 - 3.4

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

† Insufficient data

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

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## SECTION 5: CANCER SCREENING

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## Section 5.1: Colorectal Cancer Screening

Cancer of the colon or rectum is the second leading cause of cancer-related deaths in the United States and it is estimated that there will be 52,180 deaths due to colorectal cancer in 2007 [28, 29]. It is estimated that at least one-third of colorectal cancer deaths could be prevented if everyone 50 years and older were screened. Fecal occult blood tests, sigmoidoscopy, and colonoscopy are screening procedures that are performed to detect colorectal cancer in the early stages [30].

Respondents ages 50 and older were asked if they ever had had a blood stool test using a home test kit to determine if their stool contained blood and were also asked if they ever had had a sigmoidoscopy or colonoscopy, tests that examine the bowel for signs of cancer or other health problems. Presented here are the percentage of those respondents who reported that they had a blood stool test using a home test kit in the past 2 years and the percentage of respondents who reported that they had a sigmoidoscopy or colonoscopy in the past five years.

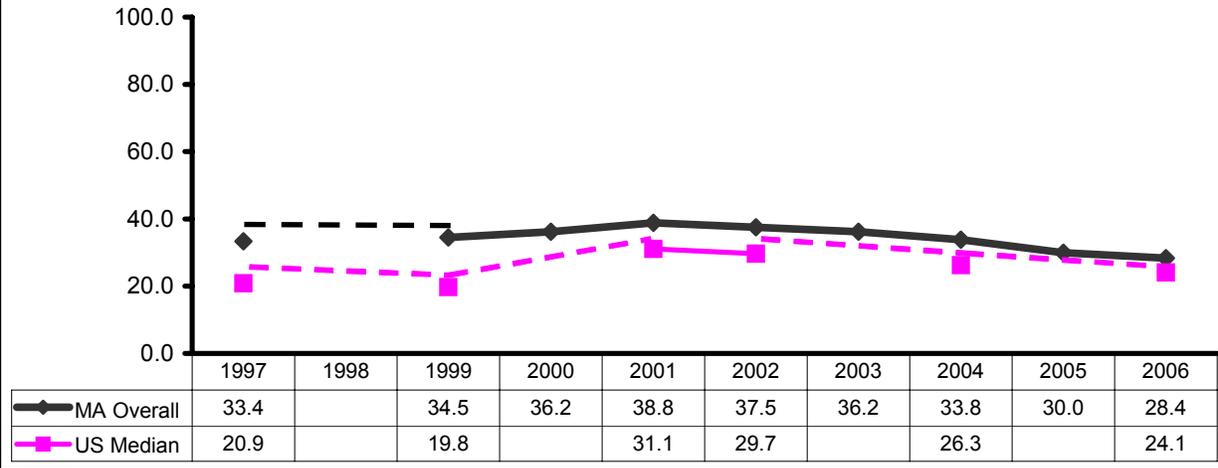
### BLOOD STOOL TEST IN THE PAST TWO YEARS, AGES 50 AND OLDER (Table 5.1)

- 28% of Massachusetts adults reported having had a blood stool test in the past two years.
- As age increased from 50 to 79 so did the percent of adults reporting having had a blood stool test in the past two years; however, those 80 and older were less likely to report having had a blood stool test than those ages 70 to 79.
- Reports of a blood stool test in the past two years were highest among White adults (29%) and lowest among Hispanic adults (16%).
- There was not a significant difference between the percentage of adults with a disability (31%) and those without a disability (29%) who reported having had a blood stool test in the past two years.
- Those with four or more years of college education (26%) were less likely than those who had 1 to 3 years of college education (32%) to report having had a blood stool test in the past two years.
- From 1997 to 2002, the percentage of adults ages 50 and older who reported having had a blood stool test in the past two years increased from 33% to 38%, an annual percentage increase of 3.1%. From 2002 to 2006, the percentage of adults ages 50 and older who reported having had a blood stool test in the past two years decreased from 38% to 28%. This represents an annual percentage decrease of 7.5% (Figure 5.1.1).

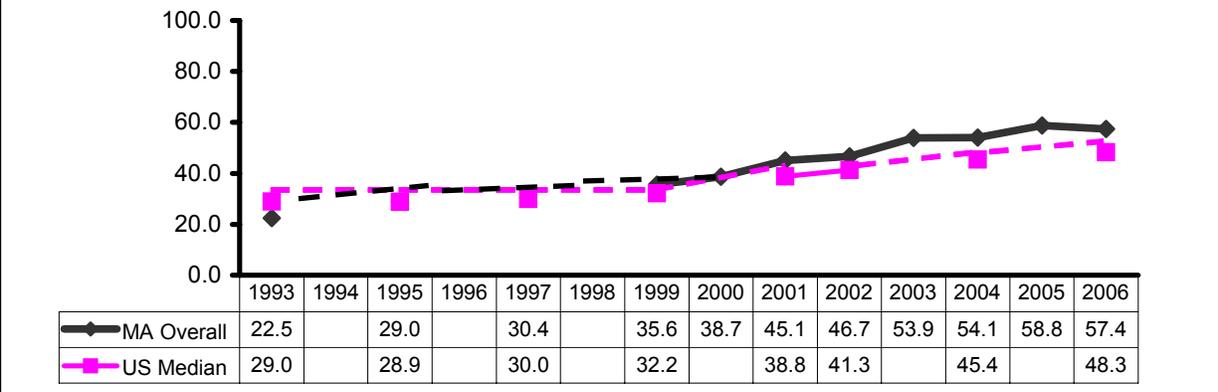
### SIGMOIDOSCOPY OR COLONOSCOPY IN THE PAST FIVE YEARS, AGES 50 AND OLDER (Table 5.1)

- 57% of Massachusetts adults ages 50 years and older reported that they had had a sigmoidoscopy or colonoscopy in the past five years.
- Men (61%) were more likely to report having had a sigmoidoscopy or colonoscopy in the past five years than women (55%).
- Adults ages 50-59 (51%) were less likely than adults ages 60-69 (65%) and adults ages 70-79 (66%) to report that they had had a sigmoidoscopy or colonoscopy in the past five years.
- Adults with a disability (57%) were just as likely to report having had a sigmoidoscopy or colonoscopy in the past five years as adults without a disability (58%).
- The highest percentage of those reporting that they had had a sigmoidoscopy or colonoscopy in the past five years was among adults with four or more years of college education (62%). The same is true for respondents with an annual household income of \$75,000 or higher (62%).
- Regionally, the highest percentage of those reporting that they had had a sigmoidoscopy or colonoscopy in the past five years was among residents of the Metro West region (60%).
- From 1993 to 2006, the percentage of adults ages 50 and older who had a sigmoidoscopy or colonoscopy in the past five years has increased from 22% to 57%, an average annual increase of 7.9% (Figure 5.1.2).

**Figure 5.1.1: Percentage of adults ages 50 and older who had a blood stool test in the past two years, MA and US, 1997-2006**



**Figure 5.1.2: Percentage of adults ages 50 and older who had a sigmoidoscopy or colonoscopy in the past five years, MA and US, 1993-2006**



**TABLE 5.1 – COLORECTAL CANCER SCREENING AMONG MASSACHUSETTS ADULTS, AGES 50 YEARS AND OLDER, 2006**

	BLOOD STOOL TEST IN THE PAST TWO YEARS			SIGMOIDOSCOPY OR COLONOSCOPY IN PAST FIVE YEARS		
	N	%	95% CI	N	%	95% CI
OVERALL	6262	28.4	26.8 - 30.0	6284	57.4	55.7 - 59.2
GENDER						
MALE	2335	28.0	25.5 - 30.5	2341	60.8	58.1 - 63.6
FEMALE	3927	28.7	26.7 - 30.7	3943	54.6	52.4 - 56.8
AGE GROUP						
50-59	2389	21.3	18.9 - 23.7	2408	50.5	47.7 - 53.4
60-69	1692	30.9	27.8 - 34.0	1702	64.9	61.8 - 68.0
70-79	1343	39.2	35.6 - 42.8	1354	66.1	62.7 - 69.5
80 AND OLDER	838	29.8	25.5 - 34.1	820	51.4	46.6 - 56.3
RACE-ETHNICITY*						
WHITE	5476	28.9	27.3 - 30.6	5502	57.9	56.1 - 59.7
BLACK	230	25.0	17.2 - 32.8	232	59.7	50.8 - 68.6
HISPANIC	349	16.2	9.4 - 22.9	350	48.8	39.8 - 57.8
ASIAN	†			†		
DISABILITY¶						
DISABILITY	1103	30.9	26.9 - 34.9	1123	57.2	53.0 - 61.5
NO DISABILITY	2119	28.7	26.0 - 31.4	2133	57.7	54.8 - 60.6
EDUCATION						
< HIGH SCHOOL	819	25.8	21.0 - 30.7	812	46.8	41.2 - 52.4
HIGH SCHOOL	1819	31.0	27.9 - 34.2	1824	53.5	50.1 - 56.8
COLLEGE 1-3 YRS	1329	31.7	28.2 - 35.3	1336	57.4	53.6 - 61.2
COLLEGE 4+ YRS	2286	25.7	23.3 - 28.0	2303	61.8	59.2 - 64.4
HOUSEHOLD INCOME						
<\$25,000	1723	29.5	26.2 - 32.7	1725	48.9	45.3 - 52.5
\$25,000-34,999	590	27.5	22.4 - 32.7	589	58.1	52.3 - 63.8
\$35,000-49,999	709	32.3	27.5 - 37.0	709	61.4	56.5 - 66.3
\$50,000-74,999	761	25.9	21.6 - 30.1	768	60.3	55.5 - 65.0
\$75,000+	1241	25.5	22.4 - 28.6	1252	62.2	58.7 - 65.7
REGION						
I-WESTERN	959	29.0	24.9 - 33.0	956	55.2	50.8 - 59.6
II-CENTRAL	844	31.3	26.9 - 35.7	846	57.0	52.2 - 61.8
III-NORTH EAST	1413	29.2	25.5 - 32.8	1423	53.5	49.5 - 57.5
IV-METRO WEST	825	26.5	23.1 - 29.9	832	60.2	56.4 - 63.9
V-SOUTH EAST	1637	28.8	25.4 - 32.1	1643	58.5	54.8 - 62.1
VI-BOSTON	584	25.3	20.8 - 29.9	584	60.8	55.7 - 65.9

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

† Insufficient data

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

## Section 5.2: Prostate Cancer Screening

Prostate cancer is the leading diagnosed cancer among men in the United States, the second leading cause of cancer deaths among men in the United States, and the sixth leading cause of death for men overall [31]. More than 70% of all diagnosed prostate cancers are found in men aged 65 and older [31, 32].

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

Men age 50 and older also were asked if they ever had had a digital rectal exam (DRE). A DRE is an exam in which a doctor, nurse, or other health professional places a gloved finger into the rectum to feel the size, shape, and hardness of the prostate gland. The percentage of those who reported that they had had a DRE in the past year is also presented.

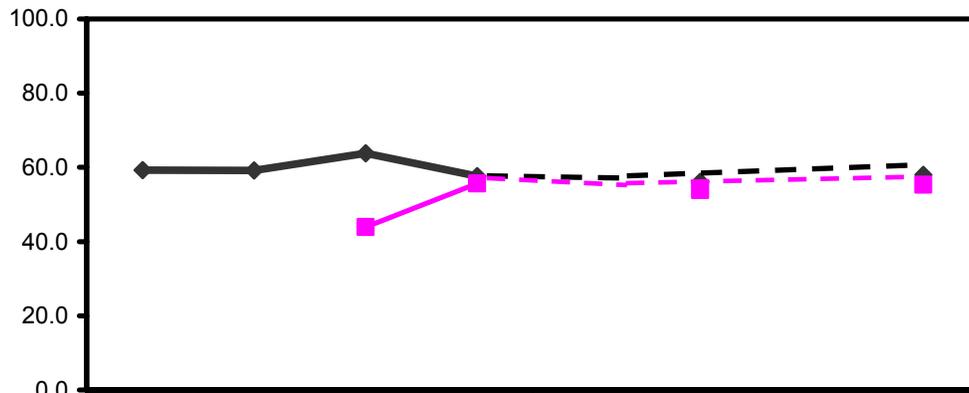
### PSA TEST IN THE PAST YEAR, Men ages 50 and older (TABLE 5.2)

- 58% of men ages 50 and older reported having had a PSA test in the past year.
- Men ages 50 to 59 (49%) were less likely than those ages 60 to 69 (65%) and 70 to 79 (71%) to report having had a PSA test in the past year.
- The highest percentage of prostate cancer screening was reported among white men ages 50 and older (59%), however, this was not statistically significantly different than the percentages reporting among Black (56%) and Hispanic (52%) men ages 50 and older
- Men with and without a disability were equally likely to have reported having had a PSA test in the past year (58%)
- Men with less than a high school education (39%) were less likely to report having had a PSA test in the past year than men with some college (62%) and men with 4 or more years of college (61%).
- Men with an annual household income of less than \$25,000 (46%) were less likely having had a PSA test in the past year than men with an annual household income of more than \$75,000 (62%).
- Since 1999, the percentage of men ages 50 and older who reported having had a PSA test in the past year has fluctuated between 36% and 64% (Figure 5.2.1)

### DRE IN THE PAST YEAR, Men ages 50 and older (TABLE 5.2)

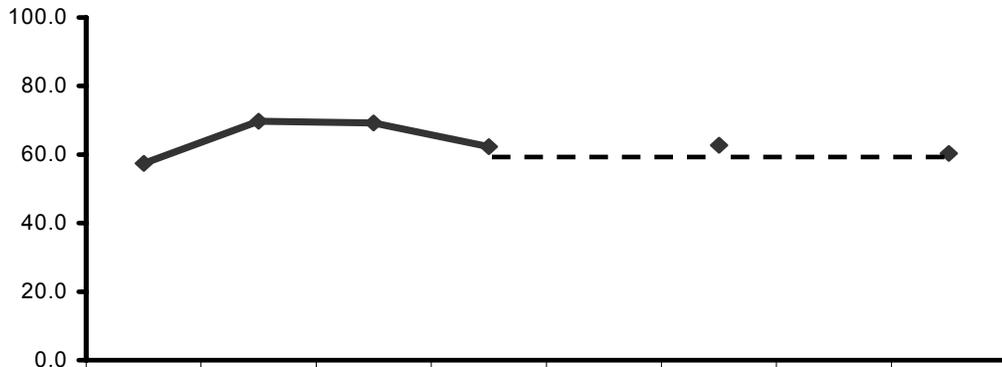
- 60% of men ages 50 and older reported having had a DRE in the past year.
- Men ages 70 to 79 were more likely than any other age group to report having had a DRE in the past year.
- There were no statistically significant differences based on race/ethnicity in the percentage of men who reported having had a DRE in the past year.
- Similar percentages of men with (62%) and without (64%) a disability reported having had a DRE in the past year.
- Men ages 50 older with less than a high school education (36%) were less likely to report having had a DRE in the past year than those more with more education.
- Men with an annual household income of \$75,000 per year or more (66%) were more likely to report having had a DRE in the past year than those with an annual household income of less than \$25,000 per year.
- The percentage of men who have reported having had a DRE in the past year has fluctuated between 57% and 70% since 1999 (Figure 5.2.2).

**Figure 5.2.1: Percentage of men ages 50 and older who had a PSA in the past year, MA and US, 1999-2006**



	1999	2000	2001	2002	2003	2004	2005	2006
MA Overall	59.3	59.2	63.8	57.6		56.1		58.0
US Median			43.9	55.7		53.9		55.3

**Figure 5.2.2: Percentage of Massachusetts men ages 50 and older who had a digital rectal exam within the past year, 1999-2006**



	1999	2000	2001	2002	2003	2004	2005	2006
MA Overall	57.4	69.7	69.2	62.3		62.7		60.3

**TABLE 5.2 – PROSTATE CANCER SCREENING AMONG MASSACHUSETTS MEN  
AGES 50 AND OLDER, 2006**

	PSA IN THE PAST YEAR			DRE IN THE PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	2224	58.0	55.1 - 60.8	2343	60.3	57.6 - 63.1
AGE GROUP						
50-59	917	48.7	44.1 - 53.3	974	56.0	51.6 - 60.4
60-69	620	64.9	59.8 - 70.0	640	59.4	54.2 - 64.6
70-79	450	70.8	65.4 - 76.3	473	72.9	67.7 - 78.1
80 AND OLDER	237	55.5	47.1 - 64.0	256	57.9	49.8 - 65.9
RACE-ETHNICITY*						
WHITE	1958	58.6	55.6 - 61.5	2064	60.6	57.7 - 63.5
BLACK	85	55.5	40.5 - 70.5	90	54.9	40.6 - 69.1
HISPANIC	10	52.3	37.1 - 67.6	104	49.3	34.3 - 64.2
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	396	58.2	51.4 - 65.1	429	62.3	55.8 - 68.7
NO DISABILITY	758	58.3	53.5 - 63.0	788	64.2	59.7 - 68.7
EDUCATION						
< HIGH SCHOOL	249	38.8	29.1 - 48.5	265	36.4	27.5 - 45.4
HIGH SCHOOL	544	52.3	46.2 - 58.4	577	55.8	49.9 - 61.8
COLLEGE 1–3 YRS	404	61.8	55.4 - 68.2	434	64.2	58.0 - 70.3
COLLEGE 4+ YRS	1025	61.3	57.4 - 65.2	1065	64.0	60.2 - 67.8
HOUSEHOLD INCOME						
<\$25,000	501	46.2	39.8 - 52.6	531	51.3	45.0 - 57.6
\$25,000–34,999	216	50.3	40.6 - 59.9	230	50.1	40.7 - 59.4
\$35,000–49,999	286	62.5	55.0 - 70.0	312	60.2	52.8 - 67.5
\$50,000–74,999	298	59.1	51.7 - 66.5	311	62.1	55.0 - 69.2
\$75,000+	624	61.5	56.4 - 66.5	646	65.5	60.6 - 70.4
REGION						
I–WESTERN	317	54.2	46.8 - 61.7	340	55.3	48.1 - 62.5
II–CENTRAL	300	57.3	49.6 - 65.1	320	65.1	57.8 - 72.3
III–NORTH EAST	533	56.8	50.3 - 63.2	565	57.7	51.5 - 64.0
IV–METRO WEST	302	61.9	55.9 - 68.0	308	62.1	56.1 - 68.1
V–SOUTH EAST	576	59.1	53.1 - 65.1	598	60.8	54.9 - 66.6
VI–BOSTON	196	52.8	44.1 - 61.6	212	62.7	54.4 - 70.9

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

† Insufficient data

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

### **Section 5.3: Breast Cancer Screening**

Cancer of the breast is the most commonly diagnosed cancer among women in the United States. Early detection of breast cancer can occur through the use of screening tools such as mammography and clinical breast exams. A mammogram, an X-ray of the breast, is the one of the methods to detect breast cancer early and before it is big enough to feel or to cause symptoms. A clinical breast exam is an exam in which a doctor, nurse, or other health professional feels the breast for lumps [33].

All women respondents were asked about breast cancer screening. Those women who reported that they ever had had a mammogram were asked how long it had been since their last mammogram. The percentages of women, age 40 and older who had had a mammogram in the past two years is presented.

All women also were asked if they ever had had a clinical breast exam. Those women who reported ever having had a clinical breast exam were asked how long it had been since their last exam. The percentage of women who had had a clinical breast exam in the past two years is presented.

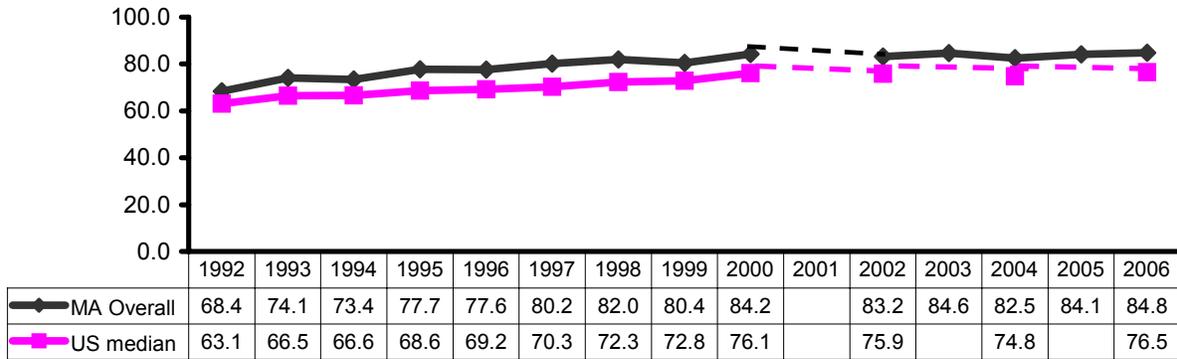
#### MAMMOGRAM IN THE PAST TWO YEARS, Women Ages 40 and Older (Table 5.3)

- 85% of women ages 40 and older report having had a mammogram in the past two years.
- Women ages 40 to 49 (79%) and those 80 and older (77%) were less likely to report having had a mammogram in the past two years than all other age groups.
- The percentage of women reporting having had a mammogram in the past two years did not differ by race/ethnicity, education level or disability status.
- Women with a household income of less than \$25,000 annually (80%) were less likely to report having had a mammogram in the past two years than women who have an annual household income of \$75,000 or more (87%).
- The average annual increase from 1992 to 1997 in the percentage of Massachusetts women ages 40 and older who reported having had a mammogram in the past two years was 3%. Since 1998, the percentage of women reporting having had a mammogram in the past two years has remained in the range of 80% to 85% (Figure 5.3.1).

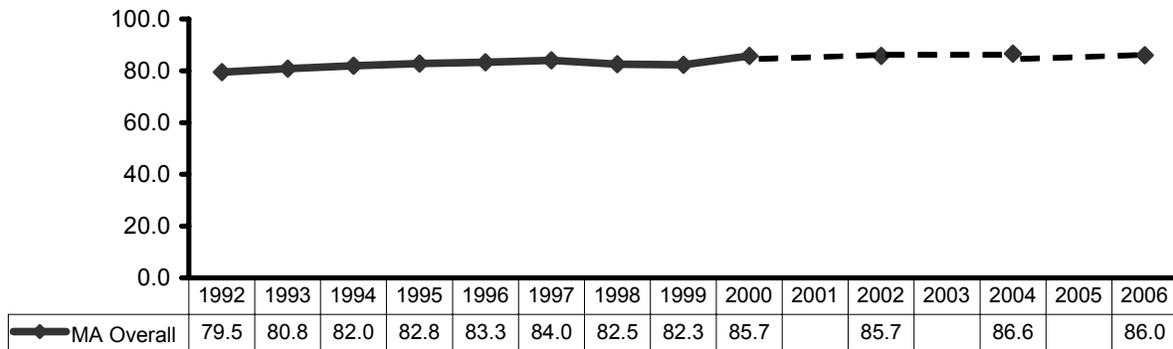
#### CLINICAL BREAST EXAM IN THE PAST TWO YEARS (TABLE 5.3)

- 86% of women reported having had a clinical breast exam in the past two years.
- Women ages 18 to 29 (77%) and women 80 years old and older (69%) were less likely than women in all other age groups to report having had a clinical breast exam in the past two years.
- Hispanic women (71%) were less likely to report having had a clinical breast exam in the past two years than White women (87%) and Black women (87%).
- Women with a disability (80%) were less likely to report having had a clinical breast exam in the past two years than women without a disability (87%).
- The percentage of women reporting having had a clinical breast exam in the past two years increased as education and income increased.
- The percentage of women who report having had a clinical breast exam in the past two years has increased from 80% in 1992 to 86% in 2006. This represents an average annual increase of 0.5% (Figure 5.3.2).

**Figure 5.3.1: Percentage of women ages 40 and older who have had a mammography in the past two years, MA and US, 1992-2006**



**Figure 5.3.2: Percentage of Massachusetts women ages 40 and older who have had clinical breast exam in the past two years, 1992-2006**



**TABLE 5.3 – BREAST CANCER SCREENING AMONG MASSACHUSETTS WOMEN, 2006**

	MAMMOGRAM IN PAST TWO YEARS, AGES 40 AND OLDER			CLINICAL BREAST EXAM IN PAST TWO YEARS		
	N	%	95% CI	N	%	95% CI
OVERALL	5518	84.8	83.5 - 86.2	7322	86.0	84.7 - 87.3
AGE GROUP						
18-29				587	77.2	72.0 - 82.5
30-39				1265	86.7	84.1 - 89.3
40-49	1525	79.3	76.4 - 82.1	1518	91.5	89.8 - 93.3
50-59	1447	89.6	87.4 - 91.8	1442	91.7	89.7 - 93.7
60-69	1073	87.9	85.2 - 90.6	1058	88.5	85.9 - 91.1
70-79	889	91.0	88.5 - 93.5	880	86.6	83.8 - 89.4
80 AND OLDER	584	76.7	72.0 - 81.4	572	69.4	63.6 - 75.1
RACE-ETHNICITY*						
WHITE	4704	85.1	83.7 - 86.5	5942	87.4	86.0 - 88.7
BLACK	215	80.2	71.2 - 89.1	328	86.8	81.7 - 92.0
HISPANIC	419	87.0	82.2 - 91.8	760	71.3	65.4 - 77.2
ASIAN	†			92	79.6	69.0 - 90.1
DISABILITY <sup>¶</sup>						
DISABILITY	876	81.5	77.8 - 85.1	1014	80.4	76.3 - 84.5
NO DISABILITY	1981	85.8	83.6 - 88.0	2747	87.3	85.2 - 89.4
EDUCATION						
< HIGH SCHOOL	675	81.3	76.5 - 86.0	850	71.7	65.8 - 77.5
HIGH SCHOOL	1613	83.5	80.8 - 86.1	2041	82.4	79.7 - 85.1
COLLEGE 1-3 YRS	1300	83.8	80.8 - 86.7	1739	85.1	82.1 - 88.0
COLLEGE 4+ YRS	1921	87.1	85.2 - 89.0	2683	91.6	90.2 - 93.0
HOUSEHOLD INCOME						
<\$25,000	1499	80.3	77.4 - 83.2	1937	76.8	73.5 - 80.2
\$25,000-34,999	452	84.2	79.3 - 89.2	608	82.3	77.2 - 87.4
\$35,000-49,999	574	85.1	81.0 - 89.3	798	88.7	85.7 - 91.8
\$50,000-74,999	700	86.0	82.3 - 89.7	976	90.6	88.0 - 93.2
\$75,000+	1156	86.7	84.1 - 89.2	1649	92.8	91.0 - 94.5
REGION						
I-WESTERN	825	85.8	82.5 - 89.0	1072	86.3	83.4 - 89.1
II-CENTRAL	753	84.2	80.5 - 88.0	1022	86.1	82.6 - 89.7
III-NORTH EAST	1283	84.4	81.3 - 87.4	1744	87.3	84.7 - 89.9
IV-METRO WEST	724	86.2	83.4 - 88.9	895	86.9	84.1 - 89.7
V-SOUTH EAST	1416	83.4	80.4 - 86.4	1851	83.7	80.6 - 86.8
VI-BOSTON	516	85.2	81.2 - 89.2	736	86.2	82.3 - 90.2

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

† Insufficient data

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

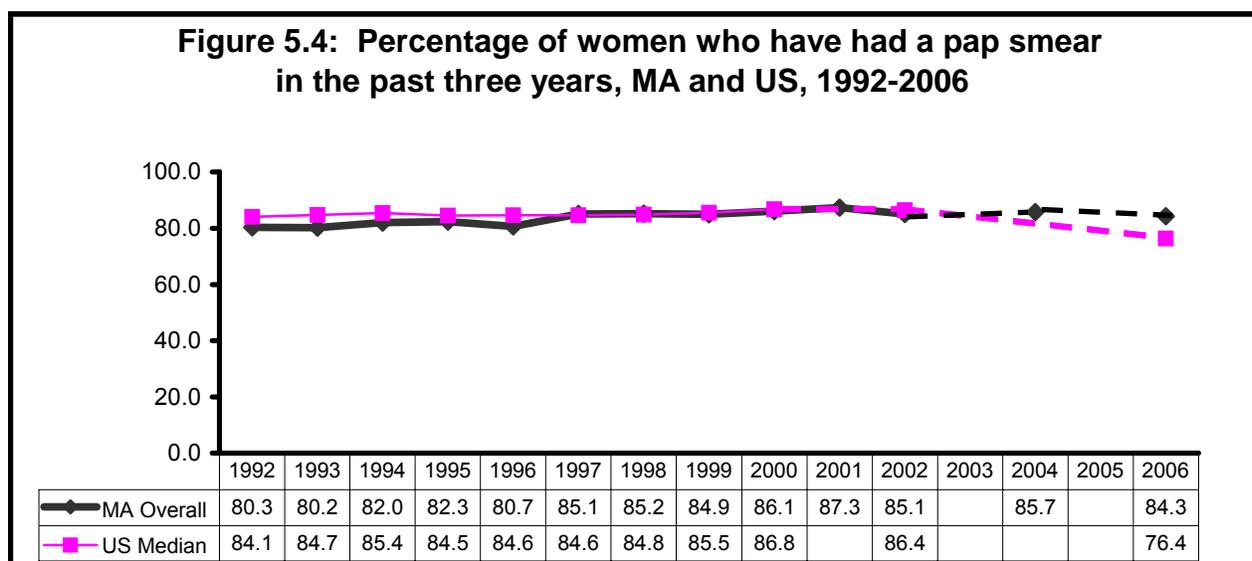
## Section 5.4: Cervical Cancer Screening

Cervical cancer can be detected and treated early if women are screened regularly with a Pap smear, also referred to as a Pap test. Most often cervical cancer develops in women ages 40 and older; however, precursors to cervical cancer most often occur in young women. Pap smears reduce incidence of and mortality from cervical cancer [34]. Women who have been sexually active should have regular Pap tests every three years because the chances of being cured are higher if cervical cancer is detected early [35].

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

### PAP SMEAR IN PAST THREE YEARS (Table 5.4)

- 84% of Massachusetts women reported having had a pap smear in the past three years.
- Women ages 25 to 54 were more likely than those ages 18 to 24 and those ages 55 and older to report having had a pap test in the past three years.
- Black (92%) women were more likely to report having had a pap smear than White (85%) and Hispanic (80%) women.
- Women with a disability (79%) were less likely than women without a disability (86%) to report having had a pap smear in the past three years.
- The percent of women who reported having had a pap smear increased with increasing education and income.
- From 1992 to 2001, the percentage of women who reported having had a pap smear in the past three years increased from 80% to 86%. This represents an average annual increase of 1%. Since 2001, the percentage who reported having had a pap smear in the past three years has declined, but this change was not statistically significant. (Figure 5.4).



**TABLE 5.4 – CERVICAL CANCER SCREENING AMONG MASSACHUSETTS WOMEN, 2006**

	PAP SMEAR TEST WITHIN PAST 3 YEARS		
	N	%	95% CI
OVERALL	7539	84.3	83.0 - 85.6
AGE GROUP			
18–24	282	72.4	64.9 - 79.9
25–34	966	93.7	91.6 - 95.7
35–44	1465	92.7	90.8 - 94.5
45–54	1452	92.5	90.6 - 94.4
55–64	1319	86.8	84.3 - 89.3
65–74	915	76.9	73.3 - 80.5
75 AND OLDER	992	56.4	52.1 - 60.7
RACE-ETHNICITY*			
WHITE	6095	84.5	83.1 - 85.9
BLACK	335	92.4	87.5 - 97.2
HISPANIC	786	80.1	74.4 - 85.7
ASIAN	104	79.8	68.7 - 90.9
DISABILITY <sup>¶</sup>			
DISABILITY	1031	79.3	75.7 - 82.9
NO DISABILITY	2850	86.0	83.8 - 88.3
EDUCATION			
< HIGH SCHOOL	863	73.6	68.6 - 78.6
HIGH SCHOOL	2084	78.2	75.2 - 81.1
COLLEGE 1–3 YRS	1787	83.3	80.3 - 86.4
COLLEGE 4+ YRS	2789	90.7	89.4 - 92.1
HOUSEHOLD INCOME			
<\$25,000	1977	75.4	72.4 - 78.5
\$25,000–34,999	630	78.4	73.3 - 83.5
\$35,000–49,999	813	88.0	84.8 - 91.1
\$50,000–74,999	1007	91.2	88.8 - 93.6
\$75,000+	1693	91.8	89.8 - 93.9
REGION			
I–WESTERN	1110	85.4	82.5 - 88.2
II–CENTRAL	1064	83.4	79.5 - 87.3
III–NORTH EAST	1793	85.9	83.2 - 88.5
IV–METRO WEST	917	83.8	81.0 - 86.7
V–SOUTH EAST	1890	83.1	80.1 - 86.1
VI–BOSTON	763	85.2	81.2 - 89.2

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

† Insufficient Data

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

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## SECTION 6: OTHER TOPICS

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## Section 6.1: Family planning

An unplanned pregnancy is a pregnancy that is unexpected at the time of conception. Women whose pregnancies are unplanned may seek prenatal care later because they find out about their pregnancies later than women with planned pregnancies. Unplanned pregnancies are associated with an increased risk of morbidity for women and with health behaviors during pregnancy that may affect the health of the newborn infant adversely [36].

All women ages 18-44 who were currently pregnant or had been pregnant in the past five years were asked if they had wanted to be pregnant sooner, later, or not at all. Unplanned pregnancy was defined as wanting to be pregnant later or not at all. Women ages 18-44 who had not had a hysterectomy or sterilization, were not currently pregnant, and whose partners were not reported to have been sterilized or had a vasectomy also were asked whether they or their partners currently use some form of birth control.

In 2006, we surveyed women ages 45 to 50 about pregnancies in the past five years and about birth control usage. As a result, this year's report includes for the first time, estimates of unplanned pregnancies in the past five years and current birth control usage among women ages 45 to 50. We report the overall estimates for these women below. The estimate for unplanned pregnancy is not directly comparable to those for women of younger ages because, in 2006, women 45 to 50 were asked only about pregnancies in the past five years, not about current pregnancies.

### UNPLANNED PREGNANCY (Table 6.1)

- 22% of women under the age of 45 reported having had an unplanned pregnancy.
- Women ages 18 to 24 (46%) were more likely to report having had an unplanned pregnancy than women ages 35 to 44 (14%).
- Adults with a household income of less than \$25,000 annually (50%) were more likely to report an unplanned pregnancy than those with an annual household income of \$75,000 or more (8%).
- The percentage of women ages 18-44 reporting unplanned pregnancy has declined from 31% in 1998 to 22% in 2006. This represents an average annual percentage change of 4.2% (Figure 6.1).

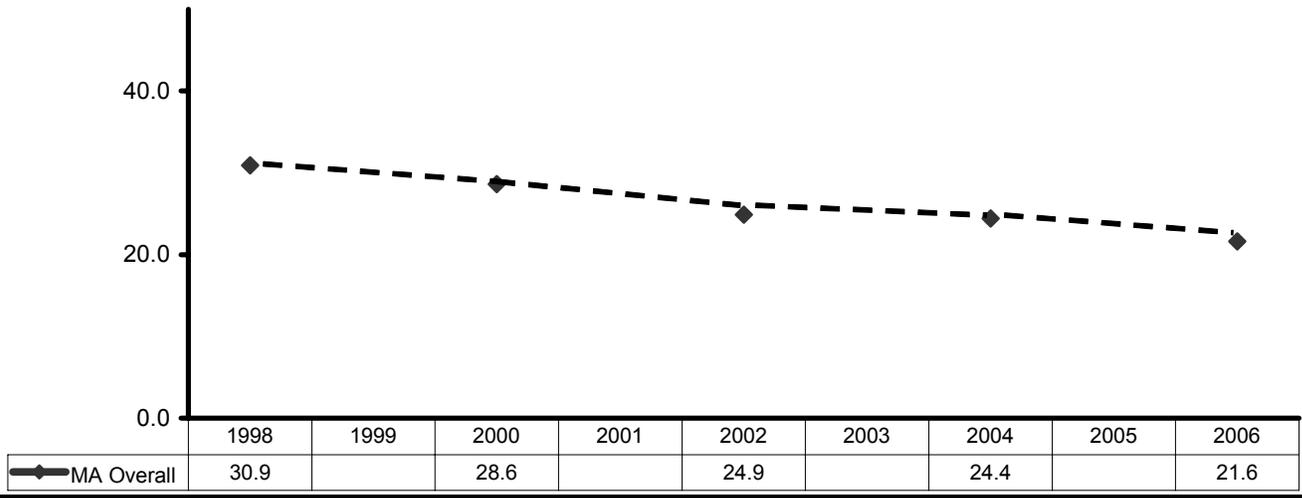
### USE OF BIRTH CONTROL (Table 6.1)

- 80% of Massachusetts women ages 18-44 reported that they or their partner use some form of birth control.
- 69% of Black and Hispanic women reported use of some form of birth control compared to 82% of White women, however these differences were not statistically significant.
- 72% of women with a disability reported using birth control compared to 82% of women without a disability.
- Women living in the Boston region (68%) were less likely to report using some form of birth control than women living in the Western, Central, Metrowest and Southeast regions of Massachusetts.
- Women with an annual household income of less than \$25,000 (68%) were less likely to report using some form of birth control than women with an annual household income of \$50,000 or more.

### WOMEN AGES 45-50 (Data not shown in Table 6.1)

- 22% of women ages 45 to 50 reported having had an unplanned pregnancy in the past five years
- 70% of women ages 45 to 50 reported that they or their partner use some form of birth control.

**Figure 6.1: Percentage of Massachusetts women ages 18 to 44 years who reported an unplanned pregnancy, 1998-2006**



**TABLE 6.1 – FAMILY PLANNING AMONG MASSACHUSETTS WOMEN, AGES 18-44, 2006**

	UNPLANNED PREGNANCY			USE BIRTH CONTROL		
	N	%	95% CI	N	%	95% CI
OVERALL	435	21.6	16.2 - 27.1	1042	80.1	76.6 - 83.5
AGE GROUP						
18–24	57	45.6	25.7 - 65.5	126	80.8	72.3 - 89.2
25–34	203	19.4	12.1 - 26.7	345	82.7	77.3 - 88.2
35–44	175	14.0	7.0 - 21.0	571	77.5	73.0 - 81.9
RACE-ETHNICITY*						
WHITE	293	19.1	12.7 - 25.5	761	82.2	78.5 - 85.8
BLACK	†			69	68.6	53.8 - 83.4
HISPANIC	81	37.2	20.7 - 53.7	156	68.6	55.8 - 81.4
ASIAN	†			†		
DISABILITY¶						
DISABILITY	†			93	71.9	59.2 - 84.5
NO DISABILITY	184	13.3	7.4 - 19.1	452	81.5	76.3 - 86.6
EDUCATION						
< HIGH SCHOOL	†			89	70.3	54.9 - 85.7
HIGH SCHOOL	91	33.0	16.4 - 49.7	235	70.2	60.5 - 79.9
COLLEGE 1–3 YRS	105	23.6	12.4 - 34.8	265	83.7	78.3 - 89.1
COLLEGE 4+ YRS	199	12.8	6.9 - 18.7	453	83.7	79.3 - 88.1
HOUSEHOLD INCOME						
<\$25,000	101	50.1	35.2 - 64.9	224	68.1	58.2 - 78.0
\$25,000–34,999	†			92	72.0	56.4 - 87.5
\$35,000–49,999	†			125	78.7	69.5 - 87.9
\$50,000–74,999	†			172	85.3	78.9 - 91.8
\$75,000+	147	7.9	3.3 - 12.5	298	85.8	80.7 - 90.9
REGION						
I–WESTERN	55	33.5	17.0 - 49.9	127	82.8	74.5 - 91.2
II–CENTRAL	†			163	82.7	75.5 - 89.9
III–NORTH EAST	121	22.5	9.4 - 35.6	274	76.4	68.1 - 84.6
IV–METRO WEST	†			117	83.8	77.2 - 90.5
V–SOUTH EAST	102	22.2	10.4 - 33.9	247	81.7	73.3 - 90.1
VI–BOSTON	†			114	68.4	56.4 - 80.4

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

† Insufficient data

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

## Section 6.2: 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 living with HIV/AIDS and 2) There are more survivors due to improved treatment options over time. One-fourth of people infected with HIV do not know they have it. Early awareness of an HIV infection through HIV testing can prevent further spread of the disease [37].

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

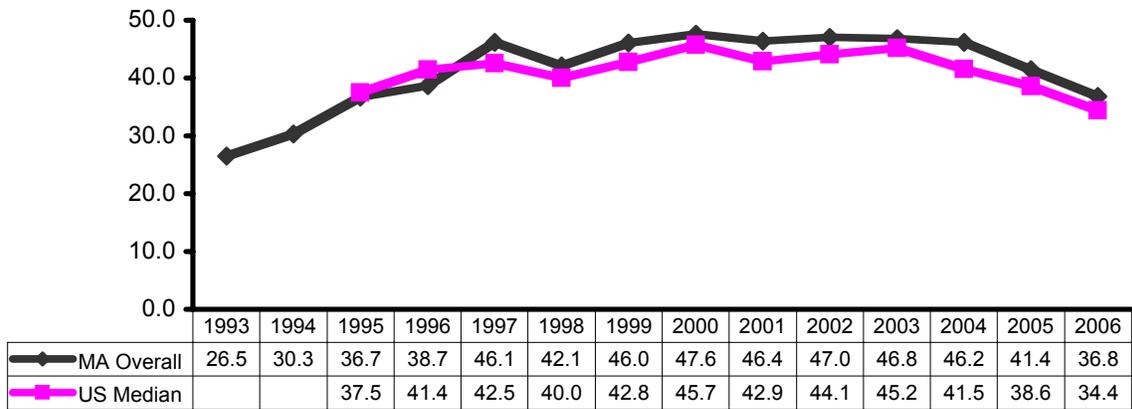
### EVER TESTED FOR HIV, AGES 18-64 YEARS (Table 6.2)

- 37% of Massachusetts adults reported ever being tested for HIV.
- 35% of men and 38% of women have ever been tested for HIV, but the difference is not statistically significant.
- Adults ages 25 to 44 were more likely than adults in any other age group to report having been tested for HIV.
- White adults (35%) and Asian adults (33%) were less likely than Black adults (58%) and Hispanic adults (50%) to report ever having had an HIV test.
- Adults without a disability (34%) were less likely to report ever being tested for HIV than adults with a disability (44%).
- Reports of ever having been tested for HIV were lower among adults whose annual household income was \$75,000 or more (36%) compared to adults whose household income was less than \$25,000 (43%).
- Adults in living Boston (48%) were more likely than adults living in other Massachusetts regions to report ever having been tested for HIV.
- The percentage of adults ages 18 to 64 who reported ever being tested for HIV increased from 26% in 1993 to 46% in 1997 (APC = 13.8%). The percentage reporting ever being tested for HIV remained stable between 1997 and 2004, then decreased somewhat from 2004 to 2006; however, this decrease was not statistically significant (Figure 6.2.1).

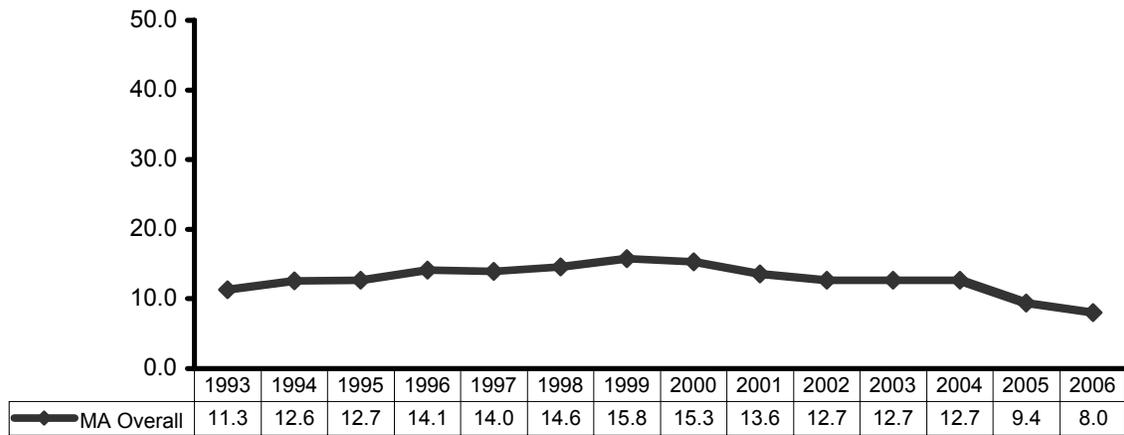
### TESTED FOR HIV IN PAST YEAR, AGES 18-64 YEARS (Table 6.2)

- 8% of Massachusetts adults ages 18 to 64 reported having been tested for HIV in the past year.
- Similar percentages of men and women (8%) reported having been tested for HIV in the past year.
- Adults ages 18 to 34 were more likely to report having been tested in the past year than adults ages 35 to 64 years.
- Black (24%) and Hispanic (18%) adults were more likely than White adults (6%) to report having been tested for HIV in the past year.
- 9% percent of adults with a disability and 7% of adults without a disability reported being tested for HIV in the past year.
- The percentage of adults who had been tested for HIV in the past year was lower among those with four or more years of college education (5%) than among all other age groups.
- HIV testing in the past year decreased with increasing household income.
- Adults living in the Western region of Massachusetts (7%) were less likely to report having been tested for HIV in the past year than adults living in Boston (13%).
- From 1993 to 1999 the percentage of Massachusetts adults ages 18 to 64 who reported having been tested for HIV in the past year rose from 11% to 16% (APC = 4.5%). However, since 2000, there has been an average annual decline of 9.5% (Figure 6.2.2).

**Figure 6.2.1: Percentage of adults ages 18 to 64 who were ever tested for HIV, MA and US, 1993-2006**



**Figure 6.2.2: Percentage of Massachusetts adults ages 18 to 64 who were tested for HIV in the past year, 1993-2006**



**TABLE 6.2 – HIV TESTING AMONG MASSACHUSETTS ADULTS, AGES 18-64, 2006**

	EVER TESTED FOR HIV			TESTED FOR HIV IN PAST YEAR		
	N	%	95% CI	N	%	95% CI
OVERALL	8751	36.8	35.2 - 38.4	8235	8.0	6.9 - 9.0
<b>GENDER</b>						
MALE	3376	35.3	32.8 - 37.7	3177	7.5	6.0 - 9.1
FEMALE	5375	38.3	36.3 - 40.3	5058	8.4	7.0 - 9.8
<b>AGE GROUP</b>						
18-24	471	28.6	23.0 - 34.2	450	14.6	9.9 - 19.3
25-34	1432	53.9	49.9 - 57.8	1350	12.9	10.3 - 15.6
35-44	2337	45.3	42.5 - 48.1	2182	7.1	5.8 - 8.5
45-54	2381	30.2	27.7 - 32.8	2223	3.1	2.3 - 4.0
55-64	2130	18.6	16.3 - 20.9	2030	3.0	1.9 - 4.0
<b>RACE-ETHNICITY*</b>						
WHITE	6926	34.6	32.8 - 36.3	6600	6.2	5.1 - 7.2
BLACK	435	58.1	50.5 - 65.8	380	23.7	16.0 - 31.5
HISPANIC	966	49.9	43.9 - 55.9	872	17.9	12.9 - 23.0
ASIAN	170	33.0	23.3 - 42.7	†		
<b>DISABILITY<sup>¶</sup></b>						
DISABILITY	1133	43.9	39.0 - 48.8	1051	8.8	5.3 - 12.3
NO DISABILITY	3492	34.3	31.9 - 36.8	3311	7.1	5.5 - 8.7
<b>EDUCATION</b>						
< HIGH SCHOOL	775	38.4	32.5 - 44.3	693	11.5	8.1 - 14.9
HIGH SCHOOL	2203	31.7	28.4 - 35.0	2075	8.9	6.6 - 11.3
COLLEGE 1-3 YRS	1988	39.1	35.5 - 42.6	1881	11.0	8.1 - 13.9
COLLEGE 4+ YRS	3772	38.3	36.1 - 40.5	3576	5.4	4.4 - 6.4
<b>HOUSEHOLD INCOME</b>						
<\$25,000	1706	42.7	38.6 - 46.9	1561	14.1	10.9 - 17.3
\$25,000-34,999	675	43.9	37.0 - 50.7	638	12.3	7.2 - 17.5
\$35,000-49,999	1035	38.6	33.9 - 43.3	982	8.7	5.4 - 12.1
\$50,000-74,999	1411	36.4	32.5 - 40.4	1342	6.9	4.3 - 9.5
\$75,000+	2812	35.8	33.3 - 38.3	2692	5.4	4.1 - 6.7
<b>REGION</b>						
I-WESTERN	1239	36.3	32.2 - 40.4	1145	6.6	4.4 - 8.8
II-CENTRAL	1279	32.6	28.7 - 36.5	1211	7.2	4.4 - 9.9
III-NORTH EAST	2186	36.4	32.8 - 40.0	2055	8.6	6.2 - 11.1
IV-METRO WEST	1012	37.4	33.7 - 41.1	961	7.2	4.8 - 9.7
V-SOUTH EAST	2142	35.2	31.7 - 38.7	2039	7.7	5.3 - 10.0
VI-BOSTON	889	48.2	43.4 - 52.9	821	12.6	9.6 - 15.6

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

† Insufficient data

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

## Section 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 [38]. Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse [39, 40].

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

### SEXUAL VIOLENCE, EXPERIENCED BY WOMEN (Table 6.3)

- 15% of women reported ever having experienced sexual violence.
- Women ages 65 to 74 (5%) were less likely to report ever having experienced sexual violence than women ages 25 to 64.
- Women with a disability (25%) were more likely to report having experienced sexual violence sometime in their lifetimes than women without a disability (13%).
- The percentage of women who reported ever experiencing sexual violence increased as education level increased, however this increase was not statistically significant.

### SEXUAL VIOLENCE, EXPERIENCED BY MEN (Table 6.3)

- Among Massachusetts men, 7% reported having experienced sexual violence at some point in their lifetimes.
- Men with a disability (22%) were more likely to report having experienced sexual violence in their lifetimes than men without a disability (6%).

**TABLE 6.3 – SEXUAL VIOLENCE\*\* AMONG MASSACHUSETTS ADULTS, 2006**

	SEXUAL VIOLENCE, WOMEN			SEXUAL VIOLENCE, MEN		
	N	%	95% CI	N	%	95% CI
OVERALL	3075	14.5	12.6 - 16.4	1844	7.4	5.0 - 9.8
AGE GROUP						
18–24	136	14.6	6.9 - 22.4	†		
25–34	367	17.8	12.6 - 23.0	†		
35–44	603	18.6	14.4 - 22.7	383	3.6	1.5 - 5.6
45–54	638	17.7	13.6 - 21.7	413	5.9	2.7 - 9.2
55–64	532	14.7	10.8 - 18.7	†		
65–74	354	5.4	2.6 - 8.2	†		
75 AND OLDER	†			†		
RACE-ETHNICITY*						
WHITE	2517	14.5	12.5 - 16.6	1540	7.4	4.6 - 10.1
BLACK	141	12.7	5.6 - 19.7	†		
HISPANIC	289	12.7	6.4 - 19.0	†		
ASIAN	†			†		
DISABILITY <sup>¶</sup>						
DISABILITY	449	24.6	18.3 - 31.0	290	22.0	9.8 - 34.2
NO DISABILITY	1172	13.0	10.0 - 16.0	726	5.9	2.8 - 8.9
EDUCATION						
< HIGH SCHOOL	314	10.5	4.5 - 16.5	†		
HIGH SCHOOL	832	12.1	8.2 - 16.0	†		
COLLEGE 1–3 YRS	755	14.0	10.2 - 17.8	†		
COLLEGE 4+ YRS	1169	16.9	14.0 - 19.7	792	5.2	2.8 - 7.6
HOUSEHOLD INCOME						
<\$25,000	808	16.0	12.1 - 20.0	†		
\$25,000–34,999	265	14.5	7.5 - 21.6	†		
\$35,000–49,999	339	12.4	7.9 - 16.8	†		
\$50,000–74,999	406	18.1	12.5 - 23.7	†		
\$75,000+	708	16.0	12.5 - 19.5	578	5.3	2.6 - 8.0
REGION						
I–WESTERN	448	14.5	10.2 - 18.9	†		
II–CENTRAL	454	18.3	12.2 - 24.3	†		
III–NORTH EAST	727	13.4	9.4 - 17.3	†		
IV–METRO WEST	379	14.9	10.6 - 19.2	†		
V–SOUTH EAST	768	12.1	8.7 - 15.6	452	8.3	3.7 - 12.9
VI–BOSTON	299	15.1	9.9 - 20.3	†		

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

† Insufficient data

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

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

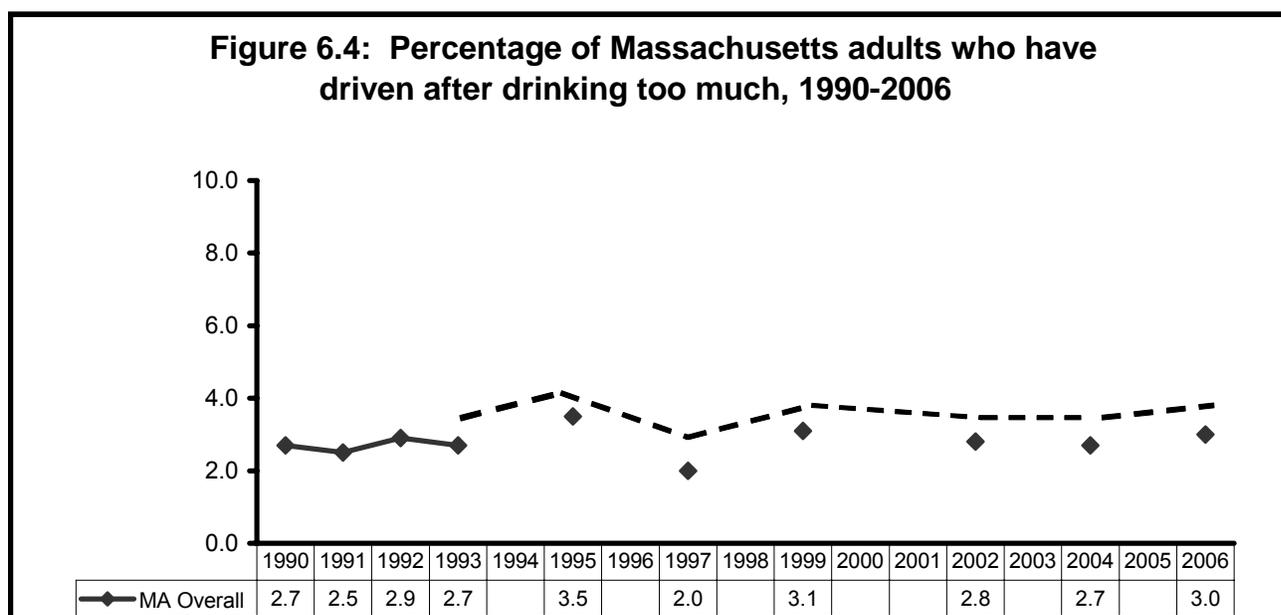
## Section 6.4: Drinking and Driving

Alcohol-related motor vehicle crashes killed 16,885 people in 2005 representing an average of one alcohol-related fatality every 31 minutes. These crashes result in a nonfatal injury every two minutes [17]. During 2005, 39 percent of all traffic-related deaths in the United States were caused by alcohol-related motor vehicle crashes [41]. Effective measures to prevent injuries and deaths from alcohol-related motor vehicle crashes should be taken including health promotion to influence policy and community-based efforts.

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

### DRINKING AND DRIVING (Table 6.4)

- 3% of Massachusetts adults reported driving after drinking too much.
- Men (5%) were more likely than women (1%) to report driving after drinking too much.
- Adults ages 18 to 24 (9%) were more likely to report driving after drinking too much than adults ages 35 to 64.
- Since 1990, the percentage of adults who reported driving after drinking too much has ranged from 2% to 3% (Figure 6.4).



**Table 6.4 – DRINKING AND DRIVING AMONG MASSACHUSETTS ADULTS, 2006**

	DRINKING AND DRIVING		
	N	%	95% CI
OVERALL	12376	3.0	2.3 - 3.7
GENDER			
MALE	4609	4.9	3.6 - 6.1
FEMALE	7767	1.3	0.8 - 1.8
AGE GROUP			
18–24	487	9.0	4.7 - 13.2
25–34	1477	4.4	2.7 - 6.1
35–44	2422	2.6	1.8 - 3.5
45–54	2479	2.2	1.2 - 3.2
55–64	2238	0.9	0.4 - 1.4
65-74	†		
75 AND OLDER	†		
RACE-ETHNICITY*			
WHITE	10055	3.1	2.4 - 3.8
BLACK	†		
HISPANIC	†		
ASIAN	†		
DISABILITY¶			
DISABILITY	†		
NO DISABILITY	4597	2.7	1.7 - 3.6
EDUCATION			
< HIGH SCHOOL	†		
HIGH SCHOOL	3388	3.0	1.6 - 4.5
COLLEGE 1–3 YRS	2741	3.6	2.0 - 5.2
COLLEGE 4+ YRS	4859	3.0	2.1 - 3.9
HOUSEHOLD INCOME			
<\$25,000	†		
\$25,000–34,999	†		
\$35,000–49,999	1412	2.8	1.3 - 4.3
\$50,000–74,999	1704	2.8	1.8 - 3.8
\$75,000+	3190	3.1	2.1 - 4.1
REGION			
I–WESTERN	1801	3.0	1.5 - 4.5
II–CENTRAL	1775	3.2	1.4 - 4.9
III–NORTH EAST	3005	3.5	1.7 - 5.4
IV–METRO WEST	1523	2.3	1.0 - 3.6
V–SOUTH EAST	3043	2.9	1.6 - 4.1
VI–BOSTON	†		

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

† Insufficient Data

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

## Section 6.5: Unintentional Falls

Falls are an important yet preventable public health problem among older adults. These events can lead to significant injury and disability as well precipitate a downward decline in the health of older adults. The types of injuries which can result from a fall include, but are not limited to, traumatic brain injuries, hip and other limb fractures, sprains and strains. In 2005, there were 249 unintentional fall-related deaths, 24,376 hospital stays (hospital discharges and observation stays), and 70,600 emergency department visits among MA residents ages 45 and older. Twenty-seven percent of all fall-related hospital stays among Massachusetts adults ages 45 and older were associated with a hip fracture [42] [43, 44]. Seventy percent of all fall-related deaths and 11% of nonfatal fall-related injuries were associated with a traumatic brain injury – an injury considered one of the most severe due to its potential impact on physical and cognitive functioning and long-term medical consequences.

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

### UNINTENTIONAL FALLS (Table 6.5)

- 16% of Massachusetts adults ages 45 and older reported at least one fall in the past 3 months.
- 17% of women and 15% of men reported falling in the past 3 months.
- Adults ages 85 and older (27%) were more likely than those ages 45 to 84 to report having fallen in the past 3 months.
- Adults with a disability (28%) were more likely to report a fall in the past 3 months than those without a disability (11%).
- Adults with less than a high school education (21%) were more likely to report a fall in the past 3 months than those with a high school education (14%) and those with 4 or more years of college education (15%).
- Adults with an annual household income of less than \$25,000 (22%) were more likely to report falling in the past 3 months compared to those with an annual household income of \$35,000 or more.
- There were no regional differences in the percentage of adults who reported falling in the past 3 months.

### INJURED AFTER UNINTENTIONAL FALL (Table 6.5)

- 5% of Massachusetts adults ages 45 and older reported being injured after falling in the past 3 months.
- Men (3%) were less likely to report being injured after falling than women (6%).
- Adults ages 85 and older (10%) were more likely than those ages 45 to 84 to report having been injured after falling.
- Adults with a disability (10%) were more likely than those without a disability (3%) to report experiencing an injury from a fall in the past 3 months.
- Adults with four or more years of college education (4%) were less likely to report being hurt from a fall than adults with less than a high school education (7%).
- Adults with an annual household income of less than \$25,000 (8%) were more likely to report being injured from a fall than adults whose annual household income was more than \$25,000.
- There were no regional differences in the percentage of adults who reported being injured from a fall.

**TABLE 6.5 UNINTENTIONAL FALLS, MASSACHUSETTS ADULTS 45 AND OLDER, 2006**

	UNINTENTIONAL FALLS			INJURED BY UNINTENTIONAL FALL		
	N	%	95% CI	N	%	95% CI
OVERALL	7683	15.8	14.7 - 16.9	7671	4.6	4.0 - 5.2
<b>GENDER</b>						
MALE	2895	14.5	12.8 - 16.2	2891	3.4	2.5 - 4.2
FEMALE	4788	16.9	15.4 - 18.4	4780	5.7	4.8 - 6.5
<b>AGE GROUP</b>						
45-54	2459	14.8	12.9 - 16.7	2455	4.4	3.3 - 5.5
55-64	2211	16.0	13.9 - 18.1	2206	4.6	3.5 - 5.6
65-74	1467	15.5	12.9 - 18.2	1466	4.1	2.7 - 5.4
75-84	1198	15.1	12.3 - 17.9	1196	4.3	2.8 - 5.7
85 AND OLDER	348	26.7	20.2 - 33.2	348	10.3	6.2 - 14.3
<b>RACE-ETHNICITY*</b>						
WHITE	6656	15.8	14.6 - 17.0	6648	4.4	3.8 - 5.1
BLACK	296	13.6	7.9 - 19.3	†		
HISPANIC	470	16.9	11.2 - 22.6	467	8.9	4.8 - 13.1
ASIAN	†			†		
<b>DISABILITY¶</b>						
DISABILITY	1284	27.5	24.0 - 31.0	1278	9.5	7.4 - 11.6
NO DISABILITY	2666	10.8	9.2 - 12.4	2666	2.8	1.9 - 3.6
<b>EDUCATION</b>						
< HIGH SCHOOL	935	20.9	16.6 - 25.2	929	7.3	5.0 - 9.6
HIGH SCHOOL	2190	14.2	12.0 - 16.3	2188	4.6	3.4 - 5.7
COLLEGE 1-3 YRS	1655	18.3	15.7 - 20.9	1652	5.1	3.7 - 6.5
COLLEGE 4+ YRS	2891	14.7	13.1 - 16.4	2890	3.9	3.0 - 4.8
<b>HOUSEHOLD INCOME</b>						
<\$25,000	1983	22.3	19.5 - 25.1	1977	8.1	6.5 - 9.7
\$25,000-34,999	682	16.0	12.1 - 19.9	681	4.1	2.4 - 5.8
\$35,000-49,999	872	13.3	10.2 - 16.4	871	2.5	1.2 - 3.7
\$50,000-74,999	970	13.4	10.5 - 16.3	969	3.5	2.0 - 5.1
\$75,000+	1728	13.7	11.6 - 15.8	1728	3.8	2.6 - 4.9
<b>REGION</b>						
I-WESTERN	1171	15.0	12.2 - 17.8	1168	3.9	2.7 - 5.2
II-CENTRAL	1055	15.5	12.3 - 18.6	1053	4.3	2.7 - 6.0
III-NORTH EAST	1796	14.6	12.1 - 17.1	1794	4.4	3.1 - 5.7
IV-METRO WEST	990	16.9	14.3 - 19.4	989	5.1	3.6 - 6.6
V-SOUTH EAST	1956	16.9	14.4 - 19.4	1954	4.5	3.3 - 5.7
VI-BOSTON	713	14.6	11.4 - 17.8	711	5.9	3.6 - 8.1

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

† Insufficient data

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

## Section 6.6: Seatbelt Use

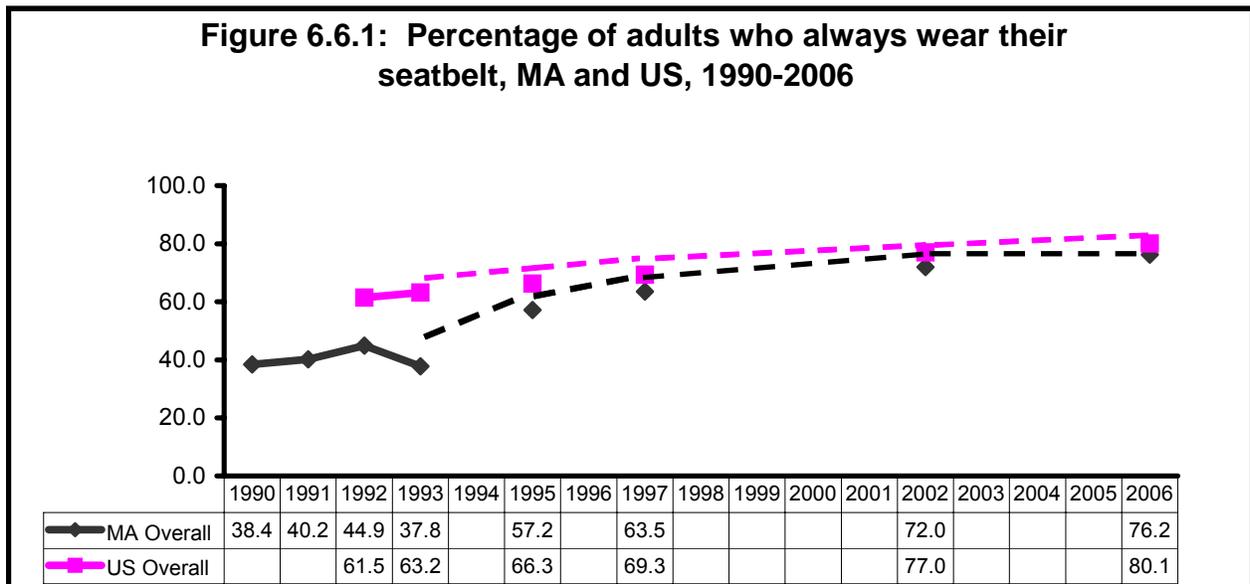
Traffic crashes are the leading cause of unintentional death in the United States and the second leading cause of unintentional injury death in Massachusetts [17]. In 2005, there were 314 motor vehicle occupant fatalities among Massachusetts residents, and there were an additional 3,798 hospital stays and 76,496 emergency department visits at MA acute care hospitals associated with nonfatal motor vehicle occupant injuries. 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 [41]. 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.

### SEATBELT USE (Table 6.6)

- Overall, 76% of Massachusetts adults reported always wearing their seatbelts.
- Men (69%) were less likely than women (82%) to report always wearing their seatbelts.
- A lower percentage of adults ages 18 to 24 (65%) reported always wearing their seatbelts than adults in any other age group.
- Adults with a disability (69%) were less likely to report always wearing their seatbelts than adults without a disability (77%).
- Adults with four or more years of college education (84%) were more likely to report always wearing their seatbelts than adults in all other education categories.
- Adults with an annual household income of \$75,000 or more (80%) were more likely than adults in all other household income levels to report always wearing their seatbelts.
- The percentage of Massachusetts adults who reported they always wear their seatbelts when driving or riding in a car rose from 38% in 1990 to 76% in 2006. This represents an average annual increase of 4.8%

**Figure 6.6.1: Percentage of adults who always wear their seatbelt, MA and US, 1990-2006**



**TABLE 6.6 – SEATBELT USE AMONG MASSACHUSETTS ADULTS, 2006**

	SEATBELT USE		
	N	%	95% CI
OVERALL	12235	76.2	74.9 - 77.5
GENDER			
MALE	4577	69.3	67.1 - 71.5
FEMALE	7658	82.4	81.1 - 83.8
AGE GROUP			
18–24	482	64.7	58.3 - 71.0
25–34	1469	77.5	74.3 - 80.7
35–44	2409	75.5	73.1 - 78.0
45–54	2459	77.0	74.6 - 79.5
55–64	2211	78.5	76.1 - 80.8
65–74	1461	77.6	74.6 - 80.7
75 AND OLDER	1529	83.1	80.6 - 85.7
RACE-ETHNICITY*			
WHITE	9962	76.3	74.9 - 77.7
BLACK	561	70.7	64.2 - 77.3
HISPANIC	1141	77.1	71.9 - 82.2
ASIAN	201	81.8	74.1 - 89.4
DISABILITY <sup>¶</sup>			
DISABILITY	1673	69.2	65.2 - 73.2
NO DISABILITY	4589	76.9	74.8 - 78.9
EDUCATION			
< HIGH SCHOOL	1319	72.3	68.1 - 76.6
HIGH SCHOOL	3334	68.9	66.0 - 71.8
COLLEGE 1–3 YRS	2724	71.6	68.6 - 74.6
COLLEGE 4+ YRS	4833	83.8	82.4 - 85.2
HOUSEHOLD INCOME			
<\$25,000	2845	72.1	69.1 - 75.2
\$25,000–34,999	1039	72.2	67.3 - 77.1
\$35,000–49,999	1409	73.5	69.9 - 77.1
\$50,000–74,999	1691	71.9	68.5 - 75.3
\$75,000+	3178	79.9	77.8 - 82.1
REGION			
I–WESTERN	1784	72.8	69.3 - 76.3
II–CENTRAL	1753	75.8	72.3 - 79.2
III–NORTH EAST	2966	75.9	72.9 - 78.8
IV–METRO WEST	1507	78.5	75.7 - 81.2
V–SOUTH EAST	3015	75.4	72.7 - 78.2
VI–BOSTON	1206	79.4	75.8 - 83.0

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

† Insufficient Data

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

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# APPENDIX

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## Age- Adjusted Percentages for Selected Topics

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006										
	FAIR OR POOR HEALTH		POOR MENTAL HEALTH		SAD, BLUE, OR DEPRESSED		POOR PHYSICAL HEALTH		DISABILITY	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	11.2	10.0 - 12.4	8.0	6.9 - 9.0	6.9	5.8 - 8.0	7.9	7.0 - 8.9	21.8	20.3 - 23.4
GENDER										
MALE	12.0	10.6 - 13.4	7.8	6.6 - 9.0	6.1	4.5 - 7.8	6.9	5.9 - 7.9	22.0	19.5 - 24.5
FEMALE	12.4	11.4 - 13.5	9.7	8.6 - 10.7	8.2	6.8 - 9.6	9.2	8.3 - 10.1	21.8	19.9 - 23.8
RACE-ETHNICITY*										
WHITE	10.4	9.5 - 11.4	8.7	7.8 - 9.6	7.0	5.7 - 8.2	7.5	6.9 - 8.2	21.9	20.1 - 23.7
BLACK	24.2	19.5 - 28.8	13.1	8.7 - 17.5	9.0	4.6 - 13.3	13.1	9.1 - 17.1	23.6	16.6 - 30.6
HISPANIC	34.5	30.2 - 38.7	12.2	9.3 - 15.0	13.6	8.6 - 18.5	15.3	11.8 - 18.8	25.4	20.0 - 30.9
ASIAN	†		†		†		†		†	
DISABILITY										
DISABILITY	29.0	25.4 - 32.6	23.2	19.3 - 27.1	23.0	18.9 - 27.1	21.6	18.6 - 24.5	100.0	
NO DISABILITY	5.8	4.7 - 7.0	4.3	3.4 - 5.1	3.0	2.2 - 3.7	3.8	2.9 - 4.7	0.0	
EDUCATION										
< HIGH SCHOOL	32.2	28.1 - 36.4	14.8	11.8 - 17.8	16.0	11.3 - 20.6	17.0	14.0 - 20.0	34.9	28.5 - 41.3
HIGH SCHOOL	17.3	15.4 - 19.3	12.2	10.4 - 14.0	9.3	7.0 - 11.7	11.0	9.5 - 12.4	24.6	21.3 - 27.9
COLLEGE 1-3 YRS	12.5	10.6 - 14.4	10.2	8.5 - 11.9	8.9	6.4 - 11.5	8.3	6.8 - 9.7	24.8	21.3 - 28.3
COLLEGE 4+ YRS	5.6	4.8 - 6.5	6.0	4.5 - 7.5	4.4	2.7 - 6.2	5.0	4.2 - 5.7	17.4	15.0 - 19.8
HOUSEHOLD INCOME										
<\$25,000	31.2	28.4 - 34.0	20.1	17.5 - 22.8	17.5	14.2 - 20.8	20.6	18.3 - 23.0	44.5	40.1 - 48.9
\$25,000-34,999	15.5	12.5 - 18.5	8.3	5.9 - 10.6	8.4	4.2 - 12.7	11.4	8.5 - 14.4	23.7	17.7 - 29.7
\$35,000-49,999	10.3	8.2 - 12.4	10.1	7.2 - 13.1	5.5	2.9 - 8.1	6.7	5.0 - 8.3	19.1	14.7 - 23.6
\$50,000-74,999	7.9	5.8 - 10.1	7.7	5.3 - 10.0	3.7	2.0 - 5.5	5.1	3.7 - 6.4	19.4	14.7 - 24.1
\$75,000+	4.8	3.1 - 6.4	5.8	4.3 - 7.3	4.3	2.5 - 6.0	3.9	3.0 - 4.8	16.2	13.4 - 19.0
REGION										
I-WESTERN	13.1	11.1 - 15.1	9.9	7.6 - 12.1	7.0	4.7 - 9.2	9.2	7.5 - 10.9	23.5	19.7 - 27.4
II-CENTRAL	12.8	10.5 - 15.2	8.9	7.0 - 10.8	6.8	4.5 - 9.1	8.7	6.7 - 10.7	22.2	18.5 - 26.0
III-NORTH EAST	13.5	11.1 - 15.8	8.6	7.1 - 10.2	8.0	5.3 - 10.6	8.7	7.3 - 10.1	22.1	18.4 - 25.9
IV-METRO WEST	9.1	7.2 - 11.1	7.9	6.0 - 9.9	6.9	4.4 - 9.4	6.4	5.1 - 7.6	18.8	15.6 - 22.1
V-SOUTH EAST	11.8	10.2 - 13.4	9.3	7.4 - 11.2	6.0	4.1 - 7.9	7.5	6.2 - 8.8	22.6	19.0 - 26.2
VI-BOSTON	16.1	13.7 - 18.6	8.4	6.4 - 10.3	9.7	5.6 - 13.8	9.3	7.3 - 11.3	24.1	19.4 - 28.8

## Age- Adjusted Percentages for Selected Topics (CONTINUED)

<b>MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006</b>										
	DISABILITY/NEED HELP		PERSONAL DOCTOR		NO DOCTOR DUE TO COST		DENTAL VISIT		6+ TEETH MISSING	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	5.4	4.7 - 6.1	88.3	86.8 - 89.8	8.0	6.8 - 9.1	77.8	76.1 - 79.4	14.1	13.2 - 15.1
GENDER										
MALE	3.3	2.5 - 4.1	83.8	82.0 - 85.7	7.0	5.8 - 8.2	74.4	72.4 - 76.4	14.2	13.1 - 15.3
FEMALE	7.3	6.2 - 8.3	91.7	90.5 - 92.9	8.6	7.5 - 9.7	78.6	77.2 - 80.0	14.3	13.4 - 15.2
RACE-ETHNICITY*										
WHITE	4.7	4.1 - 5.4	89.0	87.8 - 90.3	6.5	5.6 - 7.4	78.2	76.8 - 79.6	13.6	12.9 - 14.3
BLACK	9.4	4.0 - 14.9	88.8	85.1 - 92.4	16.0	11.2 - 20.9	59.7	53.5 - 65.9	21.6	17.2 - 25.9
HISPANIC	13.8	9.3 - 18.2	74.8	70.5 - 79.1	17.2	13.6 - 20.8	63.5	58.9 - 68.1	22.7	19.4 - 26.0
ASIAN	†		82.8	75.8 - 89.8	†		73.8	65.2 - 82.5	†	
DISABILITY										
DISABILITY	24.0	20.8 - 27.2	89.0	86.0 - 92.0	15.8	12.1 - 19.5	65.5	61.3 - 69.8	21.6	19.1 - 24.1
NO DISABILITY	0.0		88.2	86.5 - 89.9	6.1	4.9 - 7.3	80.7	78.9 - 82.5	11.8	10.8 - 12.9
EDUCATION										
< HIGH SCHOOL	17.6	12.4 - 22.7	78.9	74.9 - 82.9	16.8	13.2 - 20.4	54.1	49.4 - 58.8	33.3	29.7 - 36.9
HIGH SCHOOL	7.1	5.4 - 8.8	85.0	82.7 - 87.4	10.5	8.7 - 12.2	69.7	67.1 - 72.3	19.8	18.2 - 21.4
COLLEGE 1-3 YRS	6.0	4.6 - 7.4	88.6	86.4 - 90.8	8.8	7.0 - 10.6	74.1	71.5 - 76.8	14.2	12.8 - 15.6
COLLEGE 4+ YRS	2.7	2.0 - 3.4	89.8	87.7 - 91.9	5.0	3.4 - 6.5	85.8	84.1 - 87.6	7.7	6.9 - 8.6
HOUSEHOLD INCOME										
<\$25,000	17.0	13.9 - 20.2	81.5	78.8 - 84.3	19.2	16.5 - 21.8	56.0	52.7 - 59.3	26.8	24.5 - 29.0
\$25,000-34,999	6.1	3.5 - 8.7	80.8	76.1 - 85.6	12.1	8.7 - 15.6	63.7	58.4 - 68.9	20.8	17.7 - 23.9
\$35,000-49,999	4.7	2.7 - 6.6	88.4	85.0 - 91.8	9.2	6.3 - 12.0	74.5	70.8 - 78.2	14.5	12.4 - 16.6
\$50,000-74,999	3.3	1.8 - 4.8	89.9	87.0 - 92.9	5.8	3.5 - 8.1	79.9	76.2 - 83.5	11.6	9.7 - 13.5
\$75,000+	1.2	0.6 - 1.8	92.9	91.1 - 94.8	2.8	1.4 - 4.1	88.5	86.5 - 90.6	6.9	5.6 - 8.2
REGION										
I-WESTERN	6.4	4.5 - 8.4	85.4	82.3 - 88.4	8.5	6.4 - 10.7	73.3	70.0 - 76.6	17.0	15.1 - 19.0
II-CENTRAL	4.9	3.1 - 6.7	89.3	86.5 - 92.1	7.2	5.4 - 9.0	75.1	71.8 - 78.4	16.1	14.1 - 18.0
III-NORTH EAST	5.7	4.2 - 7.3	89.0	86.7 - 91.3	7.4	5.6 - 9.2	76.4	73.5 - 79.3	13.5	12.1 - 14.9
IV-METRO WEST	4.5	3.1 - 6.0	88.3	85.5 - 91.1	6.2	4.0 - 8.4	82.3	79.4 - 85.1	10.3	8.9 - 11.6
V-SOUTH EAST	5.2	3.8 - 6.6	88.8	86.6 - 91.0	9.1	7.2 - 11.0	76.0	73.4 - 78.7	15.5	14.0 - 17.1
VI-BOSTON	6.7	4.4 - 8.9	84.0	80.8 - 87.2	10.0	7.5 - 12.5	69.6	66.0 - 73.2	16.0	13.8 - 18.1

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

<b>MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006</b>															
	CURRENT SMOKER			HEAVY SMOKER			QUIT ATTEMPT			PLANNING TO QUIT			NO SMOKING IN HOUSE		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
OVERALL	18.2	16.5	- 19.9	0.8	0.4	- 1.1	59.6	55.0	- 64.3	35.7	42.6	- 28.7	79.6	77.2	- 81.9
GENDER															
MALE	19.2	17.3	- 21.0	1.1	0.7	- 1.4	58.9	53.8	- 63.9	33.6	40.5	- 26.7	78.0	75.3	- 80.8
FEMALE	16.9	15.4	- 18.3	0.6	0.3	- 0.9	57.6	53.4	- 61.9	33.8	40.2	- 27.4	81.5	79.5	- 83.6
RACE-ETHNICITY*															
WHITE	18.2	16.8	- 19.5	0.9	0.6	- 1.2	56.5	52.8	- 60.2	33.0	38.3	- 27.6	79.9	78.0	- 81.8
BLACK	18.6	13.8	- 23.4	†			62.4	51.8	- 73.0	39.2	59.0	- 19.4	72.3	64.4	- 80.2
HISPANIC	18.5	14.5	- 22.5	†			65.2	54.4	- 75.9	46.0	56.8	- 35.2	82.3	76.8	- 87.8
ASIAN	†			†			75.2	49.6	101	37.9	50.9	24.8	93.6	87.1	- 100
DISABILITY															
DISABILITY	27.5	23.4	- 31.6	†			66.3	58.5	- 74.1	29.1	38.1	- 20.1	75.9	70.8	- 81.0
NO DISABILITY	16.3	14.4	- 18.2	†			56.7	51.0	- 62.3	37.7	46.0	- 29.3	80.6	77.9	- 83.2
EDUCATION															
< HIGH SCHOOL	33.1	28.5	- 37.8	†			56.1	47.8	- 64.5	24.0	33.6	- 14.3	65.6	58.3	- 72.8
HIGH SCHOOL	28.0	25.4	- 30.6	2.0	1.1	- 2.8	58.6	53.1	- 64.0	39.3	47.5	- 31.2	69.3	65.4	- 73.3
COLLEGE 1-3 YRS	21.2	18.6	- 23.7	1.0	0.5	- 1.4	58.3	51.8	- 64.8	34.0	43.3	- 24.7	79.1	76.0	- 82.2
COLLEGE 4+ YRS	8.6	7.3	- 9.9	0.1	0.1	- 0.2	58.5	51.1	- 65.9	33.9	42.6	- 25.3	86.8	84.2	- 89.5
HOUSEHOLD INCOME															
<\$25,000	31.4	28.2	- 34.5	2.2	1.0	- 3.4	54.6	48.7	- 60.5	29.0	37.0	- 21.0	63.2	58.4	- 68.0
\$25,000-34,999	21.3	17.3	- 25.2	†			58.2	48.3	- 68.1	24.7	37.7	- 11.8	74.3	68.3	- 80.3
\$35,000-49,999	21.4	17.4	- 25.3	†			52.7	42.5	- 63.0	29.0	40.9	- 17.1	75.9	71.1	- 80.7
\$50,000-74,999	20.0	16.3	- 23.6	†			69.2	61.3	- 77.0	22.0	28.8	- 15.1	75.7	70.3	- 81.2
\$75,000+	10.9	8.8	- 13.1	†			61.7	53.8	- 69.6	56.5	67.1	- 45.9	88.7	85.5	- 92.0
REGION															
I-WESTERN	19.8	16.7	- 22.8	†			54.6	46.8	- 62.3	41.0	52.3	- 29.7	77.1	72.0	- 82.2
II-CENTRAL	20.7	17.6	- 23.7	1.4	0.7	- 2.2	54.6	46.5	- 62.7	27.0	37.1	- 16.9	78.8	74.7	- 82.8
III-NORTH EAST	17.6	14.7	- 20.4	1.0	0.5	- 1.5	68.6	61.9	- 75.4	32.8	41.3	- 24.4	82.4	78.9	- 86.0
IV-METRO WEST	12.4	9.7	- 15.2	†			58.4	48.4	- 68.4	33.2	47.7	- 18.6	83.5	79.6	- 87.4
V-SOUTH EAST	22.5	19.7	- 25.2	†			59.7	53.2	- 66.2	32.8	42.4	- 23.2	77.8	74.2	- 81.4
VI-BOSTON	14.9	12.3	- 17.4	†			47.7	38.3	- 57.1	26.0	35.9	- 16.2	77.9	73.5	- 82.4

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

<b>MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006</b>										
	ENVIRONMENTAL SMOKE		BINGE DRINKING		HEAVY DRINKING		OVERWEIGHT		OBESITY	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	42.6	39.8 - 45.3	18.1	16.4 - 19.9	5.1	4.2 - 6.0	55.0	53.0 - 57.0	20.6	18.9 - 22.2
GENDER										
MALE	46.0	42.9 - 49.1	24.4	22.3 - 26.4	6.5	5.3 - 7.7	65.4	63.2 - 67.6	22.0	20.1 - 23.9
FEMALE	39.6	37.0 - 42.2	12.3	11.0 - 13.7	5.1	4.3 - 5.9	45.2	43.4 - 47.0	18.3	17.0 - 19.6
RACE-ETHNICITY*										
WHITE	42.6	40.3 - 44.9	20.3	18.8 - 21.8	6.4	5.5 - 7.2	54.1	52.5 - 55.8	19.3	18.0 - 20.6
BLACK	54.6	44.9 - 64.2	8.1	4.7 - 11.4	†		72.2	66.7 - 77.7	38.3	31.9 - 44.6
HISPANIC	39.4	32.6 - 46.1	12.5	9.1 - 15.9	2.9	1.3 - 4.5	65.5	60.6 - 70.4	29.0	24.6 - 33.5
ASIAN	43.0	27.9 - 58.2	†		†		33.5	23.9 - 43.2	†	
DISABILITY										
DISABILITY	49.9	43.3 - 56.4	20.9	16.7 - 25.0	5.9	3.7 - 8.0	58.3	53.9 - 62.7	25.9	22.4 - 29.3
NO DISABILITY	40.7	37.6 - 43.8	17.7	15.8 - 19.6	5.0	3.9 - 6.0	53.5	51.1 - 55.8	18.5	16.6 - 20.4
EDUCATION										
< HIGH SCHOOL	48.5	40.6 - 56.3	10.7	7.5 - 13.9	†		65.8	61.0 - 70.6	33.3	28.4 - 38.3
HIGH SCHOOL	51.2	47.3 - 55.2	18.8	16.4 - 21.2	5.8	4.4 - 7.1	59.9	57.0 - 62.7	24.2	21.7 - 26.6
COLLEGE 1–3 YRS	44.1	39.8 - 48.4	20.3	17.7 - 22.8	7.4	5.5 - 9.2	59.7	56.7 - 62.7	22.1	19.7 - 24.6
COLLEGE 4+ YRS	36.2	32.7 - 39.6	18.2	15.9 - 20.5	5.6	4.3 - 6.9	49.9	47.3 - 52.4	15.2	13.4 - 17.0
HOUSEHOLD INCOME										
<\$25,000	51.1	46.3 - 55.8	13.5	11.1 - 15.9	4.0	2.5 - 5.4	62.0	58.7 - 65.3	29.6	26.5 - 32.7
\$25,000–34,999	50.4	43.0 - 57.8	18.9	14.5 - 23.3	8.1	4.8 - 11.5	56.4	51.5 - 61.3	24.2	20.0 - 28.4
\$35,000–49,999	44.5	38.4 - 50.6	17.5	13.9 - 21.2	6.4	3.9 - 8.9	58.3	53.9 - 62.8	20.9	17.2 - 24.5
\$50,000–74,999	46.2	40.5 - 51.9	21.1	17.5 - 24.7	6.0	4.4 - 7.6	57.4	53.1 - 61.6	19.8	16.6 - 23.1
\$75,000+	39.1	35.1 - 43.1	21.6	19.0 - 24.2	6.6	5.0 - 8.2	52.9	49.9 - 55.9	17.4	15.1 - 19.8
REGION										
I–WESTERN	48.2	43.3 - 53.1	19.8	16.3 - 23.4	6.4	4.3 - 8.5	60.7	56.9 - 64.5	25.4	21.7 - 29.1
II–CENTRAL	46.0	40.8 - 51.2	18.4	15.4 - 21.4	6.4	4.4 - 8.3	59.6	56.0 - 63.2	22.8	19.8 - 25.8
III–NORTH EAST	40.7	36.0 - 45.4	17.2	14.3 - 20.0	4.5	3.4 - 5.6	57.5	54.1 - 60.8	21.1	18.4 - 23.8
IV–METRO WEST	32.8	28.1 - 37.6	15.9	12.9 - 18.9	5.6	3.4 - 7.7	47.7	44.2 - 51.2	14.5	11.8 - 17.2
V–SOUTH EAST	47.8	43.6 - 51.9	20.8	18.0 - 23.7	7.2	5.6 - 8.8	54.3	51.4 - 57.2	20.5	18.2 - 22.8
VI–BOSTON	44.7	39.2 - 50.1	16.7	13.5 - 19.9	4.4	2.8 - 6.0	57.0	53.1 - 60.9	22.0	19.0 - 25.0

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

<b>MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006</b>										
	ANY EXERCISE		DIABETES		EVER HAD ASTHMA		CURRENT ASTHMA		CLINICAL BREAST EXAM	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
OVERALL	79.7	78.1 - 81.2	6.1	5.4 - 6.9	14.4	13.0 - 15.9	9.7	8.5 - 10.9	85.8	84.0 - 87.6
GENDER										
MALE	80.6	78.9 - 82.3	7.0	6.1 - 7.9	12.8	11.2 - 14.4	8.0	6.6 - 9.3		
FEMALE	77.7	76.3 - 79.1	5.4	4.9 - 6.0	16.4	15.1 - 17.7	11.9	10.8 - 13.0	85.9	84.6 - 87.2
RACE-ETHNICITY*										
WHITE	82.3	81.1 - 83.4	5.4	4.9 - 6.0	14.7	13.5 - 15.9	10.1	9.0 - 11.1	87.3	85.9 - 88.8
BLACK	65.9	60.1 - 71.7	13.8	10.4 - 17.2	17.5	13.0 - 22.0	13.2	9.2 - 17.3	86.3	81.4 - 91.2
HISPANIC	57.6	52.8 - 62.4	14.4	11.3 - 17.5	16.2	13.0 - 19.4	10.8	8.2 - 13.4	74.6	69.6 - 79.7
ASIAN	70.1	60.9 - 79.3	†		†		†		83.3	74.1 - 92.4
DISABILITY										
DISABILITY	66.6	62.7 - 70.5	10.5	8.6 - 12.4	26.6	22.4 - 30.8	21.3	17.4 - 25.2	82.2	78.1 - 86.3
NO DISABILITY	83.6	81.9 - 85.2	4.7	3.9 - 5.5	11.6	10.1 - 13.1	7.0	5.8 - 8.2	87.2	85.1 - 89.2
EDUCATION										
< HIGH SCHOOL	49.3	44.5 - 54.1	14.1	11.1 - 17.1	20.3	16.4 - 24.3	16.4	13.1 - 19.7	73.4	68.8 - 78.1
HIGH SCHOOL	70.5	67.9 - 73.0	7.5	6.4 - 8.7	15.0	12.9 - 17.2	10.8	8.9 - 12.6	82.7	80.0 - 85.5
COLLEGE 1-3 YRS	79.3	77.1 - 81.5	5.6	4.6 - 6.6	15.2	13.1 - 17.3	10.5	8.7 - 12.3	84.6	81.7 - 87.4
COLLEGE 4+ YRS	88.2	86.4 - 90.0	4.3	3.7 - 5.0	12.8	11.2 - 14.3	8.0	6.7 - 9.3	90.7	88.9 - 92.5
HOUSEHOLD INCOME										
<\$25,000	59.1	55.9 - 62.3	11.1	9.5 - 12.8	20.1	17.4 - 22.8	16.2	13.8 - 18.7	77.7	74.4 - 81.0
\$25,000-34,999	70.6	66.0 - 75.2	7.4	5.6 - 9.3	14.2	10.9 - 17.6	12.0	8.8 - 15.2	79.9	74.5 - 85.3
\$35,000-49,999	76.8	73.2 - 80.4	6.4	4.9 - 8.0	13.6	10.3 - 16.8	9.9	6.9 - 12.9	89.5	86.6 - 92.3
\$50,000-74,999	84.5	82.2 - 86.8	5.8	4.4 - 7.2	14.7	11.6 - 17.8	8.5	6.2 - 10.7	90.1	87.3 - 92.9
\$75,000+	90.3	88.9 - 91.6	3.2	2.4 - 4.0	14.1	11.8 - 16.3	8.7	6.8 - 10.6	92.1	89.9 - 94.3
REGION										
I-WESTERN	76.7	73.6 - 79.9	6.2	5.0 - 7.5	16.5	13.8 - 19.3	11.2	9.0 - 13.5	86.1	83.0 - 89.2
II-CENTRAL	79.6	77.0 - 82.1	6.8	5.4 - 8.2	13.3	11.0 - 15.6	9.6	7.7 - 11.4	86.0	82.6 - 89.4
III-NORTH EAST	75.9	73.1 - 78.8	5.6	4.7 - 6.6	16.3	13.6 - 19.0	11.7	9.3 - 14.1	86.7	83.8 - 89.6
IV-METRO WEST	85.5	83.2 - 87.7	4.3	3.4 - 5.2	13.2	10.7 - 15.6	8.5	6.4 - 10.6	86.2	82.8 - 89.6
V-SOUTH EAST	78.5	76.2 - 80.9	7.2	5.8 - 8.7	14.9	12.7 - 17.2	10.4	8.4 - 12.3	83.5	80.5 - 86.5
VI-BOSTON	74.1	70.9 - 77.3	8.4	6.8 - 10.0	14.0	11.4 - 16.6	8.6	6.7 - 10.6	86.7	83.3 - 90.2

## AGE- ADJUSTED PERCENTAGES FOR SELECTED TOPICS (CONTINUED)

	PAP SMEAR		SEXUAL VIOLENCE - WOMEN		SEXUAL VIOLENCE - MEN		SEATBELT USE			
	%	95% CI	%	95% CI	%	95% CI	%	95% CI		
OVERALL	84.8	83.5 - 86.1	16.3	13.4 - 19.1	8.8	5.7 - 12.0	24.9	23.1 - 26.7		
GENDER										
MALE					8.8	5.7 - 12.0	30.8	28.7 - 32.9		
FEMALE	84.8	83.5 - 86.1	16.3	13.4 - 19.1			17.8	16.3 - 19.2		
RACE-ETHNICITY*										
WHITE	85.4	84.0 - 86.9	15.0	12.9 - 17.1	7.4	4.8 - 10.0	24.1	22.6 - 25.6		
BLACK	91.6	87.4 - 95.8	12.3	5.4 - 19.1	†		28.5	22.7 - 34.3		
HISPANIC	80.7	75.9 - 85.4	10.7	5.9 - 15.4	†		20.0	16.3 - 23.6		
ASIAN	82.2	72.2 - 92.2	†		†		17.5	10.4 - 24.6		
DISABILITY										
DISABILITY	83.1	79.8 - 86.5	28.3	21.5 - 35.2	20.8	12.8 - 28.7	31.2	27.0 - 35.4		
NO DISABILITY	85.8	83.6 - 87.9	13.1	10.0 - 16.1	5.3	2.8 - 7.8	23.1	21.1 - 25.1		
EDUCATION										
< HIGH SCHOOL	78.4	74.0 - 82.8	11.9	5.5 - 18.3	9.1	3.8 - 14.4	27.4	23.1 - 31.7		
HIGH SCHOOL	81.5	78.7 - 84.2	13.9	9.4 - 18.4	†		31.6	28.8 - 34.3		
COLLEGE 1-3 YRS	84.3	81.6 - 86.9	14.8	11.1 - 18.5	8.9	4.3 - 13.4	28.1	25.3 - 30.9		
COLLEGE 4+ YRS	89.4	87.7 - 91.2	16.3	13.2 - 19.4	4.6	2.3 - 6.8	16.2	14.5 - 18.0		
HOUSEHOLD INCOME										
<\$25,000	80.3	77.4 - 83.2	19.3	14.7 - 23.9	†		28.1	25.0 - 31.2		
\$25,000-34,999	80.4	75.3 - 85.5	14.4	8.1 - 20.8	†		28.4	23.5 - 33.2		
\$35,000-49,999	88.2	84.9 - 91.6	12.8	8.2 - 17.5	13.3	7.9 - 18.7	27.3	23.0 - 31.7		
\$50,000-74,999	90.3	87.5 - 93.0	17.6	12.0 - 23.3	†		29.2	25.2 - 33.1		
\$75,000+	88.5	85.5 - 91.5	14.5	11.0 - 18.0	5.3	2.4 - 8.2	20.7	18.0 - 23.3		
REGION										
I-WESTERN	86.8	83.9 - 89.6	14.9	10.4 - 19.4	†		28.1	24.5 - 31.8		
II-CENTRAL	82.3	78.7 - 85.9	17.5	12.2 - 22.9	†		24.0	20.8 - 27.3		
III-NORTH EAST	85.8	83.0 - 88.7	13.6	9.5 - 17.7	†		24.5	21.5 - 27.4		
IV-METRO WEST	84.4	81.1 - 87.7	15.3	10.5 - 20.1	†		22.4	19.2 - 25.5		
V-SOUTH EAST	84.2	81.5 - 87.0	12.6	9.2 - 15.9	†		25.1	22.3 - 27.9		
VI-BOSTON	85.3	81.7 - 89.0	13.9	9.4 - 18.3	15.3	7.8 - 22.9	21.1	17.8 - 24.5		

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

# Massachusetts Estimates, National Estimates, and HP 2010

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006				
VARIABLES	MA %	US MEDIAN¶ %	US RANGE¶ %	HP 2010^ %
<b>OVERALL HEALTH MEASURES</b>				
FAIR OR POOR HEALTH	12.4	14.7	10.8 – 32.9	X
15+ POOR MENTAL HEALTH DAYS	8.8	9.2	6.2 – 13.9	X
15+ DAYS SAD, BLUE OR DEPRESSED	7.2			X
15+ DAYS IN POOR PHYSICAL HEALTH	8.2	9.4	6.8 – 15.8	X
DISABILITY	22.0			X
DISABILITY / NEED HELP WITH ACTIVITIES	5.5			X
<b>HEALTH CARE ACCESS AND UTILIZATION</b>				
NO HEALTH INSURANCE (18-64)	10.0**	16.9	8.5 – 29.0	0.0
HAVE PERSONAL HEALTH CARE PROVIDER	88.3	81.1	68.2 – 89.2	85.0
COULD NOT SEE DOCTOR DUE TO COST	7.7	12.4	7.4 – 19.0	X
DENTAL VISIT IN PAST YEAR	76.6	69.0	56.2 – 78.9	X
SIX OR MORE TEETH MISSING	14.7	15.9	8.6 – 31.3	X
<b>RISK FACTORS AND PREVENTIVE BEHAVIORS</b>				
CURRENT SMOKER	17.8	20.1	9.8 – 28.5	12.0
HEAVY SMOKER	0.8			X
QUIT ATTEMPT AMONG CURRENT SMOKERS	58.0	57.4	48.3 – 68.0	75.0
PLAN TO QUIT AMONG CURRENT SMOKERS	34.3			X
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT EXPOSED TO ENVIRONMENTAL SMOKE	79.9			X
BINGE DRINKING	41.7			X
BINGE DRINKING	17.7	15.3	8.5 – 24.2	6.0
HEAVY DRINKING	5.7	4.9	2.0 – 7.9	X
OVERWEIGHT (BASED ON HP 2010)	55.5	62.0	54.6 – 67.0	X
OBESITY	20.	25.0	18.2 – 31.4	15.0
ANY LEISURE TIME PHYSICAL ACTIVITY	78.9	77.3	58.8 – 85.8	70.0
FLU VACCINE IN PAST YEAR (50-64)	41.8	39.1***	15.4 – 49.6	X
FLU VACCINE IN PAST YEAR (65+)	73.3	69.2***	33.5 – 76.0	90.0
EVER HAD PNEUMONIA VACCINATION (65+)	70.8	66.9	29.5 – 74.7	90.0
<b>CHRONIC HEALTH CONDITIONS</b>				
DIABETES	6.4	7.6	5.3 – 12.3	2.5
EVER HAD ASTHMA	14.5	13.0	9.6 – 18.8	X
CURRENTLY HAVE ASTHMA	9.9	8.5	5.9 – 10.5	X
HEART DISEASE (35+)	8.2			X
STROKE (35+)	2.7			X
<b>CANCER SCREENING</b>				
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	28.4	24.1	5.1 – 32.5	50.0
SIGMOID OR COLONOSCOPY PAST 5 YRS (50+)	57.4	48.3	30.6 – 60.9	X
PSA IN THE PAST YEAR (50+)	58.0			X
DRE IN THE PAST YEAR (50+)	60.3			X
MAMMOGRAPHY IN THE PAST 2 YEARS (40+)	84.8	76.5	67.3 – 84.8	X
PAP SMEAR IN THE PAST 3 YEARS	84.3	76.4	66.4 – 85.3	90.0
<b>OTHER TOPICS</b>				
UNPLANNED PREGNANCY (18-44)	21.6			X
USE BIRTH CONTROL (18-44)	80.1			X
EVER TESTED FOR HIV (18-64)	36.8	34.4	21.1 – 64.1	X
TESTED FOR HIV IN PAST YEAR (18-64)	8.0	6.2	3.2 – 24.4	X
SEXUAL VIOLENCE (WOMEN)	14.5			X
DRINKING WHILE DRIVING	3.0	2.6	0.6 – 5.1	X
UNINTENTIONAL FALL IN PAST 3 MONTHS (45+)	15.8	16.0	11.7 – 20.6	X
INJURED FROM FALL IN PAST 3 MONTHS (45+)	4.6	5.2	3.6 – 7.8	X
SEATBELT USE	76.2	80.1	58.3 – 91.9	92.0

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

^ HP2010 = Health People 2010 Objectives.

X No applicable objective.

\*\* This estimate of the uninsured is based on the insurance question asked by all states. Additional Massachusetts information has been left out of this calculation so that Massachusetts can be compared with other states. Please see page 22.

\*\*\* flu shot only, nasal spray not included

## Item-Specific Non-Response

MASSACHUSETTS BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM, 2006	
	PERCENTAGE OF NON-RESPONSE*
	%
<b>OVERALL HEALTH MEASURES</b>	
FAIR OR POOR HEALTH	0.6
15+ POOR MENTAL HEALTH DAYS	1.4
15+ DAYS SAD, BLUE OR DEPRESSED	2.6
15+ DAYS IN POOR PHYSICAL HEALTH	1.7
DISABILITY	6.1
DISABILITY / NEED HELP WITH ACTIVITIES	6.3
<b>HEALTH CARE ACCESS AND UTILIZATION</b>	
NO HEALTH INSURANCE	0.2
HAVE PERSONAL HEALTH CARE PROVIDER	0.3
COULD NOT SEE DOCTOR DUE TO COST	0.3
DENTAL VISIT IN PAST YEAR	0.9
SIX OR MORE TEETH MISSING	1.8
<b>RISK FACTORS AND PREVENTIVE BEHAVIORS</b>	
CURRENT SMOKER	0.5
HEAVY SMOKER	2.4
QUIT ATTEMPT AMONG CURRENT SMOKERS	0.2
PLAN TO QUIT AMONG CURRENT SMOKERS	14.6
LIVE IN HOUSEHOLD WHERE SMOKING IS NOT ALLOWED	9.4
EXPOSED TO ENVIRONMENTAL SMOKE	11.5
BINGE DRINKING	3.9
HEAVY DRINKING	3.8
OVERWEIGHT (BASED ON HP 2010)	
OBESITY	6.6
ANY LEISURE TIME PHYSICAL ACTIVITY	0.1
FLU VACCINE IN THE PAST YEAR (50-64)	2.0
FLUE VACCINE IN THE PAST YEAR (65+)	1.7
EVER HAD PNEUMONIA VACCINATION (65+)	7.7
<b>CHRONIC HEALTH CONDITIONS</b>	
DIABETES	0.1
EVER HAD ASTHMA	0.3
CURRENTLY HAVE ASTHMA	0.7
HEART DISEASE (35+)	1.0
STROKE (35+)	0.3
<b>CANCER SCREENING</b>	
BLOOD STOOL TEST IN THE PAST 2 YRS (50+)	6.3
SIGMOIDOSCOPY OR COLONOSCOPY IN THE PAST 5 YRS (50+)	6.0
PSA IN THE PAST YEAR (50+)	10.9
DRE IN THE PAST YEAR (50+)	6.1
MAMMOGRAPHY IN THE PAST 2 YEARS (40+)	4.4
PAP SMEAR IN THE PAST 3 YEARS	5.4
<b>OTHER TOPICS</b>	
UNPLANNED PREGNANCY (18-44)	4.0
USE BIRTH CONTROL (18-44)	26.8
EVER TESTED FOR HIV (18-64)	6.5
TESTED FOR HIV IN PAST YEAR (18-64)	12.0
SEXUAL VIOLENCE IN PAST YEAR (WOMEN)	22.2
DRINKING WHILE DRIVING	2.7
UNINTENTIONAL FALL IN THE PAST 3 MONTHS (45+)	3.7
INJURED FROM FALL IN THE PAST 3 MONTHS (45+)	3.9
SEATBELT USE	3.9

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

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