A Profile of Health among Persons with Disabilities in Massachusetts, 2008-2011

Massachusetts Department of Public Health
Bureau of Community Health and Prevention
Division of Prevention and Wellness
Office on Health and Disability
Office of Health Equity

Deval L. Patrick, Governor
Timothy P. Murray, Lieutenant Governor
JudyAnn Bigby, MD, Secretary, Executive Office of Health and Human Services
John Auerbach, Commissioner, Massachusetts Department of Public Health

June 2012

Acknowledgements

This report was prepared by the following staff from the Massachusetts Department of Public Health:

Bonnie K. Andrews, MPH, CPH, Epidemiologist
Tawny Wilson, MS, MPH, Epidemiologist

The authors of this report would like to express their gratitude to the residents of Massachusetts who participated in the 2011 Massachusetts Youth Health Survey and the 2008-2010 Massachusetts Behavioral Risk Factor Surveillance System; and to the University of Massachusetts, Center for Survey Research and Abt SRBI and their dedicated staff who helped make these surveys possible. We would also like to thank the staff of the Health Survey Program at the Massachusetts Department of Public Health for their valuable assistance with the data.

We would like to thank the following individuals for their contribution:

Thomas Land, PhD, Director, Office of Statistics and Evaluation, Bureau of Community Health and Prevention
Georgia Simpson May, MS, Director, Office of Health Equity
Lea Susan Ojamaa, MPH, Acting Director, Division of Prevention and Wellness, Bureau of Community Health and Prevention
Cheryl Bartlett, RN, Director, Bureau of Community Health and Prevention

---

This report was partially funded by a Cooperative Agreement (#3U59/DD000282-05W1) with the Office on Disability and Health, United States Centers for Disease Control and Prevention (CDC).

The contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

For further information about this report, please contact

Office of Statistics and Evaluation
Bureau of Community Health and Prevention
Massachusetts Department of Public Health
250 Washington Street, 5th Floor
Boston, MA 02108

Table of Contents

Executive Summary

A Profile of Health Among Adults with Disabilities in Massachusetts – 2008-2011 presents information on the prevalence of middle and high school students and adults (ages 18 years and over) with disabilities, and their socio-economic characteristics, health risk behaviors, health care access and utilization, quality of life, and health status. Wherever possible, comparisons with individuals without disabilities have been provided. Although this report includes data from multiple sources, the findings are primarily based on data from two sources (See Appendix 1 – Data Sources):

- The 2011 Massachusetts Youth Health Survey (MA YHS) for data on middle and high school students.
- The 2008-2010 Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS) survey for data on adults with disabilities.

Below are the highlights of the report.

Prevalence

According to the 2011 MA YHS, 19% of middle school students in Massachusetts (MA) reported having a disability compared to 28% of high school students. According to the 2008-10 MA BRFSS, 20% of the non-institutionalized MA adult population ages 18 years and over had a limitation or disability. Approximately 5% of adults in MA reported they needed assistance with routine or personal care activities.

Socio-Economics

Adults with disabilities were less likely to be employed (41%) than persons without disabilities (73%). Adults with disabilities were also significantly more likely to report being unable to work (18%) than adults who did not report a disability (1%), particularly adults who reported needing assistance with routine or personal care activities (39%). Approximately 1 in 3 adults with disabilities reported living in a household with an income less than $25,000 per year, which is approximately three times the number of adults without disabilities who reported living in households with the same income level.

Health Care Access and Utilization

More people are covered by health insurance in Massachusetts than anywhere else in the country: 98.1 percent of our total population and 99.8 percent of children have health care coverage (Massachusetts Division of Health Care Finance and Policy, 2010). However, approximately 3% of adults age 18-64 with or without disability lacked any kind of health care coverage. The percentage of persons having no insurance decreased with increasing age for both groups. Adults with disabilities were more likely to be on public insurance (Medicaid and Medicare) than adults without disabilities. Most adults had a primary care doctor regardless of disability status or age. However, individuals with disabilities were more likely to report that they were unable to see a doctor due to cost in the past year than people without disabilities. Individuals with disabilities were more likely to have seen a doctor for a routine check up in the previous year (84%) when compared to individuals without disabilities (78%). Adults with disabilities were less likely to have seen a dentist in the past year (71% vs. 82%) and were more likely to have six or more teeth removed due to decay or gum disease (27% vs. 10%), when compared to those without disabilities.

Adults with disabilities were more likely to have had a flu shot in the past year (52% vs. 43%) and to have ever received a pneumococcal vaccination (45% vs. 22%) compared to adults without disabilities. Women with disabilities who reported needing help with routine needs or personal care were less likely to have had a mammogram within the past two years (78%) compared to women without disabilities (85%).

Risk Factors and Preventive Behaviors
Adults with disabilities were more likely to smoke and less likely to participate in leisure time physical activity in the past month compared to those without disabilities. Youth with disabilities were more likely to smoke compared to youth without disabilities. Middle school students with disabilities (35%) were more likely to report lifetime alcohol use than those without disabilities (16%). Adults with disabilities were more likely to be obese compared to adults without disabilities.

Chronic Health Conditions
Adults with disabilities in Massachusetts were more likely than their counterparts without disabilities to report certain chronic medical conditions such as diabetes, heart disease, stroke, high blood pressure, high cholesterol, and asthma. Middle and high school students with disabilities were more likely to report asthma than were their peers without disabilities.

Quality of Life
Middle and high school students with disabilities were more likely to report fair or poor health than similarly aged students without disabilities. Approximately one in every three adults with disabilities described their health as fair or poor compared to six percent of adults without disabilities. A similar association was found between disability and mental health status. Thirteen percent of middle and high school students with disabilities reported attempting suicide at least once in the past 12 months compared to 2% of middle and high school students without disabilities.

Violence and Unintentional Injuries
Middle and high school students with disabilities were more likely to report bullying at school or online than students without disabilities. Middle and high school females were significantly more likely to report dating violence than female students who did not have disabilities. Middle school students with disabilities were more likely to report being hurt by a family member or witnessing family violence in the past 12 months compared to their non-disabled counterparts. Adults with disabilities were more likely to experience lifetime sexual violence and unintentional falls that were adults without disabilities.

Conclusion
Many Massachusetts residents with disabilities have lower educational attainment, higher rates of unemployment and lower incomes than their counterparts without disabilities. In addition, Massachusetts residents with disabilities are more likely to have: excess weight, reduced physical activity, limited access to oral health care, chronic conditions such as diabetes, heart disease and stroke, and poor emotional and physical health. The report reveals the need for public health efforts to improve the health of people with disabilities. We hope this data will serve as a resource for health and disability professionals across Massachusetts to improve the health status and overall well-being of Massachusetts residents with disabilities.

Chapter 1: Introduction

Introduction

A Profile of Health Among Adults with Disabilities in Massachusetts – 2008-2011 presents information on the prevalence of middle and high school students and adults (ages 18 years and over) with disabilities, and their socio-economic characteristics, health risk behaviors, health care access and utilization, quality of life, and health status. Wherever possible, comparisons with individuals without disabilities have been provided. Many Massachusetts residents with disabilities have lower educational attainment, higher rates of unemployment and lower incomes than their counterparts without disabilities. Massachusetts residents with disabilities are also more likely to have excess weight, reduced physical activity, limited access to oral health care, chronic conditions such as diabetes, heart disease and stroke, and poor emotional and physical health. The data reveal the potential for public health efforts to improve the health status and overall well-being of persons with disabilities. We hope this data will serve as a resource for health and disability professionals across Massachusetts to improve the health status and overall well-being of Massachusetts residents with disabilities.

About Us

The Office on Health and Disability (OHD) in the Massachusetts Department of Public Health (MDPH) is funded through a state capacity-building grant from the Office of Disability and Health of the national Centers for Disease Control and Prevention (CDC). Massachusetts was one of the first nine states to apply for and receive funding under the CDC's Disabilities Prevention Program to establish the *Office of Disability Prevention* (ODP) in the MDPH. ODP focused initially on primary prevention of disability and over time evolved into the *Office on Health and Disability* with a focus on preventing secondary conditions among persons with disabilities across the lifespan. The MDPH/OHD has been in the forefront in Massachusetts for addressing the public health needs and concerns of persons with disabilities. Since its inception, MDPH/OHD has had a strong Advisory Committee whose members have included individuals with disabilities, their family members, advocates, state agency representatives, researchers, and disability or health service professionals.

The mission of the MDPH/OHD is to *"promote the health and well being of people with disabilities in Massachusetts and to prevent secondary conditions*." This mission reflects the understanding that disability need not equal poor health; prevention and health promotion are as relevant for persons with disabilities as for those without disabilities; and most secondary conditions or other health problems to which persons with disabilities may be vulnerable, but which do not directly reflect their disabling conditions, are preventable.

The MDPH/OHD work encompasses statewide efforts with multiple state agencies and initiatives to improve the health and quality of life of persons with disabilities. As part of these statewide efforts, MDPH/OHD participated in the development of the Massachusetts' Community First Olmstead Plan ("Plan") (Commonwealth of Massachusetts, 2009). The overall purpose of the Plan is to maximize the extent to which elders and persons with disabilities are able to live successfully in their homes and communities. With a broad array of home and community-based services, including case management, housing supports, and transportation, many persons with disabilities and elders can live in less restrictive, and sometimes, less expensive, community-based settings where they would prefer to live. The Plan outlines the Commonwealth's intention to provide services in the most integrated setting appropriate to the needs of individuals with disabilities.

In addition, the MDPH/OHD in collaboration with the Massachusetts Health and Disability Advisory Committee developed *The 2007 MA Strategic Plan for Promoting the Health of People with Disabilities.* The strategic plan includes the following four goals:

1. Ensure quality health promotion opportunities are available and accessible for individuals with disabilities to maintain maximal independence;
2. Implement evidence-based health promotion programs to enable persons with disabilities to manage their health care and prevent secondary conditions;
3. Better define the impact of disability in Massachusetts, including the impact of secondary conditions among persons with disabilities across the life-span;
4. Ensure statewide emergency preparedness planning responds to the needs of persons with disabilities.

Technical Notes

This report is one component of the MDPH/OHD effort to achieve the third goal on *surveillance*. The purpose of the report is to present a profile of health among persons with disabilities in Massachusetts and to characterize the health impact of disability among middle and high school youth and among adults in Massachusetts. The findings for the middle and high school population are based on results from the 2011 Massachusetts Youth Health Survey (MA YHS). The MA YHS collects information on health status, risk behaviors, and protective factors from a sample of middle and high school students in public schools in Massachusetts designed to be representative of all public school students. [For survey details, see Appendix 1; for survey limitations, see Appendix 3]. Most findings for the adult population are based on the 2008-10 Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS) surveys. In certain cases where questions were asked in only one year, data for that year have been presented. The MA BRFSS survey collects information from a random sample of non-institutionalized Massachusetts adults, ages 18 years and over, on a variety of health issues including issues related to disability and quality of life [For survey details, see Appendix 1; for survey limitations, see Appendix 3].

Wherever possible, we have presented similar information for both youth and adults. However, because the data are derived from separate data sources that use different surveys, information presented for a specific health topic might differ between youth and adults. Throughout this report, the term "disability" may refer to physical disabilities, emotional disabilities, or both unless otherwise specified.

Statistical significance (at the 95% probability level) was considered as a basis when we used the terms "more likely", "less likely", or "about the same." 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. We use the terms "more likely" or "less likely" when comparing percentages that met one of the criteria for statistical significance. Estimates and their 95% confidence intervals are not presented in the tables if the underlying sample size is less than 50 respondents. In addition, 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. (Massachusetts Department of Public Health, Health Survey Program, 2010; National Center for Health Statistics, 2010).

While the 2007 MA YHS contained four questions to identify youth with disabilities, the 2011 YHS contained only two of these questions. As a result, the prevalence of disability among youth from the previous report may not be directly comparable to the prevalence of disability among youth in this

report. In addition, in 2008, the disability questions on the American Community Survey (ACS) were also changed; as a result, data from the 2008 questions should not be used as a comparison to earlier estimates (Brault, 2009).

Chapter 2: Prevalence of Disability in Massachusetts

Prevalence of Disability in Massachusetts

Introduction

There is no single operational definition of disability. A variety of disability definitions are currently used in national and state surveys. Different definitions of disability result in differing disability estimates. In addition, estimates can vary because of differences in the survey methodology. For example, the prevalence of disability can depend upon the mechanism used to administer the survey. A random-digit-dial telephone survey such as the BRFSS has the potential of reaching a different set of respondents with disabilities as compared to a mail survey such as the American Community Survey. In addition, a self-reported youth survey such as the MA YHS can yield different results in contrast to a parent-report survey such as the National Survey of Children with Special Health Care Needs. This report focuses on the Youth Health Survey and BRFSS as our measures of disability, but there are other measurements as well.

According to the 2008-2010 American Community Survey (ACS), 11.2% of the non-institutionalized Massachusetts (MA) population, or an estimated 717,255 individuals, reported having one or more disabilities.

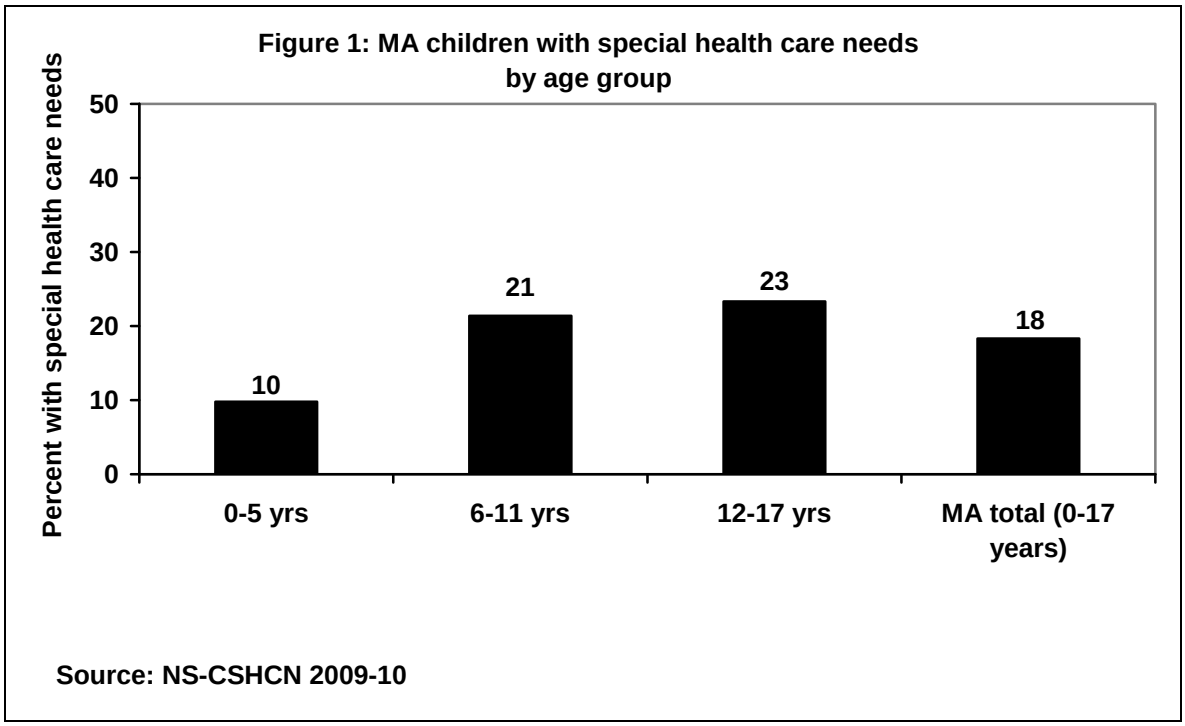
The prevalence of disability increased with age: 5.8% among children ages 5-17 years, 8.8% among those ages 18-64 years, and 34% among persons ages 65 years and older (source: ACS, See Appendix 1 – Data Sources; See Appendix 2 for disability definitions).

Among the six types of disabilities identified in the ACS, 4.1% of people in MA age 18-64 reported having an ambulatory difficulty, 3.1% reported having an independent living difficulty, 4.1% had a cognitive difficulty, 1.4% had a vision difficulty, 1.7% had a hearing difficulty, and 1.4% had a self-care difficulty (See Appendix 1 – Data Sources).

Children with Special Health Care Needs

Based on the 2009-2010 National Survey of Children with Special Health Care Needs (NS-CSHCN), a telephone-administered parent report survey, 18.3% of MA children, which represents an estimated 261,475 children, had a special health care need (See Appendix 1 for survey details; See Appendix 2 – Disability Definitions for definition of children with special health care needs used in this survey). The prevalence in MA was significantly higher than the national prevalence of 15.1%.

The prevalence of children with special health care needs increased with age: 9.8% among MA children ages 0-5 years (vs. 9.3% nationally), 21.4% among MA children ages 6-11 years (vs. 17.7% nationally), and 23.3% among MA children ages 12-17 years (vs. 18.4% nationally).



Prevalence of Disability among Middle and High School Students in Massachusetts

According to the 2011 Massachusetts Youth Health Survey (MA YHS), 18.8% of middle school students in MA reported a disability compared to 28.3% of high school students (See Appendix 1 – Data Sources for description of MA YHS).

Among middle school students, the prevalence of disability was lowest (14.5%) among sixth graders and highest among seventh graders 21.5%). Among high school students, there was less variation in the prevalence of disability by grade level (See Figure 2, Chapter 3 – Demographic Profile).

MA YHS survey participants who responded positively to **either** of the two screener questions were considered to have a disability (see Table 1).

Table 1 shows the two questions used to identify disability in the MA YHS and the percentage of students responding positively to **each** question, though the definition of disability used in the report is the percentage responding positively to **either** question (See Appendix 2 – Disability Definitions).

Table 1: Disability screeners in the 2011 Massachusetts Youth Health Survey

Disability Screener	Middle School (%)	High School (%)
Do you have any physical disabilities or long-term health problems?	11.0	14.7
Do you have any long-term emotional problems or learning disabilities?	9.4	17.4

Source: MA YHS 2011

Data do not represent an unduplicated count, since individuals could respond to more than one screener question. Data do not represent individuals who responded "not sure." These respondents were excluded from the analysis.

Prevalence of Disability among Adults in Massachusetts

Analysis of data from the 2008-2010 MA Behavioral Risk Factor Surveillance System (MA BRFSS) indicated that 20.2% of the non-institutionalized MA adult population ages 18 years and older have a disability. Almost 5.4% of MA adults reported needing assistance with routine or personal care activities (See Appendix 1 – Data Source and Appendix 2 – Disability Definitions).

Estimates of disability from the MA BRFSS may differ from national estimates due to the fact that a question is asked about the length of time the respondent's activities have been limited. BRFSS survey participants who responded positively to any of the four screener questions and reported having the disability or health problem for a year or more were considered to have a disability (see Table 2).

Table 2: Disability screeners in the Massachusetts Behavioral Risk Factor Surveillance System (2008-2010)

Disability screener	Percentage
Are you limited in any way in any activities because of physical, mental, or emotional problems?	17.8%
Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?	6.8%
Because of any impairment or health problem, do you have any trouble learning, remembering, or concentrating?	9.7%
A disability can be physical, mental, emotional, or communication-related. Would you describe yourself as having a disability of any kind?	3.1%

Data do not represent an unduplicated count, since individuals could respond to more than one screener question. Data do not represent individuals who responded "not sure." These respondents were excluded from the analysis.

Table 3 presents the prevalence of disability in Massachusetts reported by a number of national and state surveys. The MA YHS estimates include participants who responded positively to **either** of the two screener questions were considered to have a disability

Table 3: Summary of disability prevalence in Massachusetts from four national and state-wide surveys

Data Source	Percentage	Age Group	Method
American Community Survey, 2008-10	11.2%	All ages	Mail Survey
National Survey of Children with Special Health Care Needs, 2009-2010	18.3%	0-17 years	Telephone, parent report
MA Youth Health Survey, 2011	18.8%	Middle School	Student report, paper and pencil
MA Youth Health Survey, 2011	28.3%	High School	Student report, paper and pencil
MA Behavioral Risk Factor Surveillance System, 2010	18.7%	18+ years	Random-digit dial telephone survey

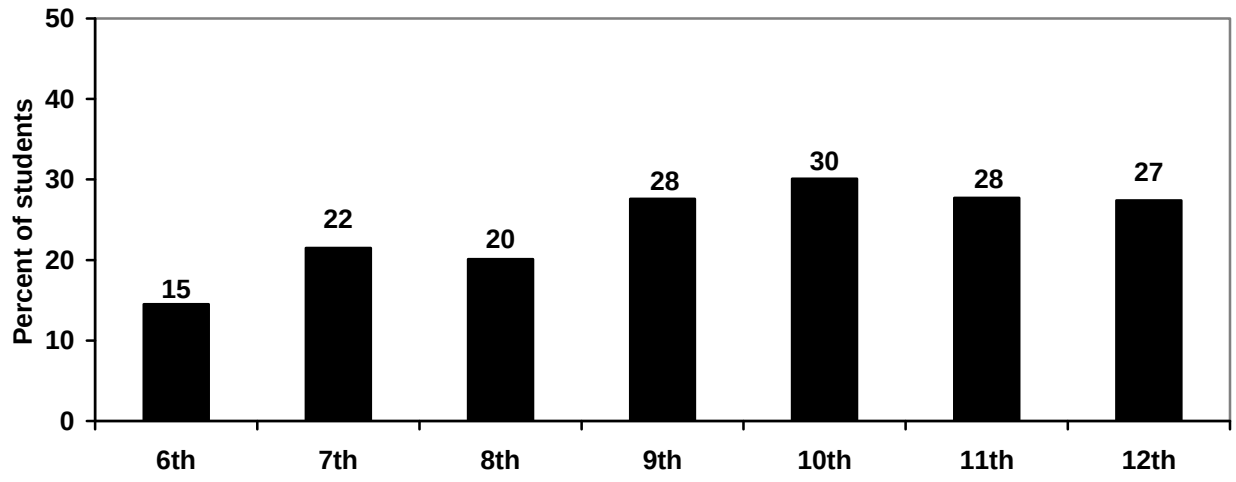
Chapter 3: Demographic Profile

Demographic Profile: Disability by Grade Level

Middle and High School Students

Figure 2 shows the prevalence of disability among middle and high school students in Massachusetts, which represents the percentage of students responding positively to either screener question. Among middle school students, the prevalence of disability was 15% among sixth graders, 22% among seventh graders, and 20% among eighth graders. Among high school students, there was less variation in the prevalence of disability by grade level.

Figure 2: Disability among MA middle and high school students by grade level



Source: MA YHS 2011

Demographic Profile: Disability by Age Group

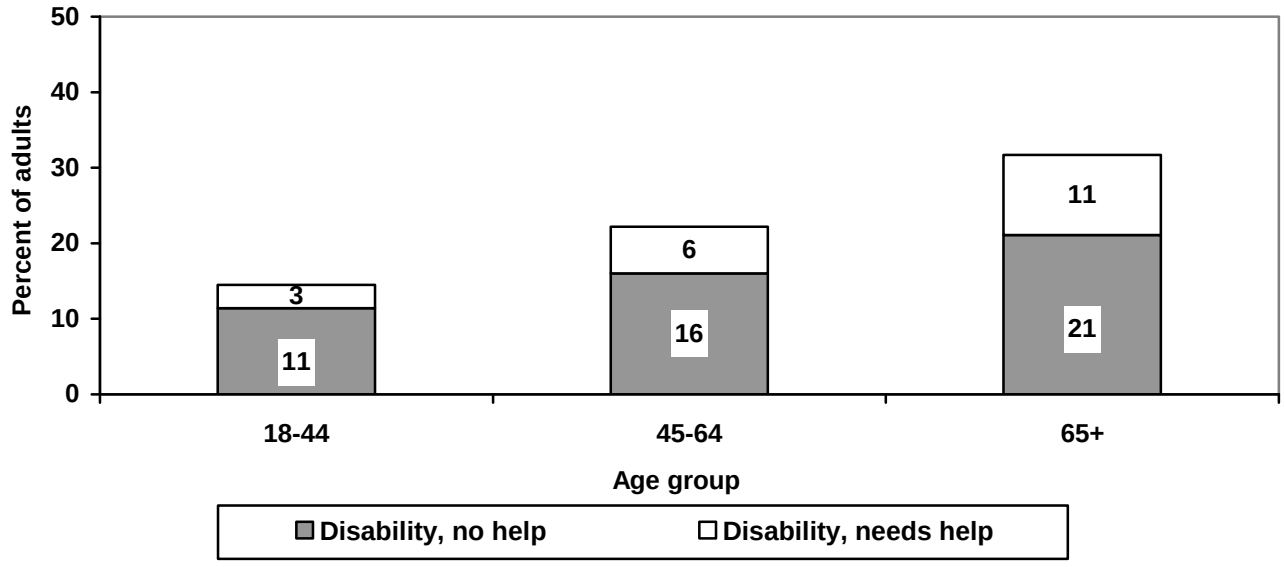
Adults

Disability is strongly associated with age. Figure 3 shows that the prevalence of disability increased substantially with age. The prevalence of disability increased from 15% among persons ages 18-44 years to 22% among those ages 45-64 years and 32% among those ages 65 years and older.

The percentage of individuals who reported needing help with routine and/or personal care services also increased with age (from 3% among persons ages 18-44 years to 11% among those ages 65 years and older).

Note: The difference in the prevalence of disability between the youth and adult populations reflect, in part, the differing definitions of disability used in the MA YHS and the MA BRFSS and the different survey methodologies used in the two surveys (See Chapter 2 for details).

Figure 3: Disability among MA adults by age group

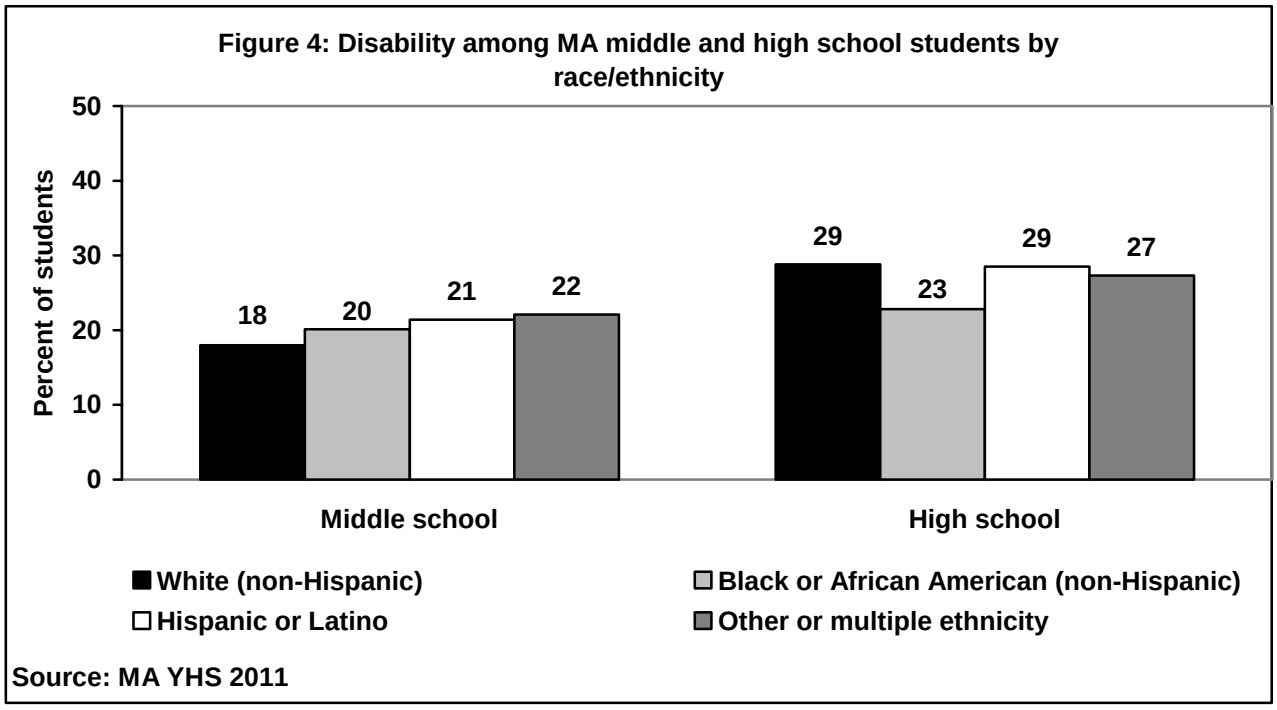


Source: MA BRFSS 2008-10

Demographic Profile: Disability by Race/Ethnicity

Middle and High School Students

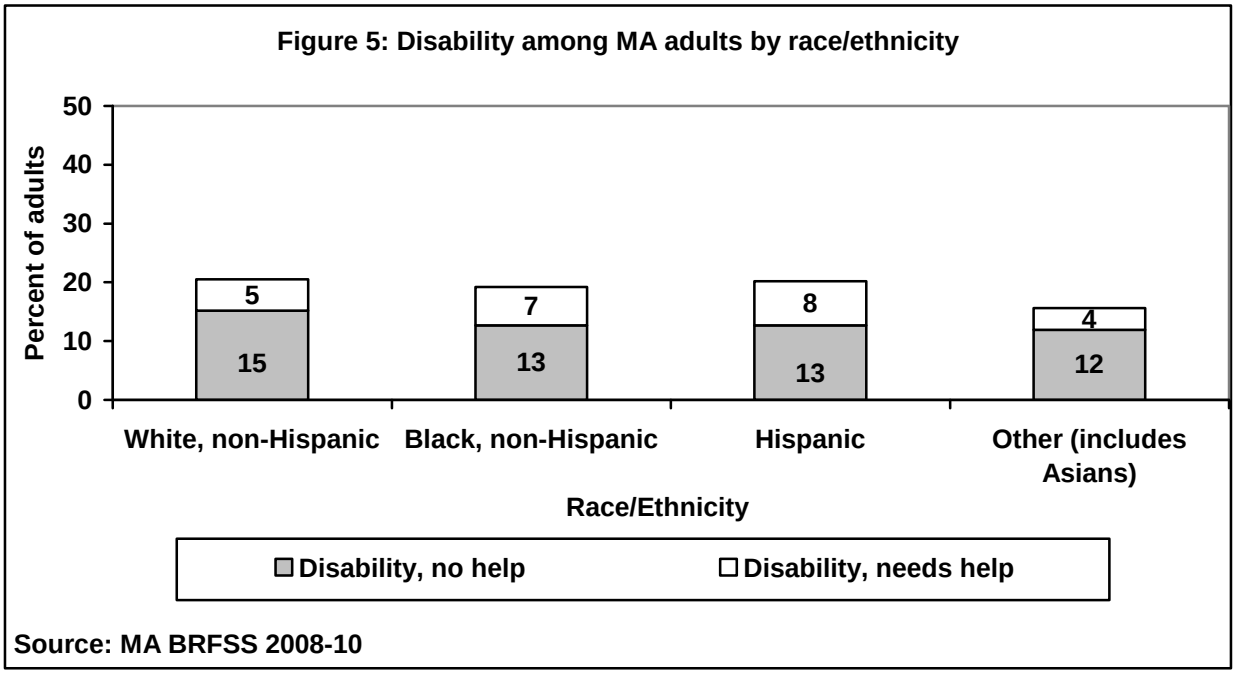
Figure 4 shows the disability prevalence among middle school and high school students by race/ethnicity, which represents the percentage of students responding positively to either screener question. The "other" race/ethnic group includes Asians, Pacific Islanders, multiracial youth, and those of other race/ethnicities.



Demographic Profile: Disability by Race/Ethnicity

Adults

Figure 5 shows the prevalence of disability among four racial/ethnic groups of Massachusetts adults ages 18 years and older. Asians and persons of other racial/ethnic groups were included in the "other" category because the sample sizes of the individual categories were too small to provide separate disability estimates that were reliable. Persons of "other" race/ethnicity were less likely to have a disability compared with White, non-Hispanics. There were no statistically significant differences in the prevalence of disability among the White non-Hispanic, Black non-Hispanic and Hispanic groups.

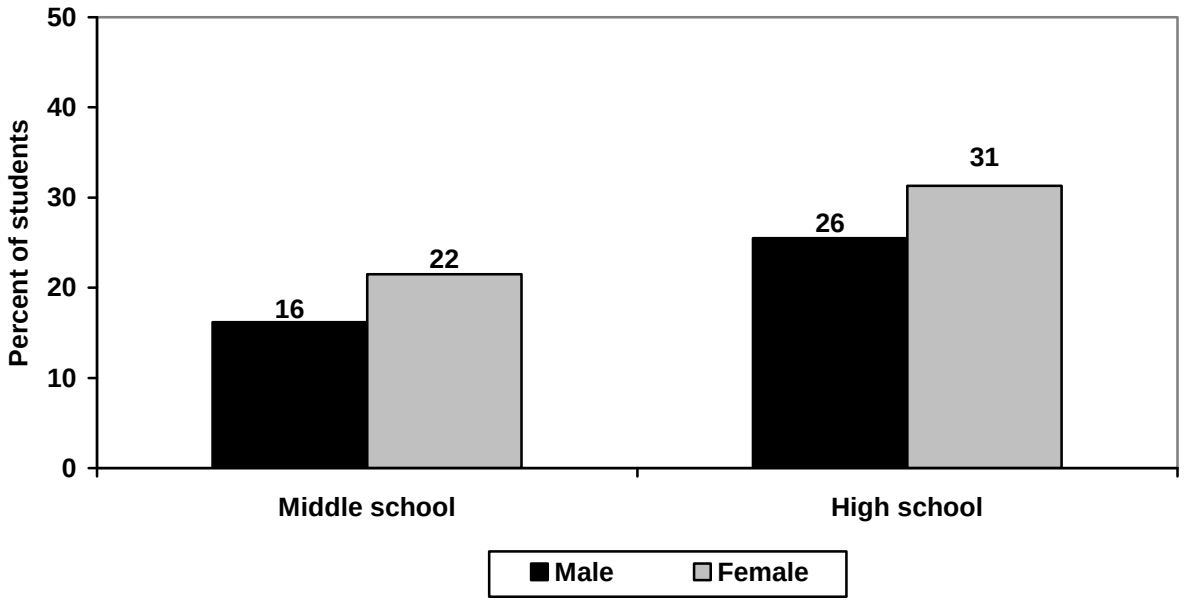


Demographic Profile: Disability by Sex

Middle and High School Students

Female middle school students in Massachusetts were more likely to report having a disability than were their male counterparts, with "disability" representing the percentage of students responding positively to either screener question. Almost 22% of female middle school students reported a disability compared to 16% of male students. Among high school students, 31% of females reported a disability compared to 26% of males.

Figure 6: Disability among MA middle and high school students by gender

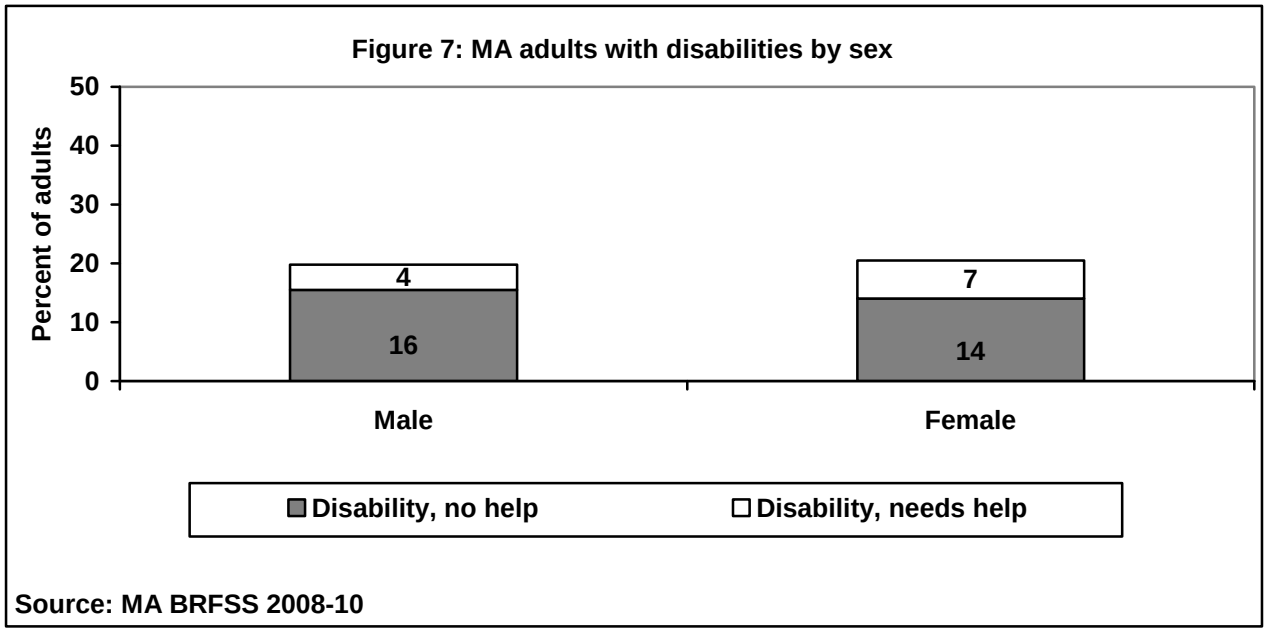


Source: MA YHS 2011

Demographic Profile: Disability by Sex

Adults

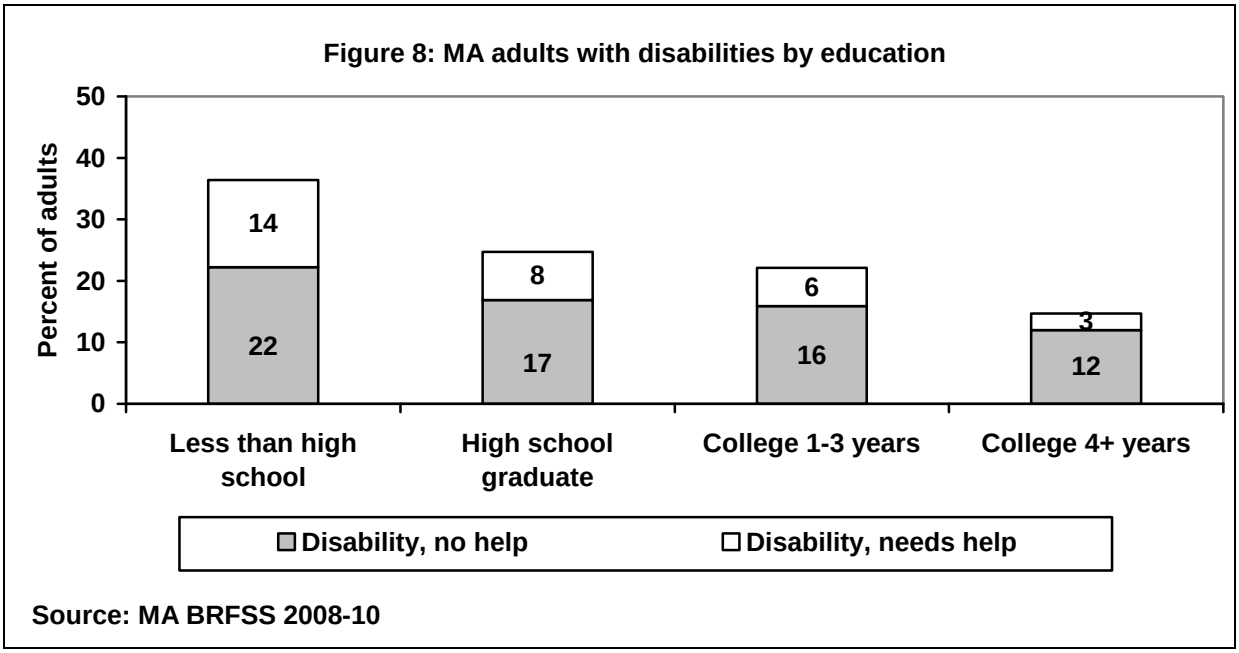
There was no difference in the prevalence of disabilities among Massachusetts adults by sex (20% among males vs. 21% among females). However, the sex distribution of those with disabilities differed based on their need for help with personal and routine care: 7% of females reported needing help compared to 4% of males.



Demographic Profile: Disability by Educational Attainment

Adults

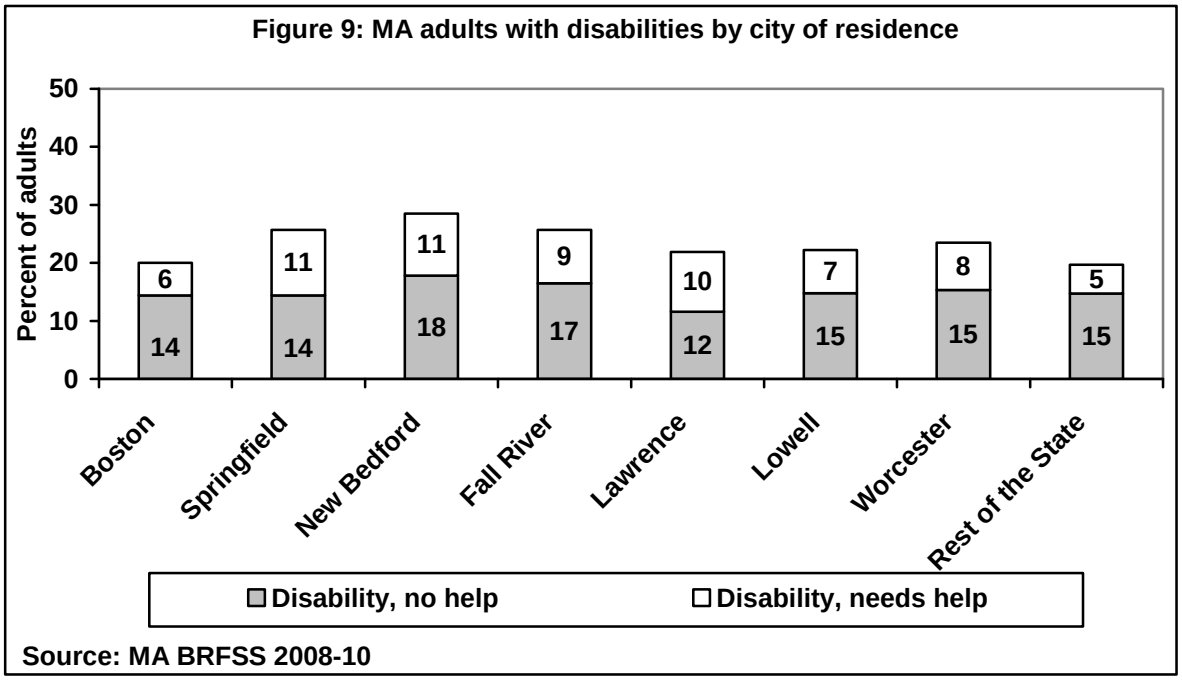
Educational attainment was strongly associated with disability status. Thirty-seven percent of adults without a high school education reported having a disability compared to 15% of college graduates. There was no difference in disability prevalence among high school graduates and those with some college education.



Demographic Profile: Disability by City of Residence

Adults

Figure 9 shows the prevalence of disability for the seven metropolitan areas in Massachusetts and for the rest of the state. Within the metropolitan areas, the prevalence of disability ranged from 20% in Boston to 29% in New Bedford.



Chapter 4: Socio-Economic Characteristics

Socio-Economic Characteristics: Employment Status

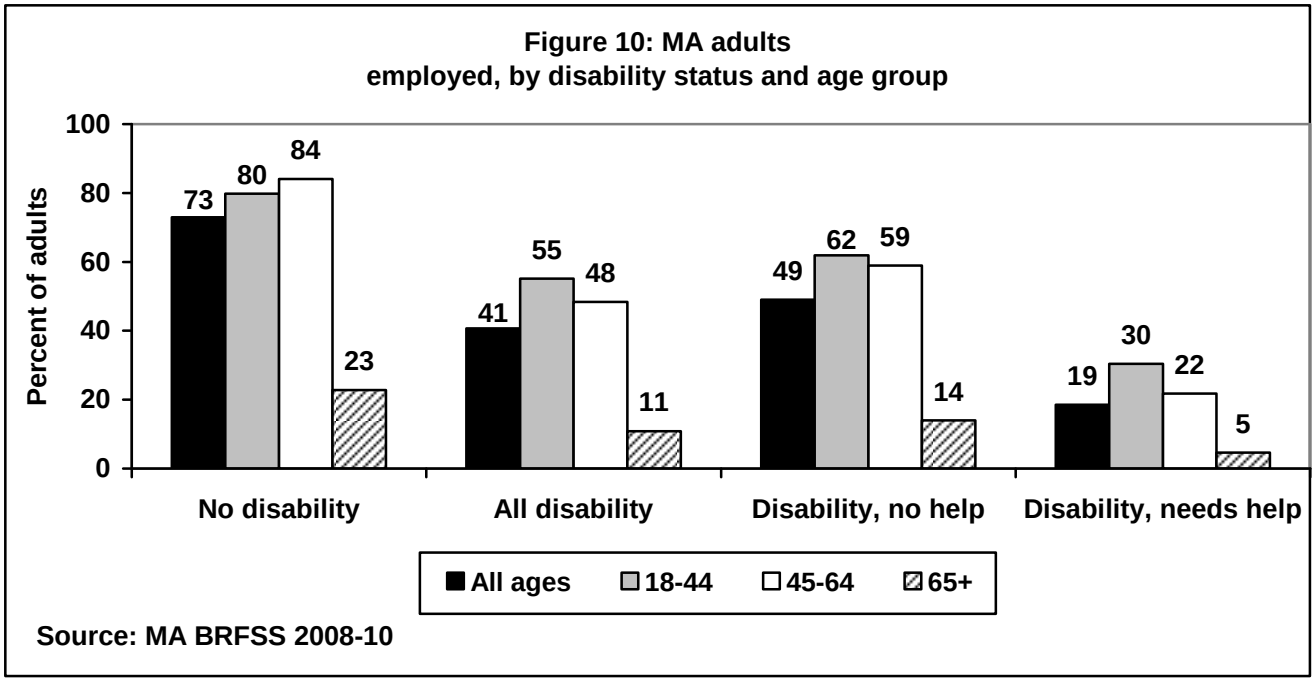
Employed Adults

Adults with disabilities were less likely to be employed (41%) than adults without disabilities (73%). The "employed" category includes those who were employed for wages or self-employed and those who were employed either full-time or part-time.

Persons with disabilities who reported they did not need help with routine/personal care, particularly those ages 45-64 years, were also less likely to be employed than persons without disabilities (Figure 10).

Persons with disabilities who reported needing help with routine or personal care were much less likely to be employed compared to the other groups. Among adults with disabilities who needed assistance, there was also a considerable decrease in employment for older persons compared to younger persons.

Figure 10: MA adults employed, by disability status and age group

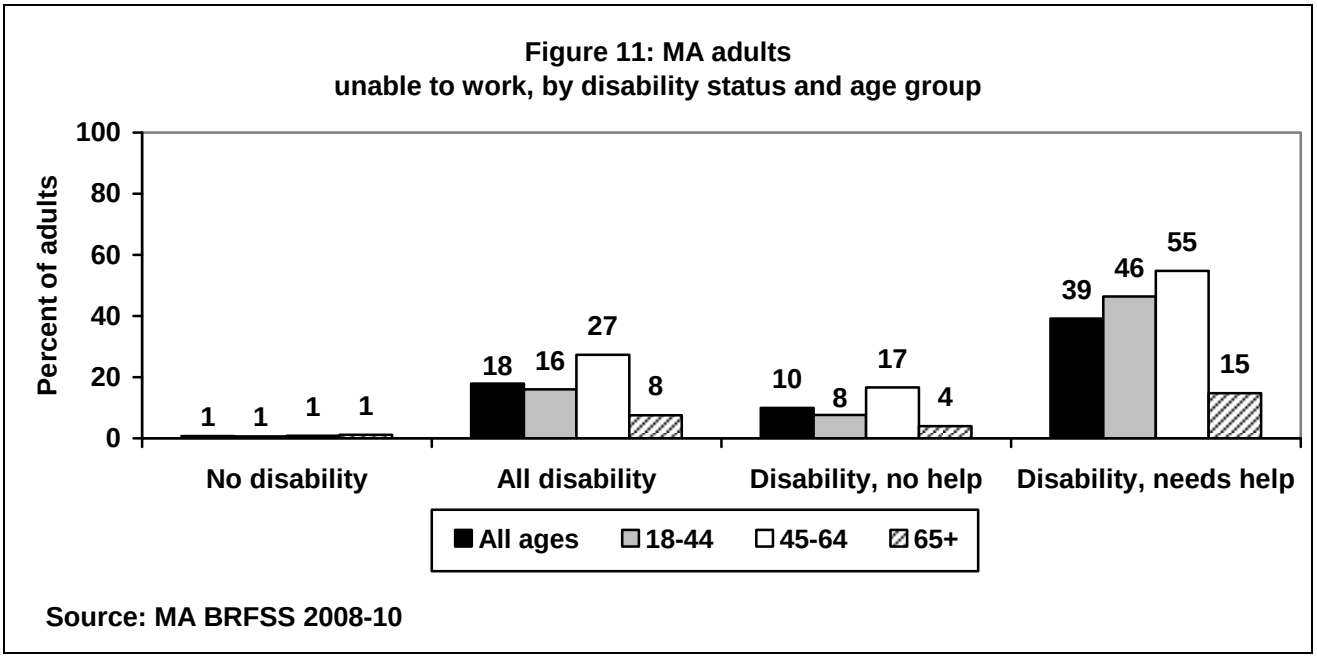


Source: MA BRFSS 2008-10

Socio-Economic Characteristics: Employment Status

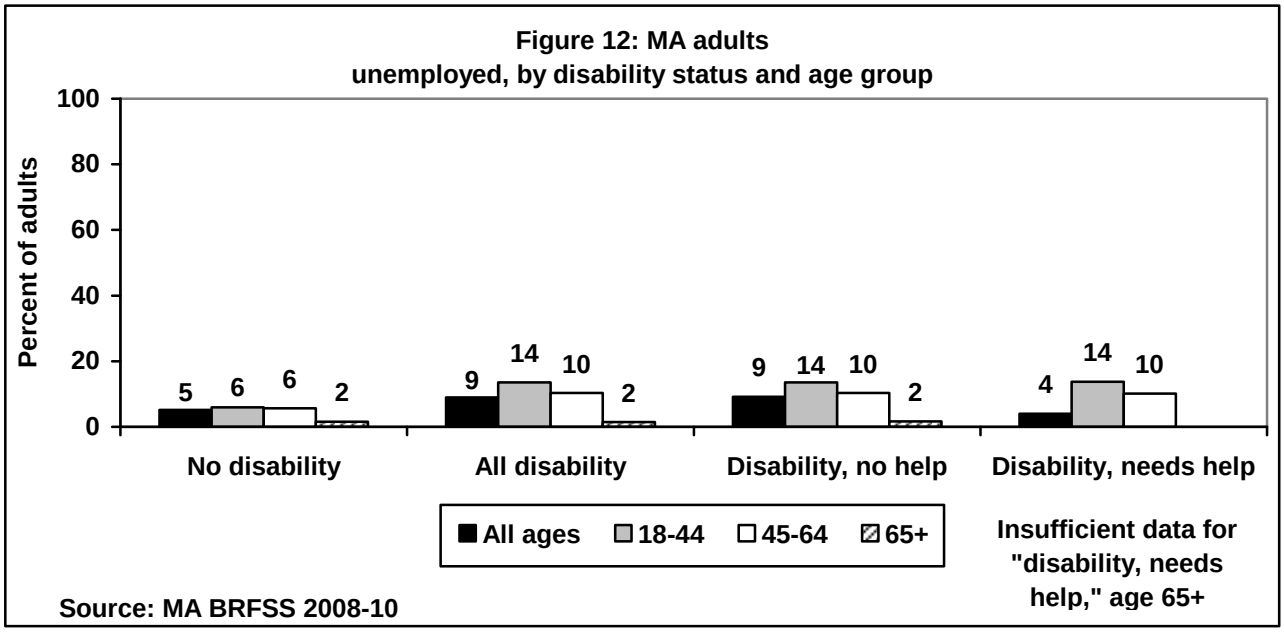
Adults Unable to Work

Adults with disabilities, particularly those who needed help, were more likely to be unable to work than adults without disabilities (Figure 11). Among adults with disabilities, the percentage who were unable to work was higher for adults age 45-64 compared to younger individuals.



Unemployed Adults

Figure 12 shows the percentage of unemployed adults by disability status and age. Unemployed status includes anyone currently out of work, except those who described themselves as unable to work. Among all age groups, persons with disabilities were more likely to be unemployed (9%), than those without disabilities (5%).

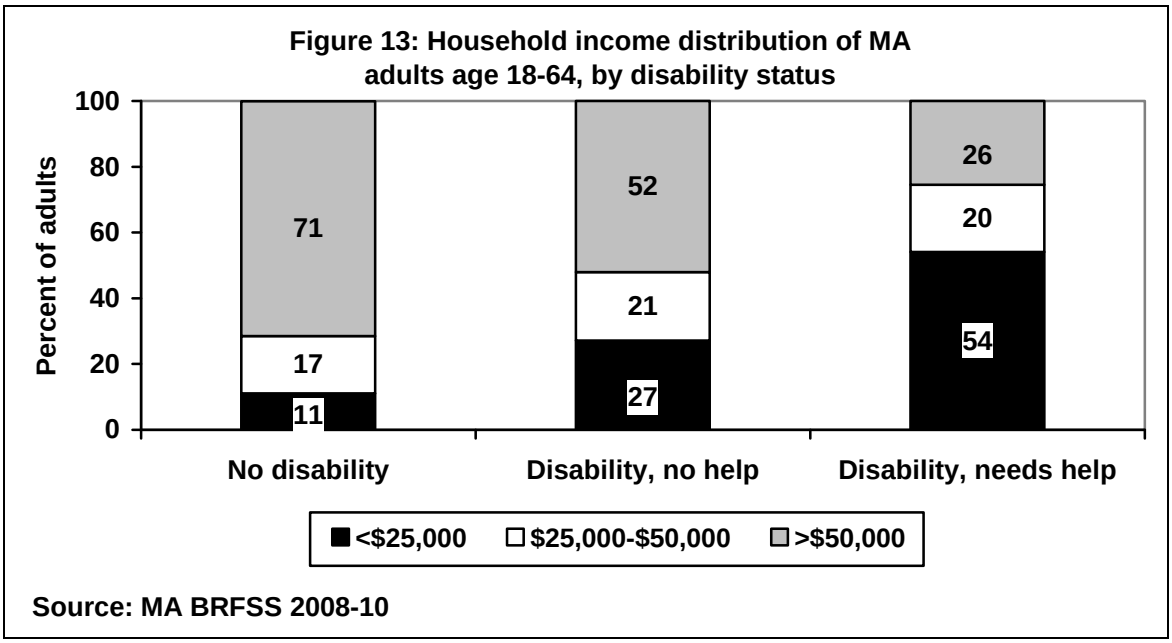


Socio-Economic Characteristics: Employment Status

Household Income Distribution among All Adults

Figure 13 shows the household income distribution among working-age adults by disability status. Adults with disabilities had lower annual household incomes than adults without disabilities. Approximately 15% of survey respondents did not provide data on income; this data should be interpreted with caution. Income was lowest for persons with disabilities who needed help with personal or routine care.

Only 26% of the adults with disabilities who needed help had incomes over $50,000 compared to 52% of those with disabilities who did not need assistance and 71% of persons without disabilities.



Socio-Economic Characteristics: Employment Status

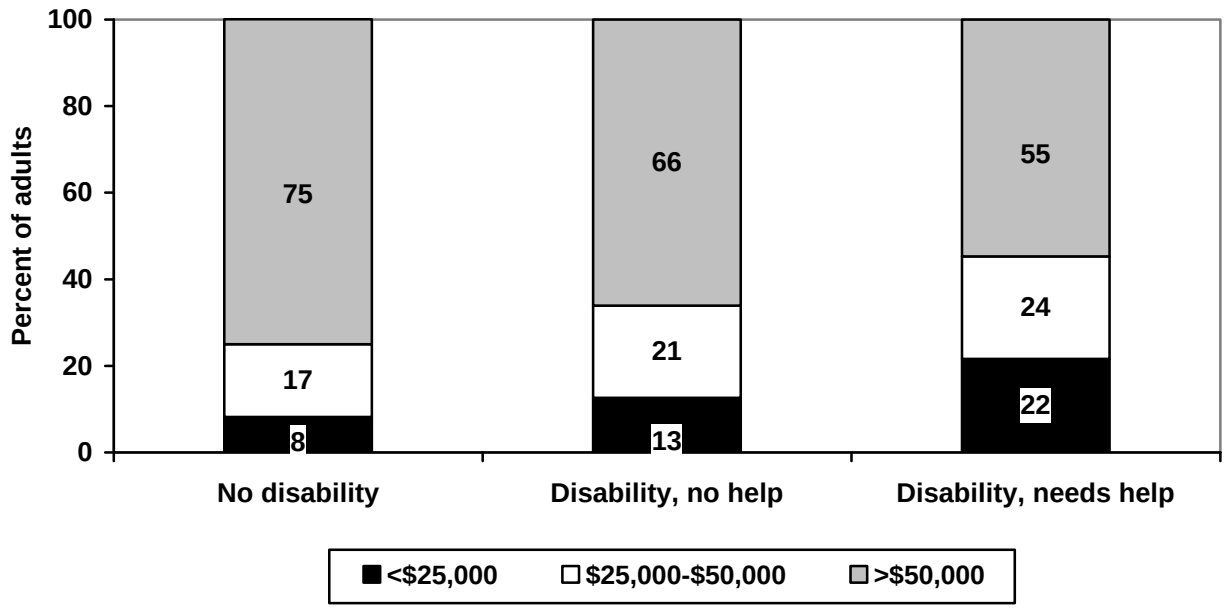
Household Income Distribution of Adults who were Employed

Employment status is a likely explanation for the disparity in income between individuals without disabilities and those with disabilities who did not need assistance. Among employed individuals ages 18 to 64 years, there was a smaller difference in income levels for these two groups (Figure 14).

However, employment status does not explain the lower income levels of individuals who had disabilities and needed assistance. Even among the employed, adults with disabilities who needed assistance had lower incomes compared to adults without disabilities and those with disabilities who did not need assistance.

Among employed adults (either full-time or part-time employment), 22% of individuals with disabilities who needed help had annual household incomes less than $25,000, compared to 13% of persons with disabilities who did not need assistance and 8% of persons without disabilities.

Figure 14: Household income distribution of employed adults ages 18-64, by disability status



Source: MA BRFSS 2008-10

Chapter 5: Health Care Access and Utilization

Health Care Access and Utilization: Health Insurance Status

Introduction

Health insurance affects access to health care. People who lack health insurance are more likely to be hospitalized for avoidable conditions and less likely to receive preventive care (Kaiser Commission on Medicaid and the Uninsured, 2011).

Health Insurance among Adults

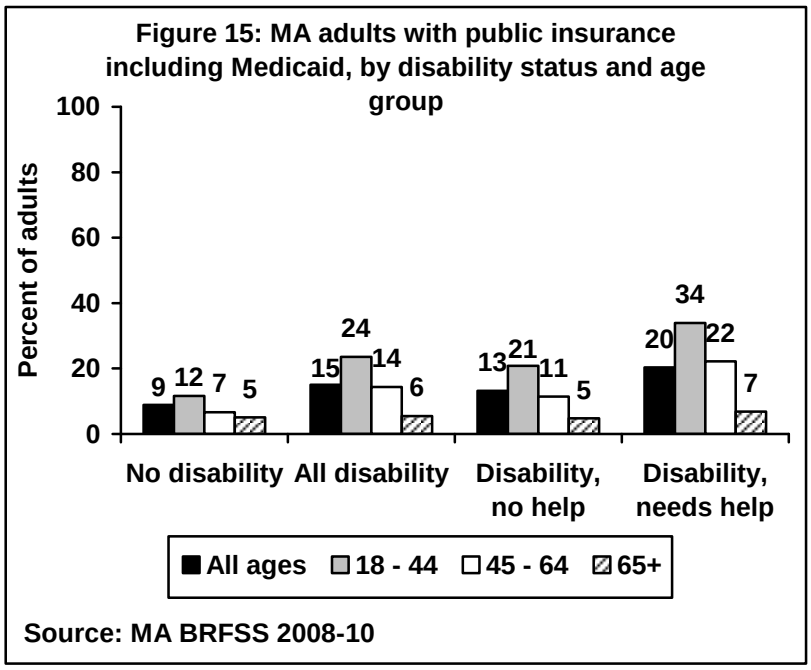
All BRFSS respondents were asked if they had any type of health care coverage at the time of the interview. Those who indicated that they had no coverage were asked a follow-up question to be certain that they had considered all types of health care coverage. This included health care coverage from their 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.

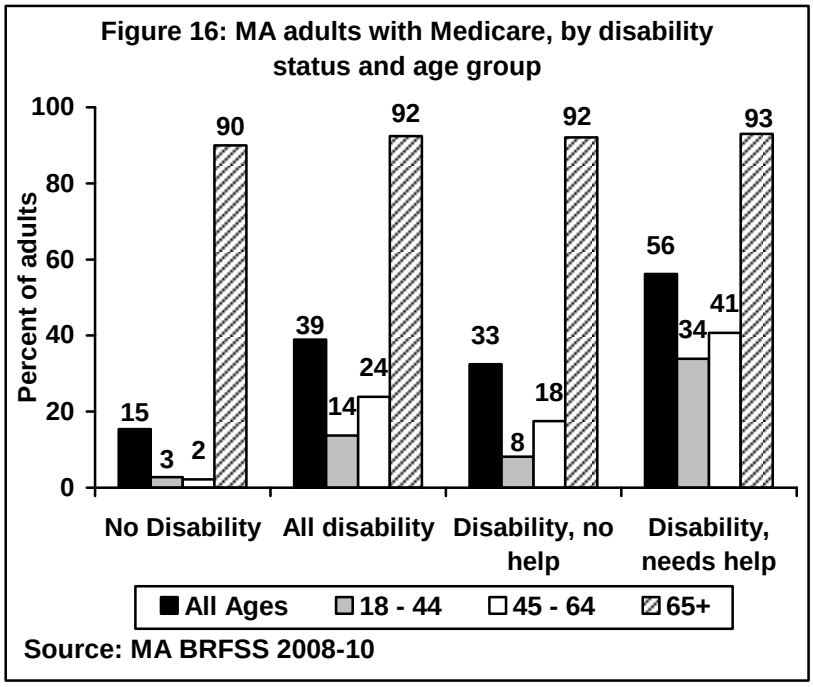
Public Insurance Including Medicaid

Adults with disabilities (15%) were more likely to be insured by public insurance including Medicaid, MassHealth, CommonHealth or MassHealth HMOs offered through Neighborhood Health Plan, Fallon Community Health Plan, BMC HealthNet or Network Health than adults with no disability (9%). Regardless of disability status, higher proportions of adults ages 18-44 years were insured by these plans compared with other age categories. This coverage was highest (34%) among persons with a disability ages 18-44 years who reported needing help with routine needs or personal care (See Figure 15).

Public Insurance: Medicare

More than 90% of adults ages 65 years and older had Medicare regardless of disability status. Among adults of all ages, adults with a disability (39%) were more than twice as likely to be insured by Medicare compared with adults with no disability (15%).

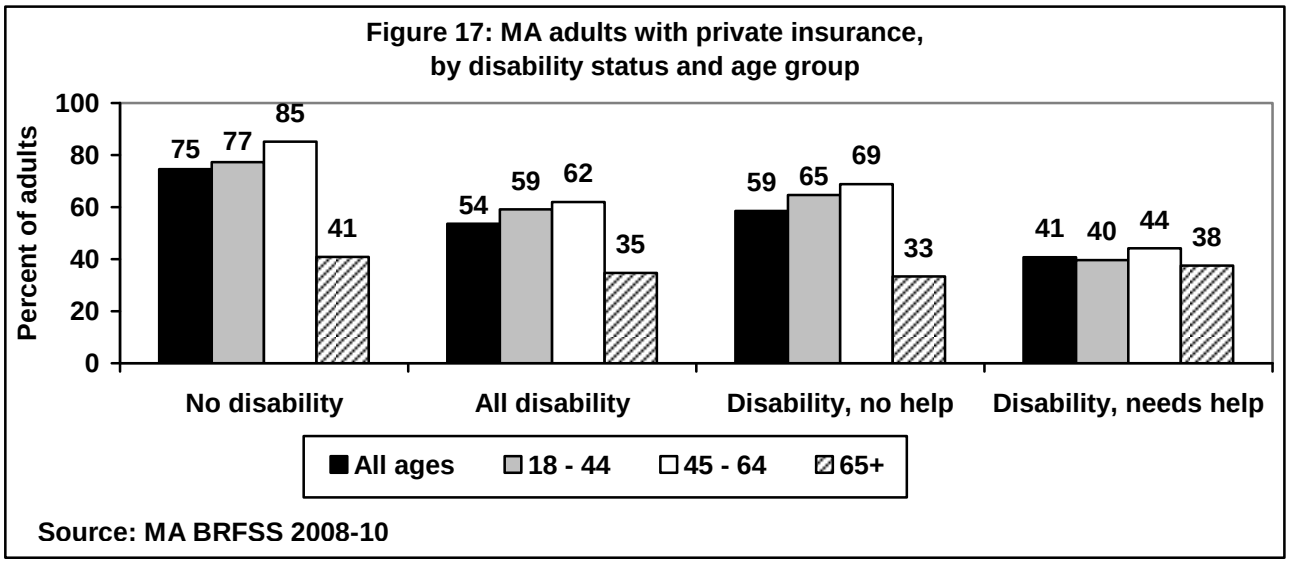




Health Care Access and Utilization: Health Insurance Status

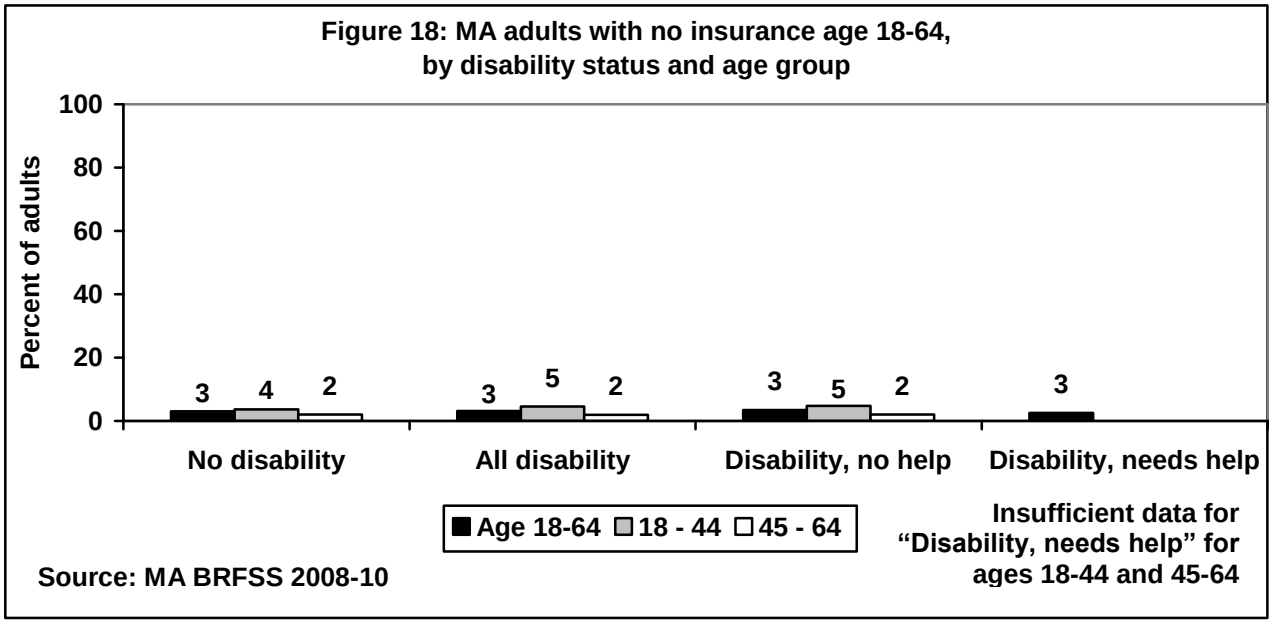
Private Insurance

Adults without a disability were more likely (75%) to have private insurance (including plans purchased by the respondent's employer, someone else's employer, or paid for by the respondent or someone else on his/her own) than adults with a disability (54%). Among individuals ages 45-64 years with no disability, 85% had private health insurance compared to only 62% of similarly aged adults with a disability. Among adults with a disability, 41% of those who reported needing help with routine needs or personal care had private insurance compared to 59% of those who did not need help.



No Health Insurance

Approximately 3% of adults age 18-64 with or without disability lacked any kind of health care coverage. Adults ages 18-44 years both with and without disabilities were more likely to be uninsured than persons age 45-64.

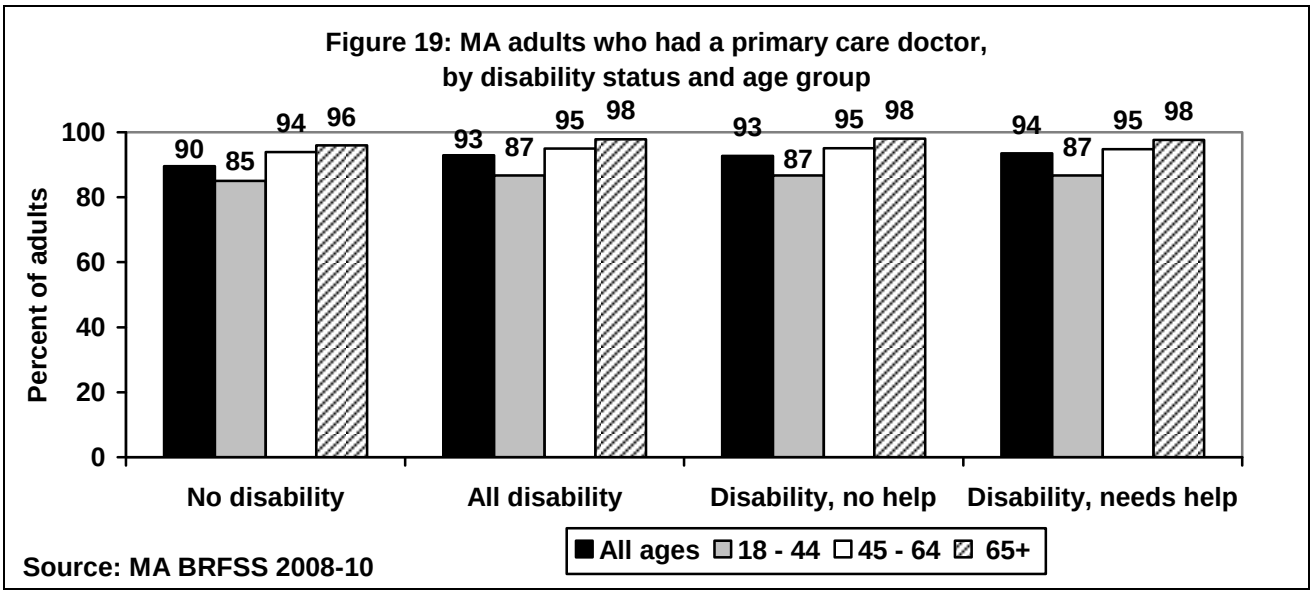


Health care access among adults

All MA BRFSS 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.

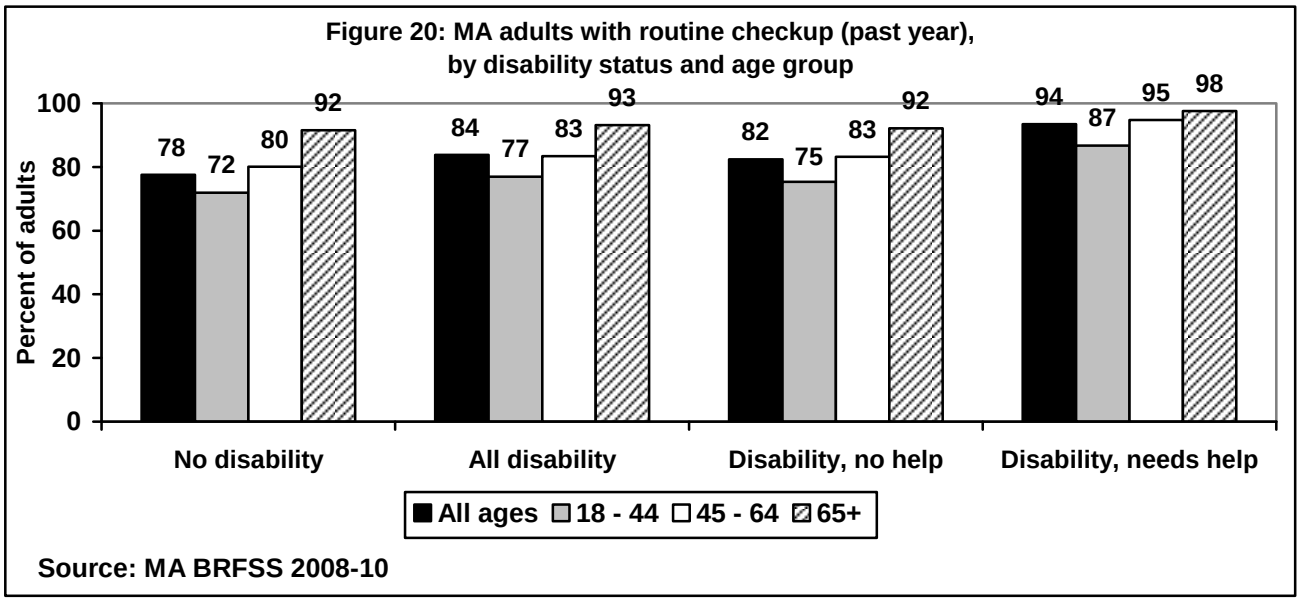
Have Personal Health Care Provider

Most adults had a primary care doctor regardless of disability status or age. Persons ages 18-44 years both with and without disabilities were least likely to report having a primary care doctor compared with other age groups, regardless of disability status.



Routine Checkup in Past Year

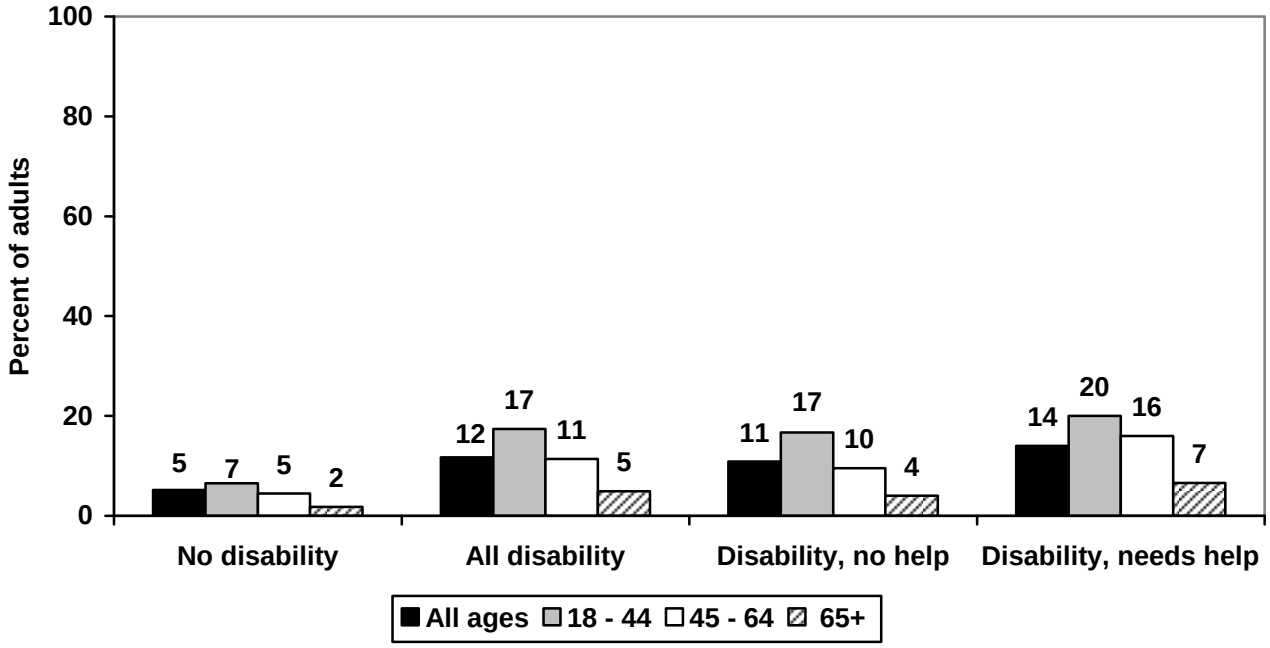
Over 90% of adults ages 65 years or older had a routine checkup in the past year. Approximately 84% of adults with a disability had a routine checkup in the past year compared to 78% of adults with no disability. Adults ages 18-44 years both with and without disabilities were least likely to have had a routine checkup in the past year.



Could Not See Doctor Due to Cost

Approximately 17% of adults with disabilities ages 18-44 years could not see a doctor due to the cost. The rate increased to 20% of adults in the same age group who had a disability and needed help. Only 5% of adults with no disability could not see a doctor due to cost compared to 12% of adults with a disability.

Figure 21: MA adults who were unable to see a doctor due to cost, by disability status and age group



Source: MA BRFSS 2008-10

Health Care Access and Utilization: Oral Health

Introduction

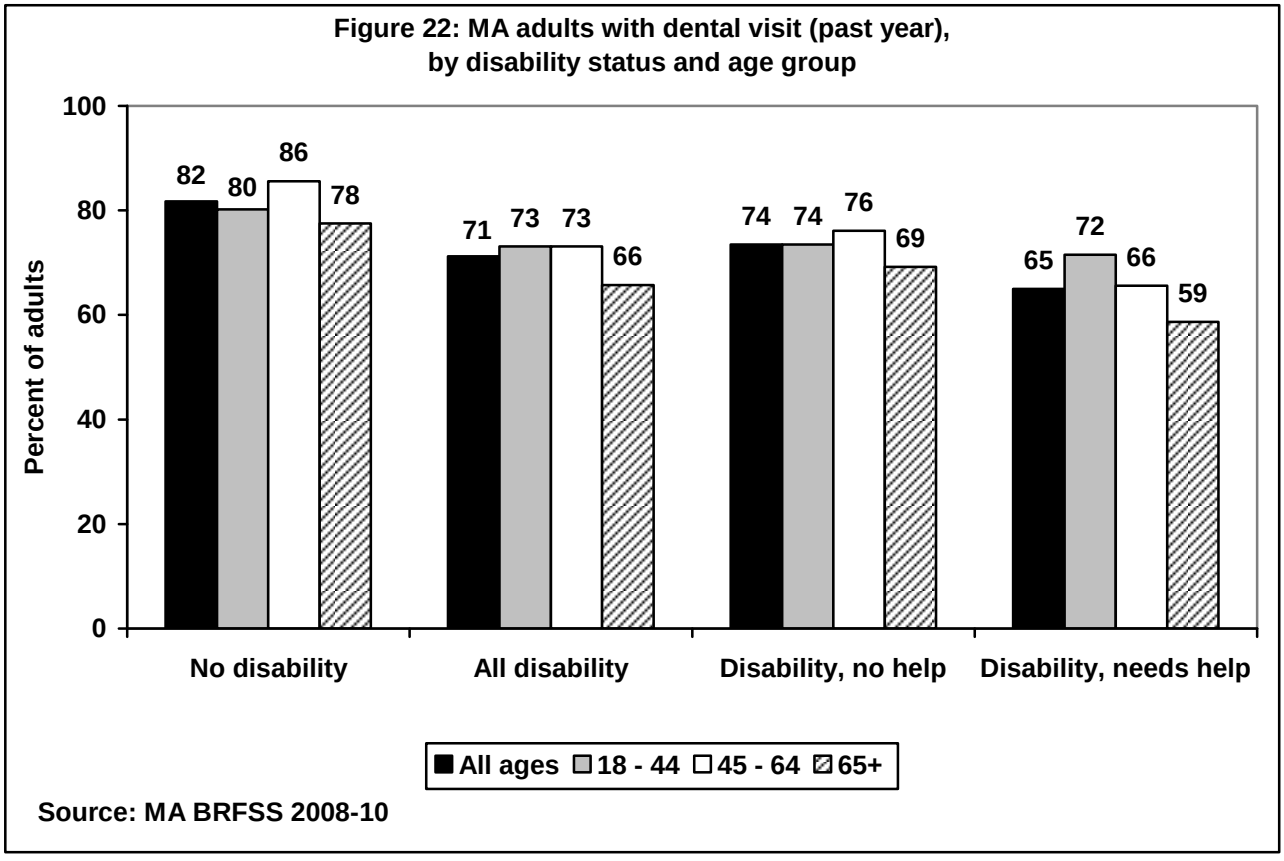
Oral health is an important component of one's general health and well being. Preventive dental services such as teeth cleaning and early diagnosis and treatment of tooth decay and periodontal diseases occur during regular visits to a dental provider.

Oral health among adults

All MA BRFSS respondents were asked how long it had been since they had last visited a dentist or a dental clinic. Presented here are the percentages reporting that they had been to a dentist or a dental clinic within the past year by disability status and age. 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

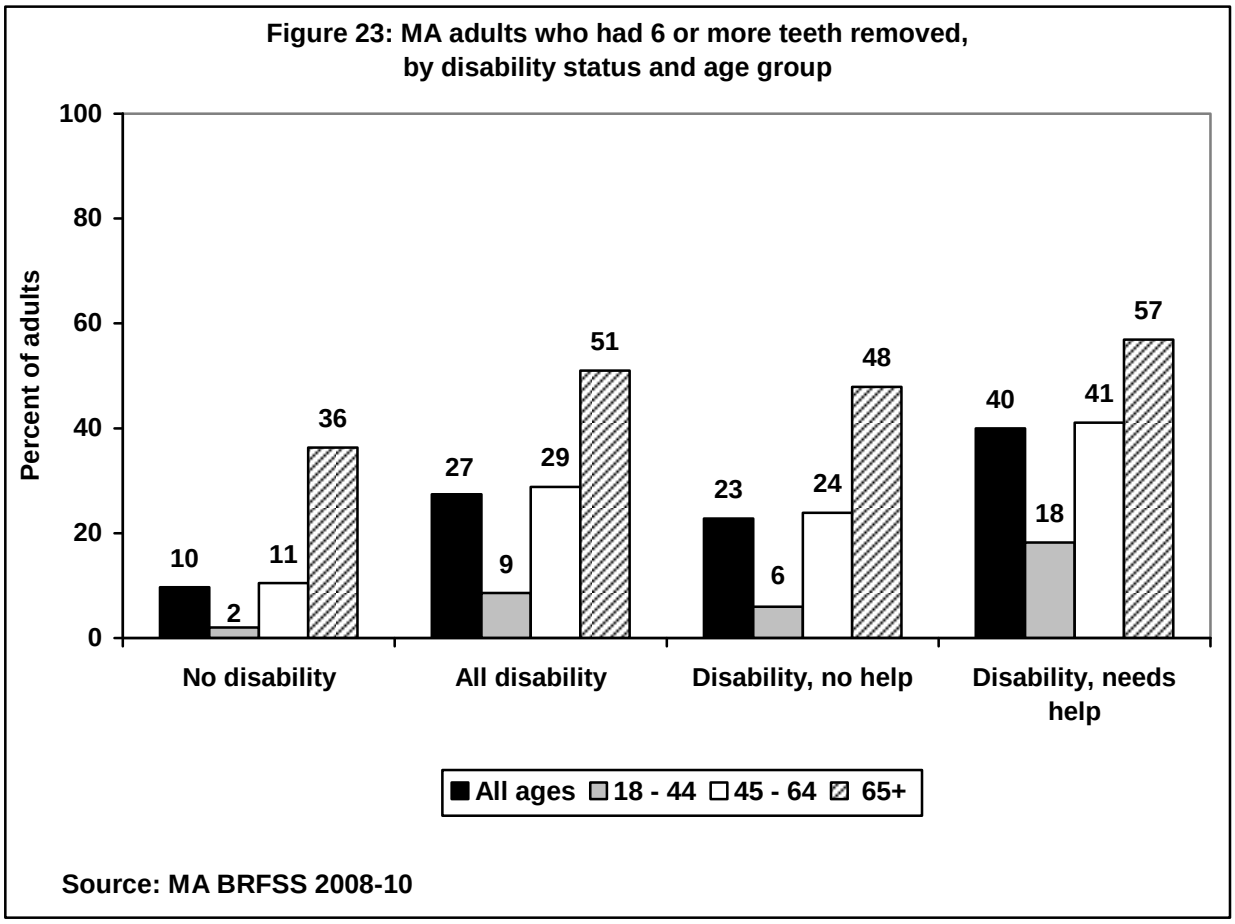
Approximately 82% of adults with no disability had a dental visit in the past year compared to 71% of adults with a disability. Adults with a disability who did not need help with routine and personal care (74%) were more likely to have had a dental visit in the past year than adults with a disability who needed help (65%).



Teeth Removed (6 or more) among adults

Just over one-quarter (27%) of adults with disabilities had six or more teeth removed because of tooth decay or gum disease compared to only 10% of adults with no disability. A higher proportion of adults ages 65 years and older with disabilities who reported needing help with routine needs or personal care had teeth removed (57%) compared to similarly aged persons with disabilities who did not report needing help (48%) and persons without disabilities (36%).

Figure 23: MA adults who had 6 or more teeth removed, by disability status and age group



Source: MA BRFSS 2008-10

Health Care Access and Utilization: Flu and Pneumonia Vaccine

Introduction

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. Rates of serious illness and death are highest among persons ages 65 years and older, children ages 2 years and under, and persons of any age who have medical conditions that place them at increased risk for complications from influenza (CDC, 2008).

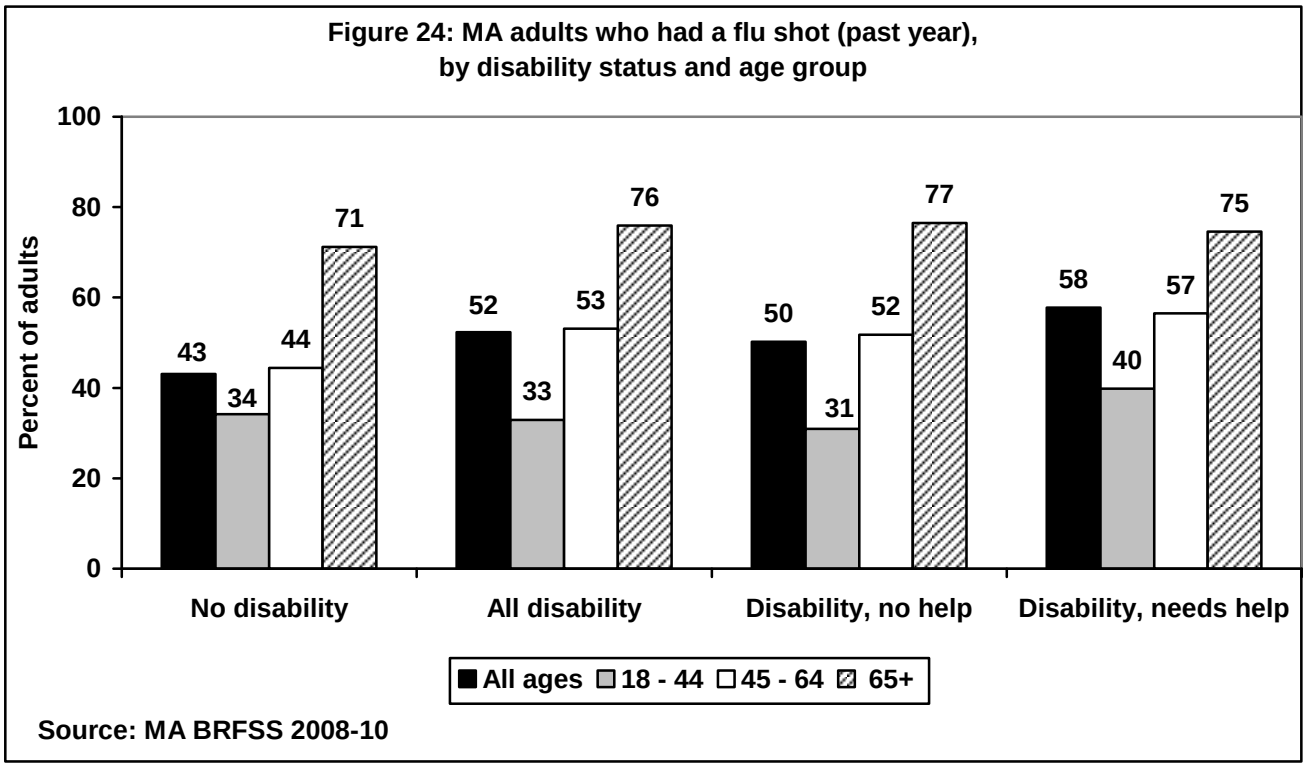
Streptococcus pneumoniae is a bacterial pathogen that can cause serious infections of the lungs, the blood, and the covering of the brain (meningitis). Persons ages 65 years and older, the very young, and persons with special health problems such as alcoholism, heart or lung disease, kidney failure, diabetes, HIV infection, or certain types of cancer are at greater risk for serious illness and even death (CDC, 1997).

All MA BRFSS 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 vaccination.

Flu Vaccine

The Advisory Committee on Immunization Practices recommends annual influenza vaccination for all persons aged ≥6 months in the United States (CDC, 2010).

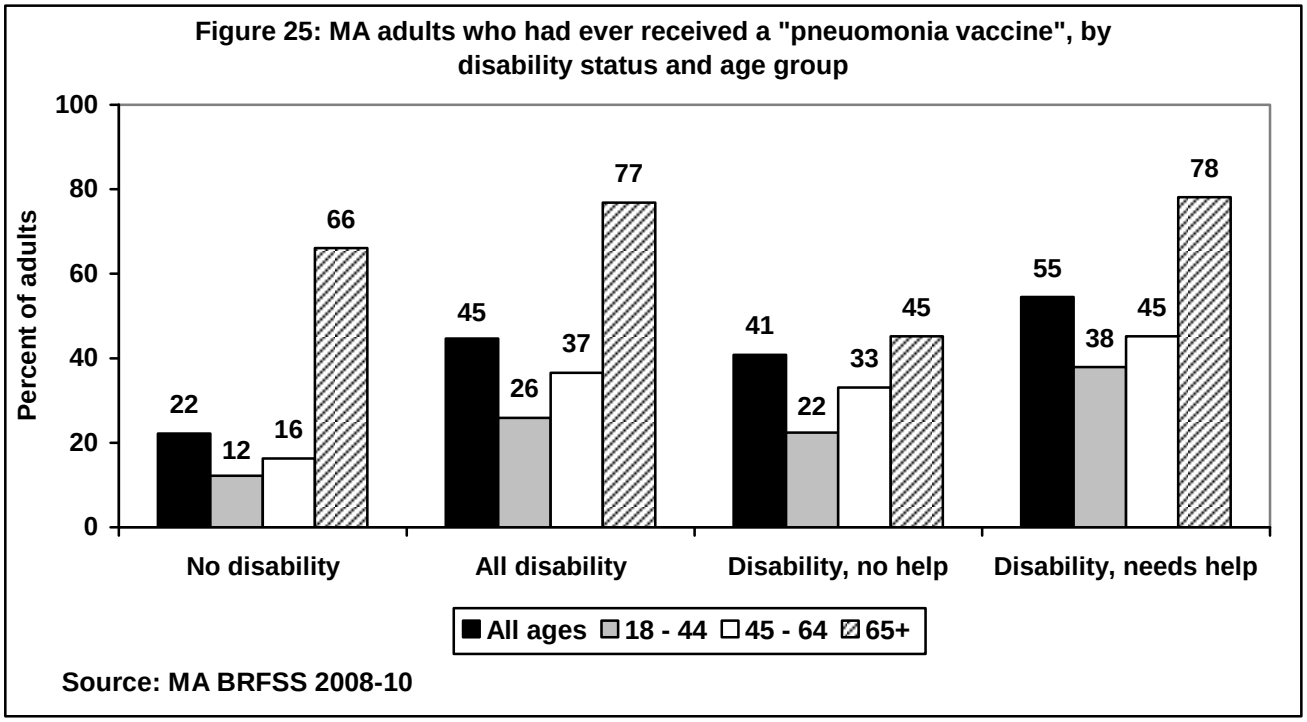
In Massachusetts, approximately three-quarters of adults ages 65 years and older had a flu shot in the past year, regardless of disability status. Slightly over half of adults who had a disability and needed help with routine needs or personal care received a flu shot. Adults ages 18 to 44 years were least likely to get a flu shot, regardless of disability status.



Health Care Access and Utilization: Flu and Pneumonia Vaccine

Pneumococcal Vaccine

Seventy-seven percent of Massachusetts adults ages 65 years and older with a disability had ever received a pneumococcal vaccine or "pneumonia vaccine". Only 22% of adults with no disability had received a pneumonia vaccine compared to 45% of adults with disabilities.



Health Care Access and Utilization: Breast Cancer Screening

Introduction

Cancer of the breast is the most commonly diagnosed cancer among women in the United States. In 2008, breast cancer was the second leading cause of cancer death among Massachusetts women. 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 one of the methods used to detect breast cancer early and before it is big enough to feel or to cause symptoms. Massachusetts Health Quality Partners (MHQP) recommends that women discuss the risks and benefits of biennial mammography with a health care provider beginning at age 40 and have a screening mammogram either at 40 (if decided upon between patient and provider) or at least every two years (or earlier or more frequently if at high risk) (Massachusetts Health Quality Partners, 2010).

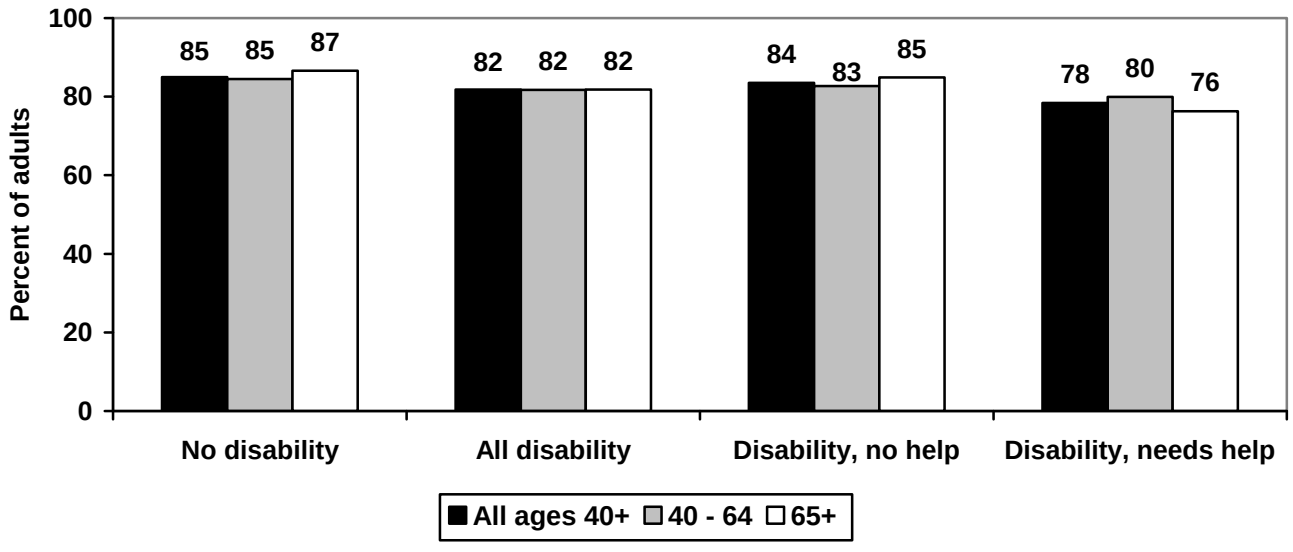
A clinical breast exam is an exam in which a doctor, nurse, or other health professional feels the breast for lumps. MHQP recommends clinical breast examinations for women starting at age 20 (Massachusetts Health Quality Partners, 2010).

Mammogram in the past two years, Women Ages 40 and Older

In Massachusetts, most women ages 40 years or older have had at least one mammogram, regardless of disability status. All MA BRFSS 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 percentage of women ages 40 years and older who had had a mammogram in the past two years is presented.

Women with disabilities were less likely to have had a mammogram within a two-year time frame (82%) compared with women without disabilities (85%).

Figure 26: MA women 40+ years who had a mammogram within two years, by disability status and age group



Source: MA BRFSS 2008-10

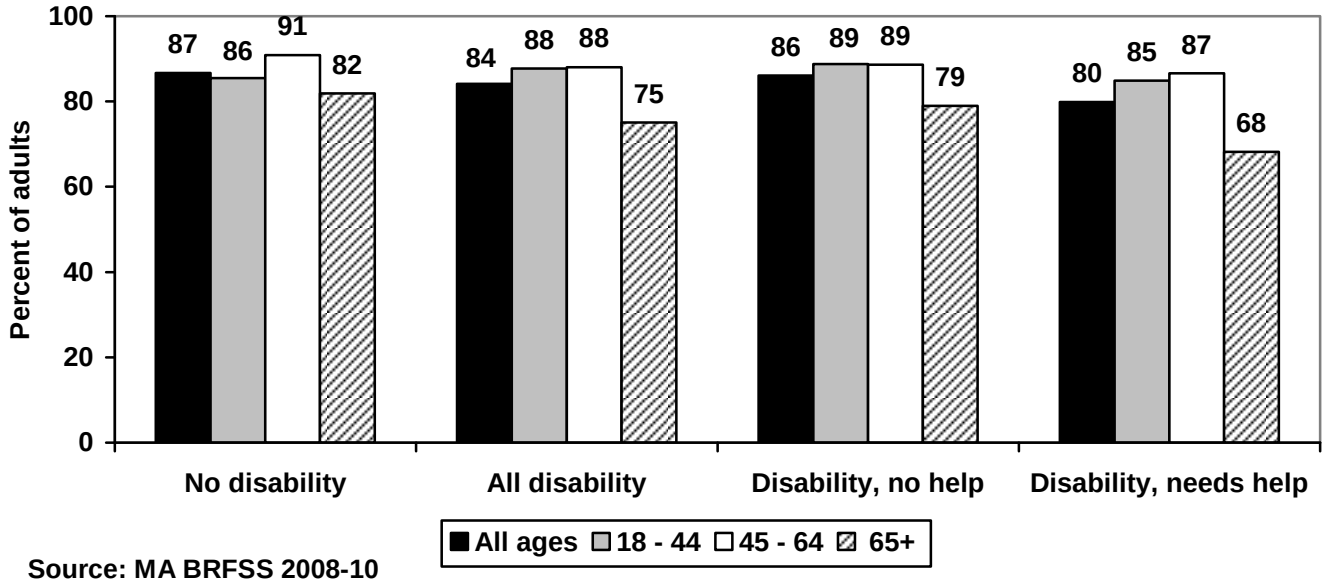
Health Care Access and Utilization: Breast Cancer Screening

Clinical Breast Exam in the Past Two Years

All MA BRFSS women 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.

Among women ages 18 years and older, 87% with no disability had had a clinical breast exam in the past two years, compared with 84% of women with a disability and 80% of women with a disability who reported needing help with routine needs or personal care.

Figure 27: MA women 18+ who had clinical breast exam (past 2 years), by disability status and age group



Source: MA BRFSS 2008-10

Health Care Access and Utilization: Cervical Cancer Screening

Introduction

Cervical cancer can be detected and treated early if women are screened regularly with a Pap smear, also referred to as a Pap test. Cervical cancer most commonly occurs in women age 35 to 55, but screening is extremely important among women of younger ages: "studies of cervical cancer trends in countries in North America and Europe demonstrate dramatic reductions in incidence of invasive cervical cancer and a 20% to 60% reduction in cervical cancer mortality since the onset of widespread screening" (U.S. Preventive Services Task Force, 2012).

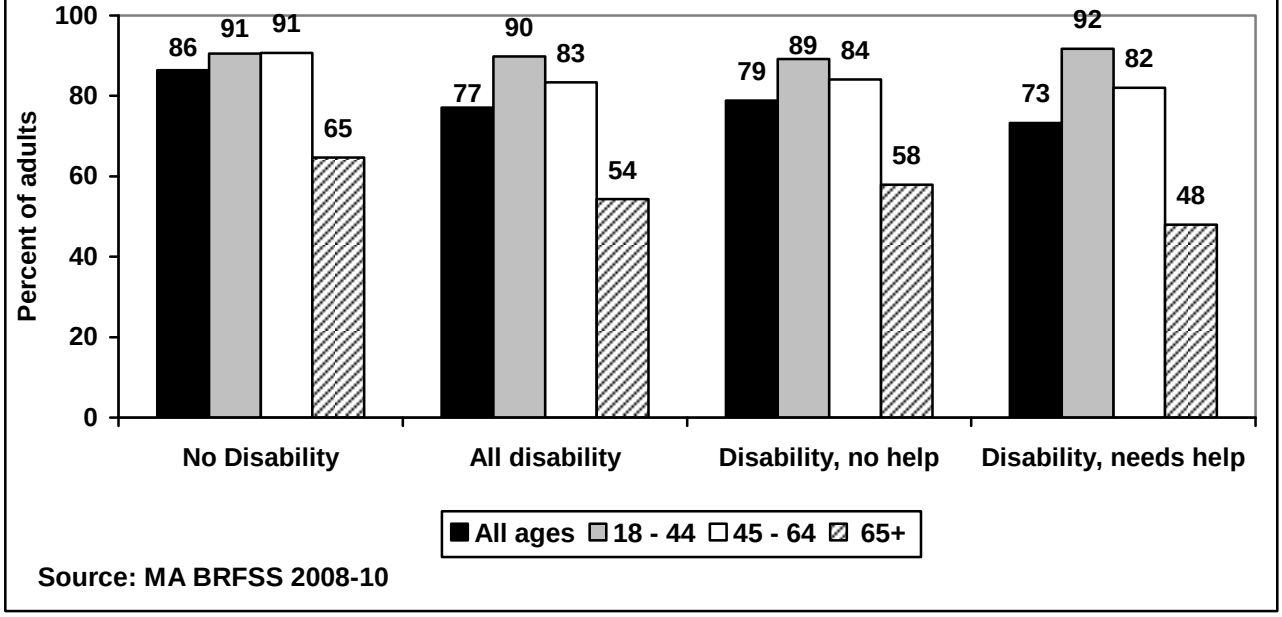
All MA BRFSS women respondents were asked if they had ever had a Pap test. Those who reported that they had had a Pap test were then asked how long it had been since their last test. The percentage of women who reported having had a Pap test in the past 3 years is presented.

Pap Smear Test in Past 3 Years

MHQP recommends the initiation of cervical cancer screening with Pap testing and pelvic exams by age 21 years or earlier at physician/patient discretion (Massachusetts Health Quality Partners, 2010). For women aged 30 years or older, Pap tests are recommended every 1-3 years, based on risk factors.

In Massachusetts, approximately 86% of women with no disability had a Pap test in the past three years, compared with only 77% of women with a disability and 73% of women with a disability who reported needing help with routine needs or personal care.

Figure 28: MA women who had a Pap test (past 3 years), by disability status and age group



Source: MA BRFSS 2008-10

Health Care Access and Utilization: Prostate Cancer Screening

Introduction
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 (U.S. Cancer Statistics Working Group, 2009).

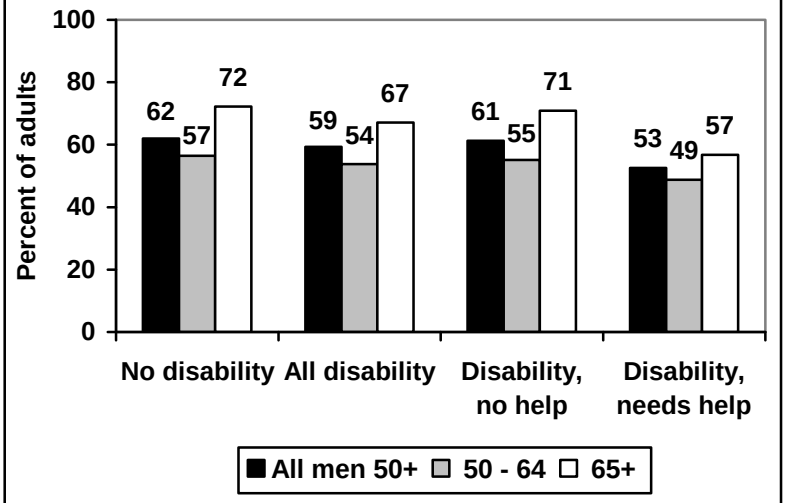
All MA BRFSS male respondents ages 50 years and older were asked if they ever had had a prostate-specific antigen (PSA) test, a blood test used to indicate an increased risk of prostate cancer. The percentages of individuals who reported that they had had a PSA test in the past year are presented.

Men ages 50 years and older were also 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 individuals who reported that they had had a DRE in the past year is also presented.

Prostate Specific Antigen (PSA) Test in the Past Year
MHQP recommends that PSA screening be conducted for prostate cancer at the discretion of the physician and patient (Massachusetts Health Quality Partners, 2010).

In Massachusetts, 62% of men age 50 years or older with no disabilities had a prostate specific antigen (PSA) test in the past year, while 59% of men with a disability had the test (See Figure 29).

Figure 29: MA men 50+ who had PSA test (past year), by disability status and age group

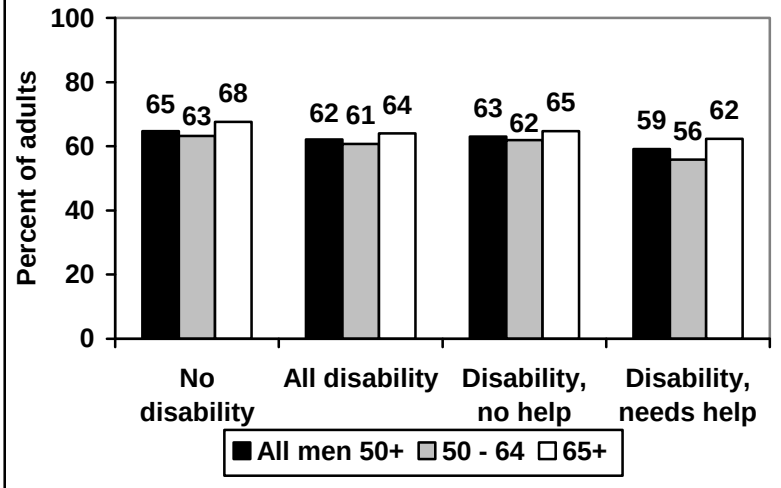


Source: MA BRFSS 2008-10

Digital Rectal Exam in the Past Year
MHQP recommends prostate cancer screening with digital rectal exams for high-risk males beginning at age 50 years (Massachusetts Health Quality Partners, 2010).

In Massachusetts, approximately 65% of men ages 50 years or older with no disability had a digital rectal exam in the past year compared to 62% of men with a disability.

Figure 30: MA males 50+ who had a digital rectal exam (past year), by disability status and age group



Source: MA BRFSS 2008-10

Health Care Access and Utilization: Prostate Cancer Screening

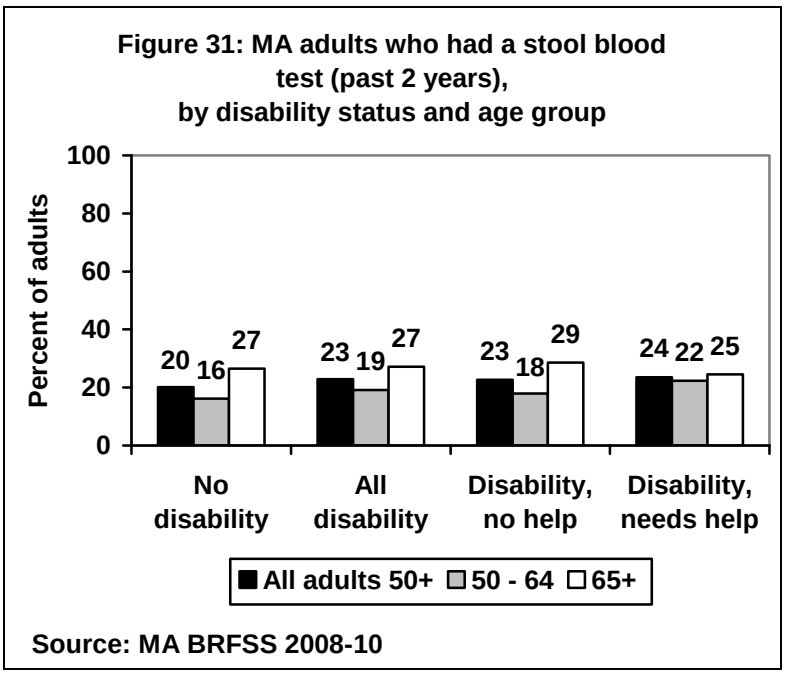
Introduction

Colorectal cancer is one of the most commonly diagnosed cancers and the third leading cause of cancer death in both men and women in the US (American Cancer Society, 2008).

Risk factors for colorectal cancer include increasing age, family history, poor diet, inadequate physical activity, obesity, and alcohol and tobacco use. Screening tests for colorectal cancer include fecal occult blood tests (stool blood test), sigmoidoscopy, and colonoscopy.

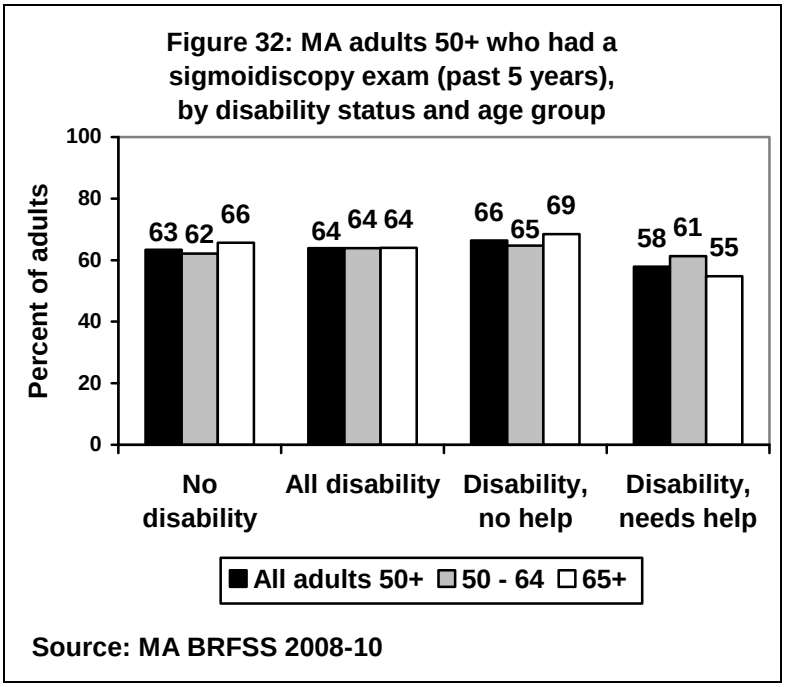
Stool Blood Test in past two years (adults, 50 years and older)

More adults with a disability had a stool blood test in the past two years (23%), compared to 20% of adults who did not report a disability.



Sigmoidoscopy or colonoscopy exam in past 5 years (adults, 50 years and older)

A lower percentage of adults with a disability who reported needing help reported having had a sigmoidoscopy or colonoscopy exam in the past 5 years (58%) as adults with no disability (63%).



Chapter 6: Risk Factors and Preventive Behaviors

Risk Factors and Preventive Behaviors: Smoking

Introduction

Tobacco use is the leading preventable cause of death in the US. Smoking cigarettes is a habit often acquired during the teenage years (Monitoring the Future, 2012).

The MA YHS assessed risk behaviors, including tobacco use, among MA middle and high school students. Current smoking was defined as having smoked on one or more of the 30 days preceding the survey. Lifetime smoking was defined as having ever tried smoking cigarettes, even one or two puffs.

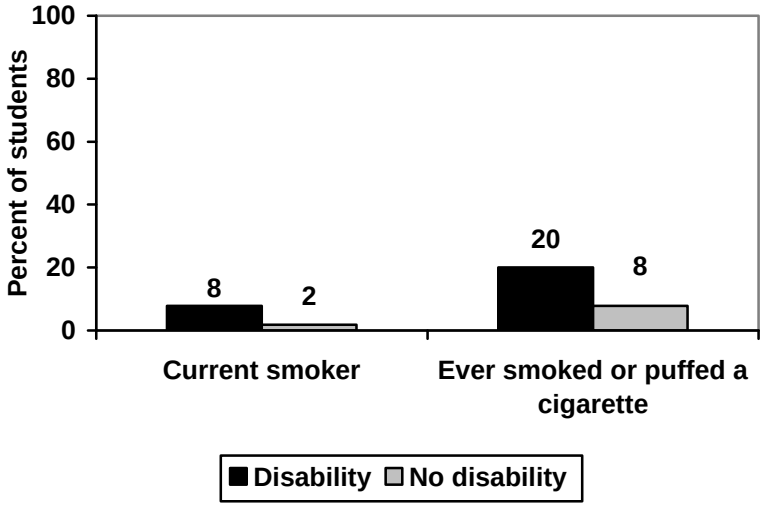
Middle School Students

In 2011, 8% of middle school students with disabilities were current smokers compared to 2% of their non-disabled counterparts. Middle school students with disabilities were more than twice as likely to have ever smoked or puffed a cigarette in their lifetime (20% vs. 8%).

High School Students

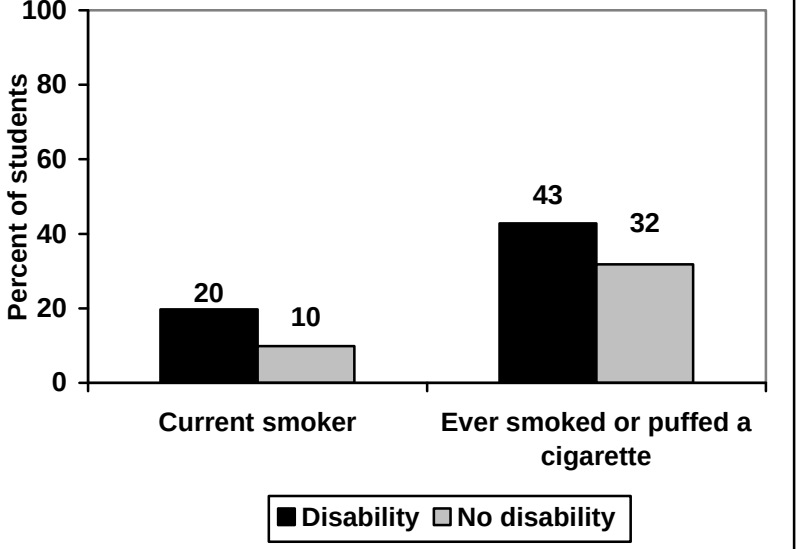
Similarly, high school students with disabilities were more likely to be current and lifetime smokers than students without disabilities. Among high school students, 20% of those with disabilities were current smokers compared to 10% of those without disabilities, and 43% of those with disabilities had smoked at least once in their lifetime compared to 32% of those without disabilities. High school students were more likely to report current and lifetime smoking than middle school students, irrespective of disability status.

Figure 33: Smoking among MA middle school students by disability status



Source: MA YHS 2011

Figure 34: Smoking among MA high school students by disability status



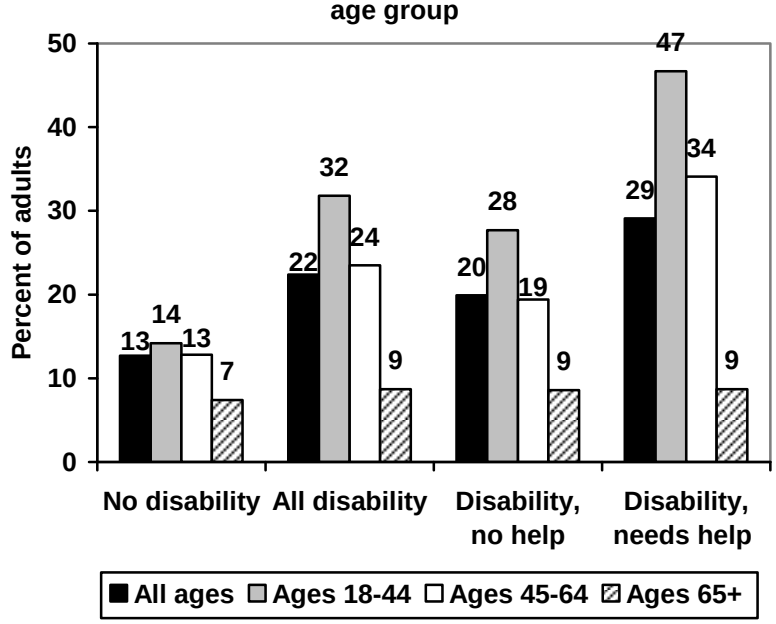
Source: MA YHS 2011

Adults: Current Smoking

In the MA BRFSS, a current smoker was defined as an adult who had smoked at least 100 cigarettes in their lifetime and who smoked either some days or every day in the four weeks before survey administration.

Adults with disabilities were more likely to smoke in the past four weeks (22%) than those without disabilities (13%). As age increased, smoking rates decreased among those with and without disabilities. Almost half of adults ages 18 to 44 years with disabilities who needed help with routine or personal care reported smoking in the past four weeks.

Figure 35: MA adults who were current smokers, by disability status and age group

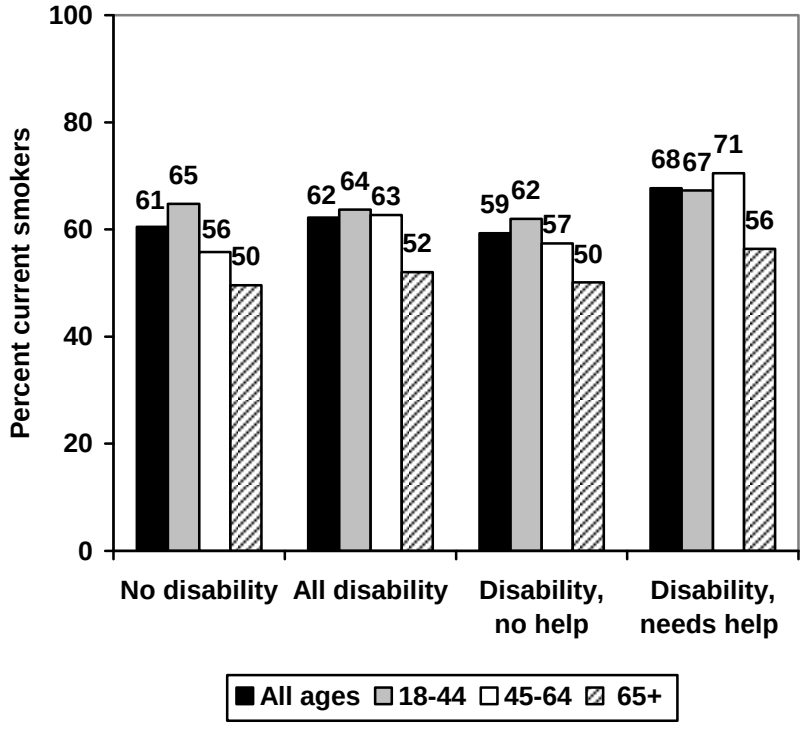


Source: MA BRFSS 2008-10

Adults: Quit Attempts

MA BRFSS 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. Sixty-eight percent of smokers with disabilities who reported needing help with routine and personal care and 59% of smokers with disabilities who did not need help made at least one quit attempt in the past year, compared to 61% of smokers without disabilities. Smokers with disabilities ages 65 years and older who needed help were slightly more likely to make a quit attempt in the past year (56%) compared to smokers with and without disabilities in other age groups.

Figure 36: MA adults who made quit attempts in the past year, by disability status and age group



Source: MA BRFSS 2008-10

Risk Factors and Preventive Behaviors: Alcohol Use

Introduction

Excessive alcohol consumption is the third preventable cause of death in the United States. 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 also cause unintentional injuries, motor vehicle accidents, and alcohol poisonings, and contributes to violence and suicides (U.S. Department of Health and Human Services, 2007).

Alcohol use among students

In the MA YHS current alcohol use was defined as having had at least one drink of alcohol in the past 30 days and lifetime alcohol use as having ever had one drink of alcohol.

Middle School Students

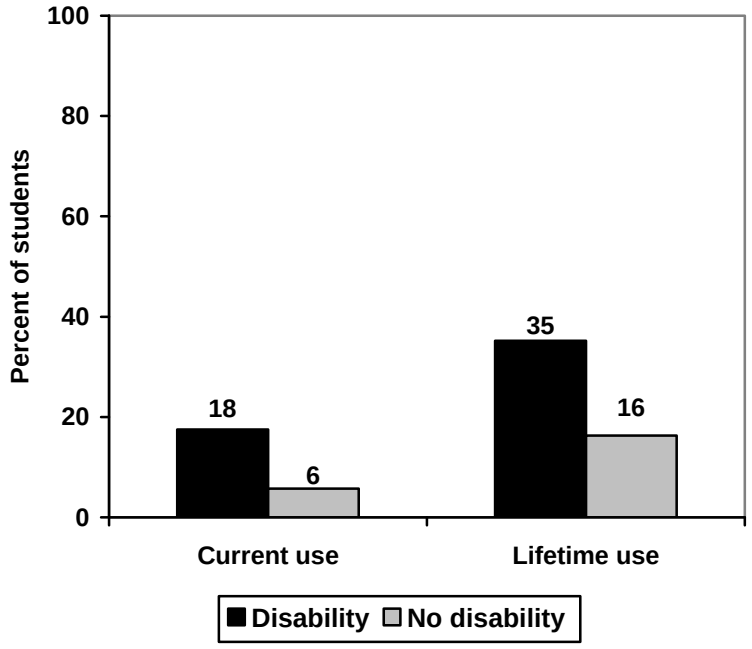
Middle school students with disabilities were more likely to report lifetime and current alcohol use compared to their counterparts without disabilities. Among middle school students, 35% of those with disabilities reported lifetime alcohol use in contrast to 16% of those without disabilities.

Middle school youth with disabilities were approximately three times as likely (18%) to report drinking alcohol in the past 30 days compared to non-disabled youth (6%).

High School Students

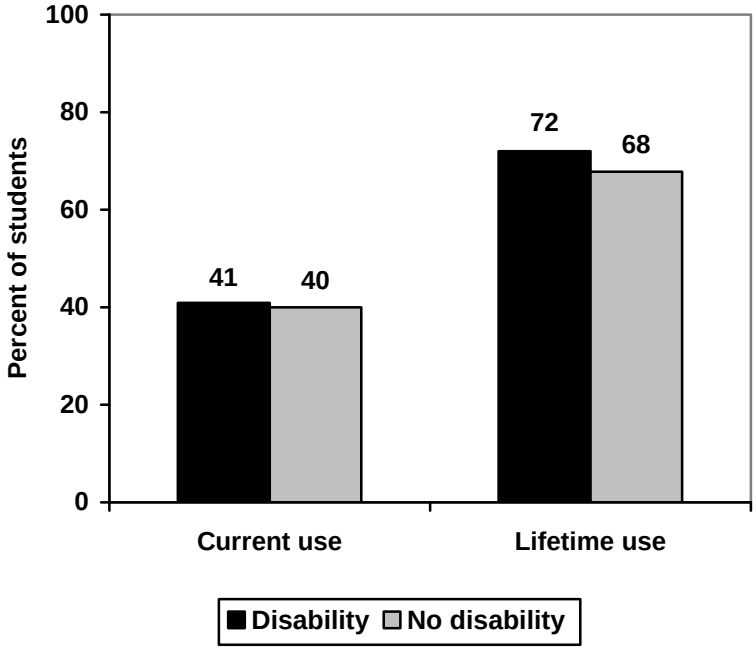
Among high school students, 72% of those with disabilities reported lifetime alcohol use and 41% reported current use which was not significantly different from those without disabilities: 68% reporting lifetime use and 40% reporting use in the past four weeks.

Figure 37: Alcohol use among MA middle school students by disability status



Source: MA YHS 2011

Figure 38: Alcohol use among MA high school students by disability status



Source: MA YHS 2011

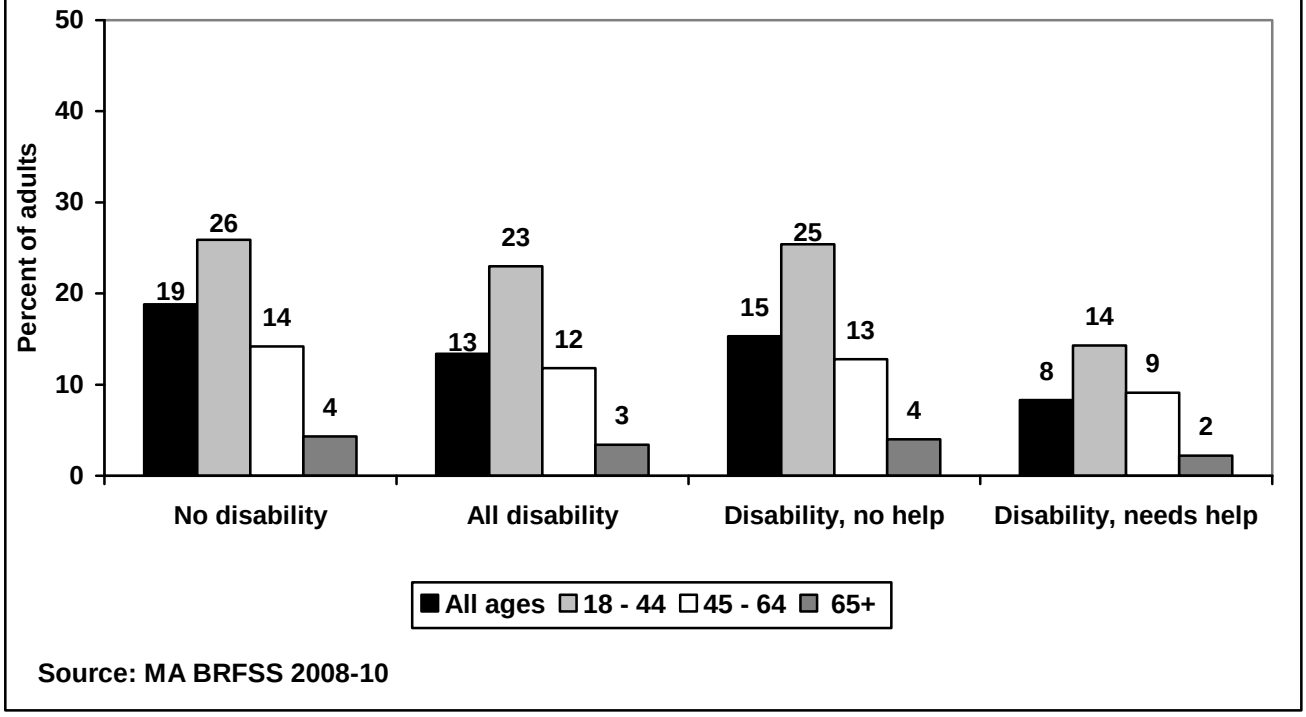
Risk Factors and Preventive Behaviors: Alcohol Use

Adults

All MA BRFSS 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 for men and four or more for women. Presented here is the percentage of adults who reported binge drinking.

Adults with disabilities were less likely (13%) to binge drink compared to those who did not report a disability (19%). Adults with disabilities age 18-44 (23%) and adults without disabilities age 18-44 (26%) were more likely to report binge drinking than adults with disabilities age 45-64 (12%) and without disabilities age 45-64 (14%), respectively.

Figure 39: MA adults binge drinking (5 or more drinks), by disability status and age group



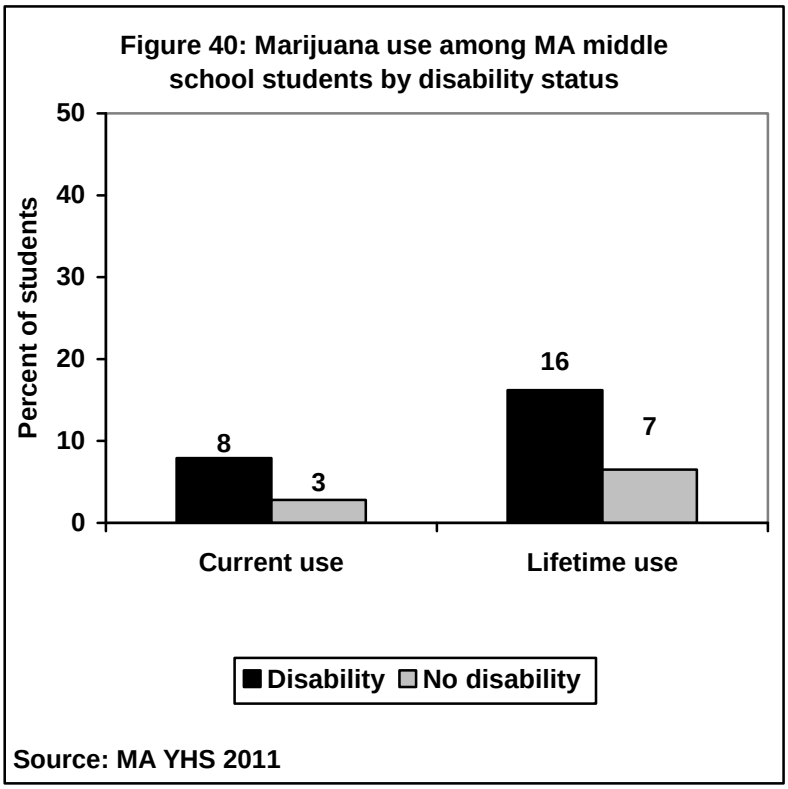
Source: MA BRFSS 2008-10

Middle School Students

Middle school students with disabilities were more likely to report lifetime and current marijuana use compared to their counterparts without disabilities.

Middle school youth with disabilities (8%) were over twice as likely to report using marijuana in the past 30 days compared to non-disabled youth (3%).

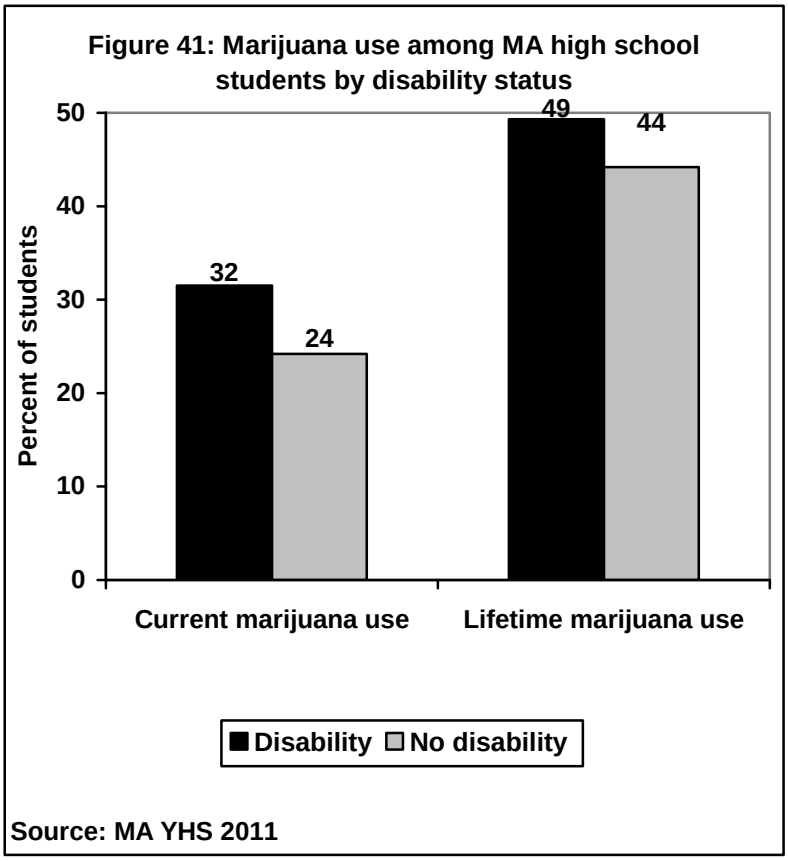
Among middle school students, 16% of those with disabilities reported lifetime marijuana use in contrast to 7% of those without disabilities.



High School Students

Among high school youth, 32% of those with disabilities reported current marijuana use, which was not significantly different from 24% of those without disabilities.

Almost half of students with disabilities (49%) reported using marijuana at least once in their lifetime compared to 44% of students without disabilities.



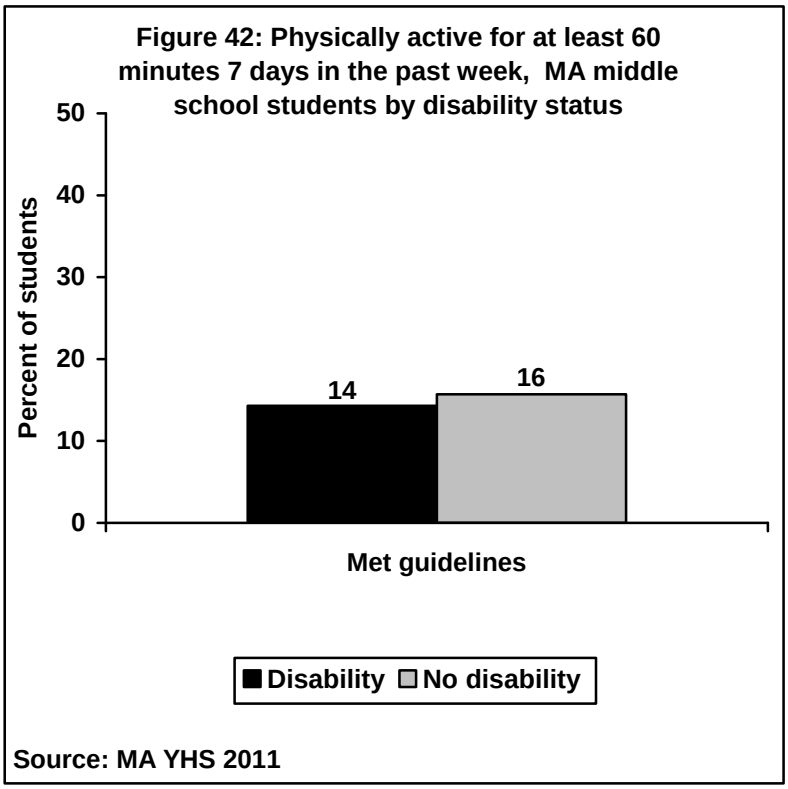
Risk Factors and Preventive Behaviors: Physical Activity

Introduction

Regular physical activity reduces a person's risk for many chronic diseases such as coronary heart disease, stroke, diabetes, and depression. The 2008 Physical Activity Guidelines for Americans recommend "60 minutes or more of physical activity each day" for children (US Dept of Health and Human Services, 2008).

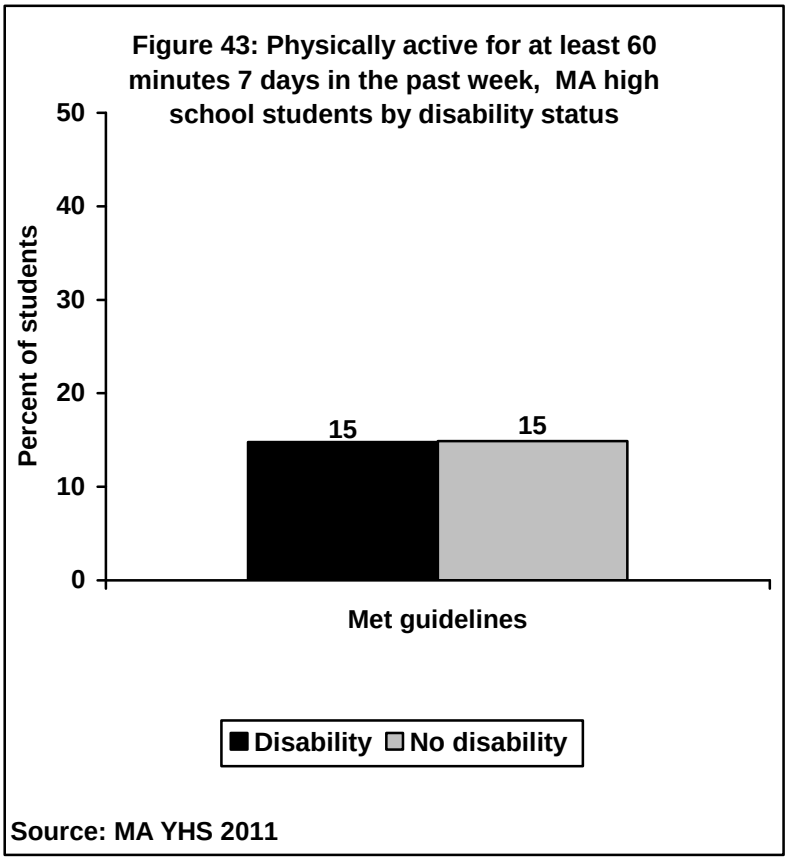
Middle School Students

There was no significant difference between students with disabilities and without disabilities in meeting the guidelines for physical activity.



High School Students

There was no significant difference between students with disabilities and without disabilities in meeting the guidelines for physical activity.



Risk Factors and Preventive Behaviors: Physical Activity

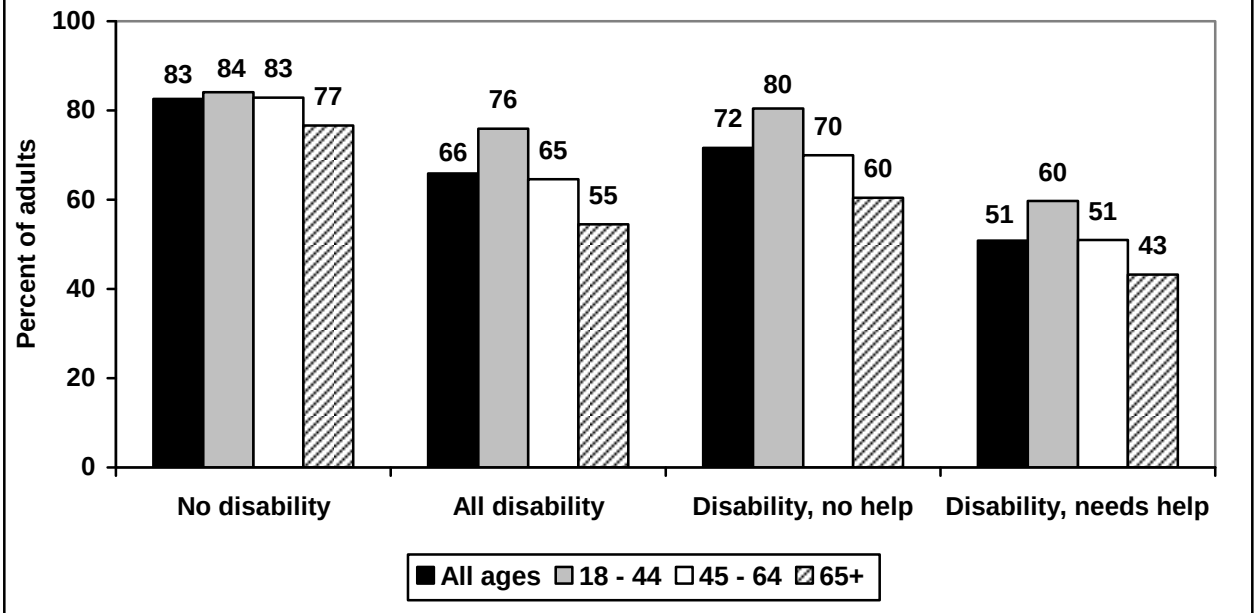
Adults

In the MA BRFSS, all respondents were asked if they had participated in any physical activity, other than during their regular job, in the past month.

Adults with disabilities (66%) were less likely to report any leisure time physical activity than adults without a disability (83%). Adults with disabilities who needed assistance (51%) were less likely to report any leisure time physical activity compared to those with disabilities who did not need assistance (72%) and those without disabilities (83%).

Older adults (ages 65 and older) with disabilities who needed assistance were the least likely (43%) to engage in any physical activity in the past month compared with all other age and disability groups except those age 45-64 with disabilities who needed assistance (51%).

Figure 44: MA adults who did any leisure time physical activity in the past month, by disability status and age group



Source: MA BRFSS 2008-10

Risk Factors and Preventive Behaviors: Overweight and Obesity Status

Introduction

Body Mass Index (BMI) was used to categorize students into those who were overweight. BMI which equals weight in kilograms divided by height in meters squared was calculated on the basis of self-reported height and weight.

The BMI thresholds are age- and gender- specific. Youth with a BMI greater than or equal to 85th percentile, by age and sex, based on reference data were considered "overweight." Youth with a BMI greater than or equal to 95th percentile by age and sex based on reference data were considered "obese."

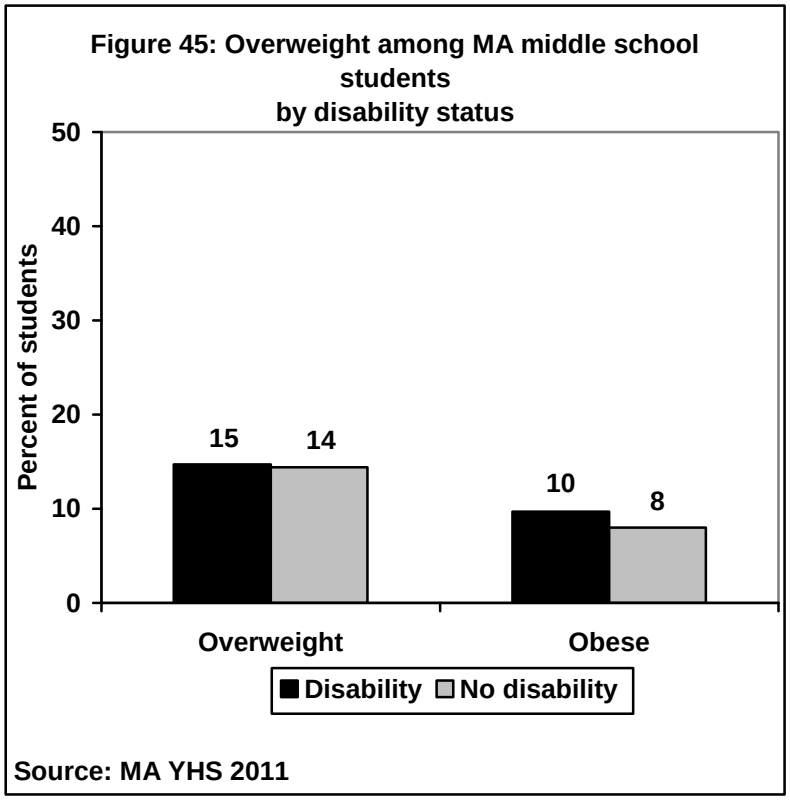
Middle School Students

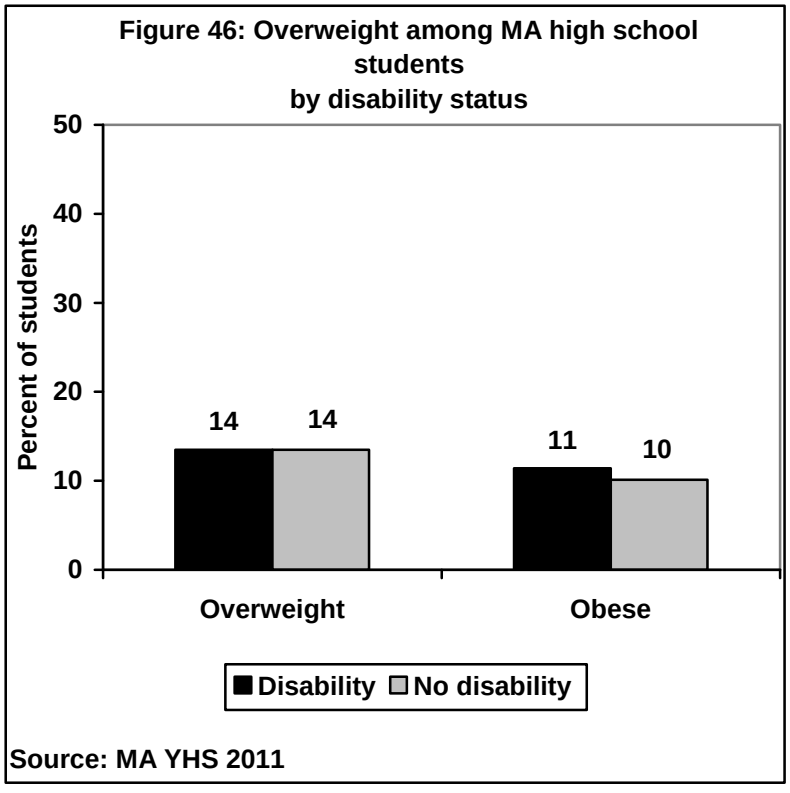
In middle school there was no difference in "overweight" or "obese" by disability status. Fifteen percent of middle school students with disabilities were considered "overweight" compared to 14% of those without disabilities.

High School Students

In high school there was no difference in "overweight" or "obese" by disability status.

In the overweight category, approximately 14% of high school youth with and without disabilities were considered overweight.





Risk Factors and Preventive Behaviors: Overweight and Obesity Status

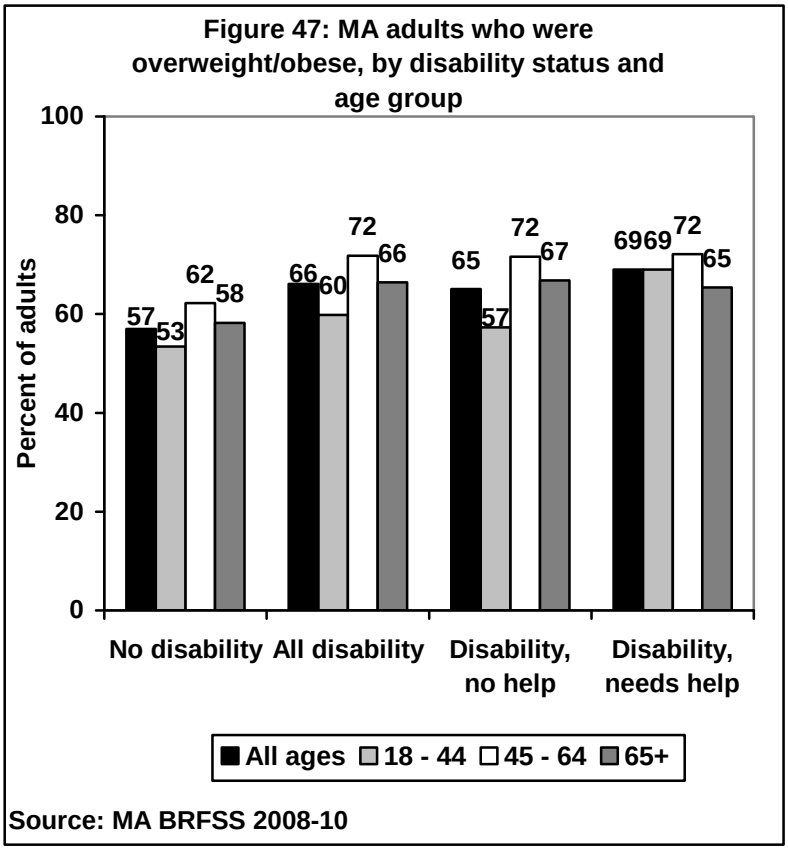
Adults

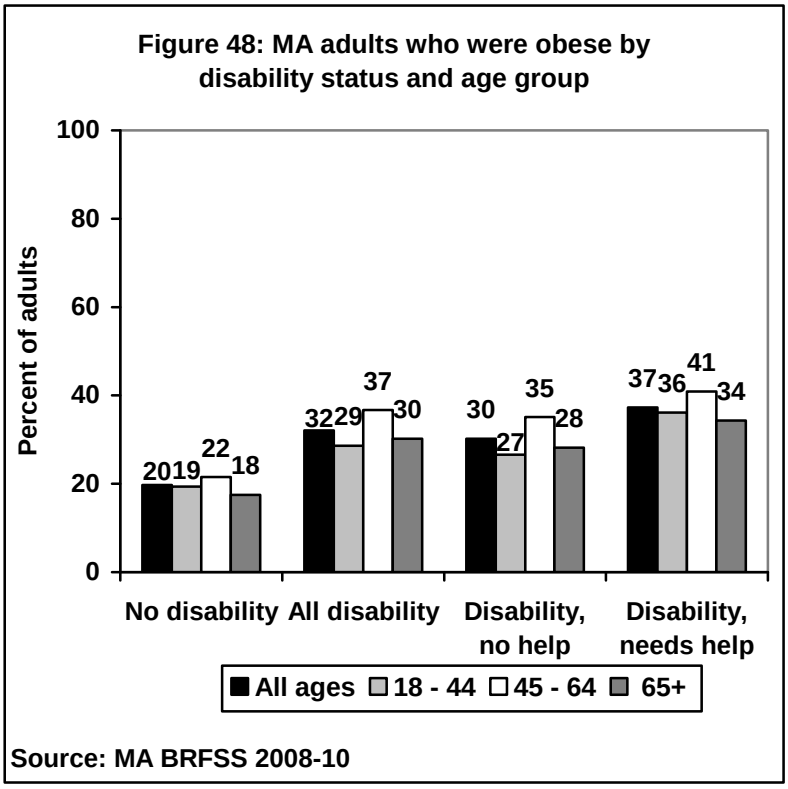
MA BRFSS respondents were categorized into weight categories based on their Body Mass Index (BMI). Using the Healthy People 2010 standards (*HP2010*), all adults with a BMI between 25.0 and 29.9 were classified as being overweight and adults with a BMI greater than or equal to 30.0 were classified as being obese.

Presented here are the percentages of respondents who were classified as overweight/obese (Figure 47) and obese (Figure 48).

Adults with disabilities were more likely than adults without disabilities to be overweight. There was no difference in overweight status between adults with disabilities who needed help with routine and personal care and those who did not need help.

Adults with disabilities were more likely to be obese compared to their similarly aged counterparts without disabilities. Adults with disabilities who needed assistance were almost twice as likely (37%) as adults without disabilities (20%) to be obese.



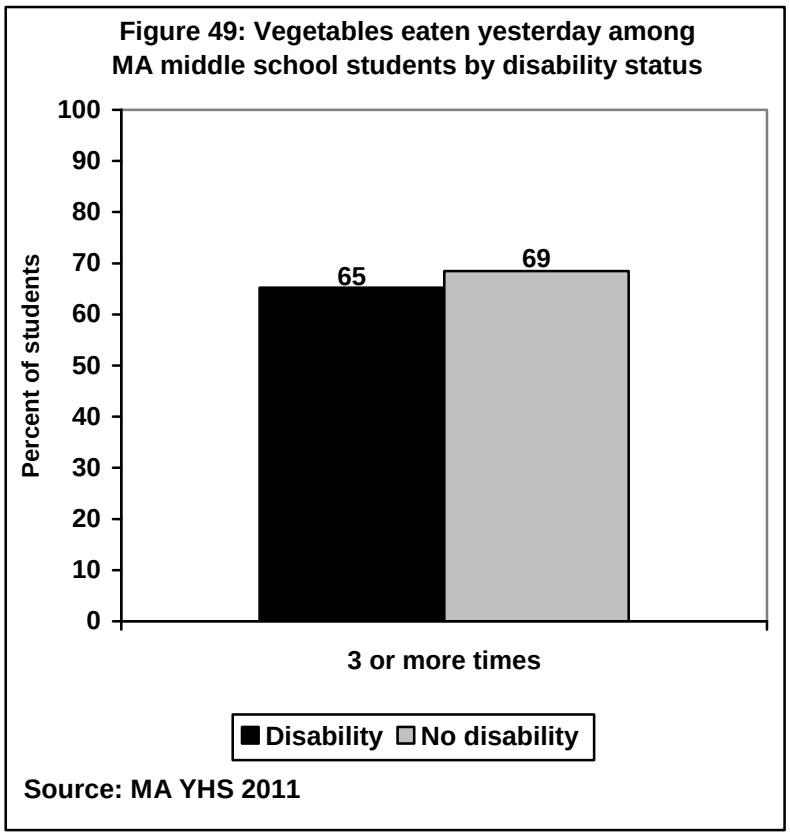


Risk Factors and Preventive Behaviors: Vegetable Consumption

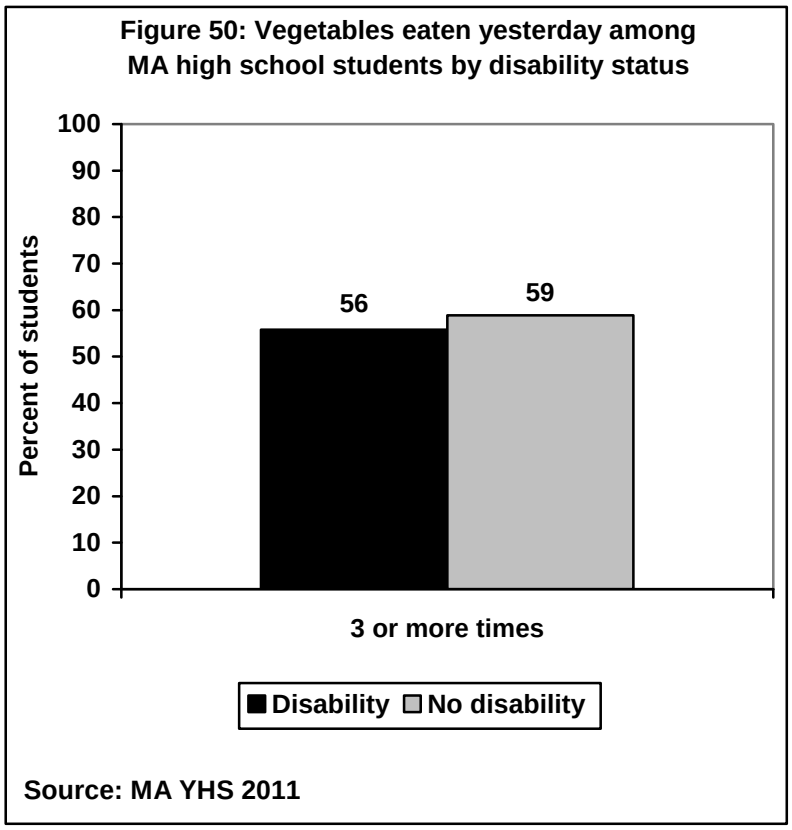
Introduction
Diets abundant in fruits and vegetables are associated with reduced risk for chronic disease, but intake among adolescents is often inadequate.

In the 2011 MA YHS, middle and high school students were asked about the number of times they had eaten fruits or vegetables the day before the survey.

Middle School Students
Overall there was no difference in fruit or vegetable consumption among middle school students by disability status.



High School Students
Overall there was no difference in fruit or vegetable consumption among high school students by disability status.



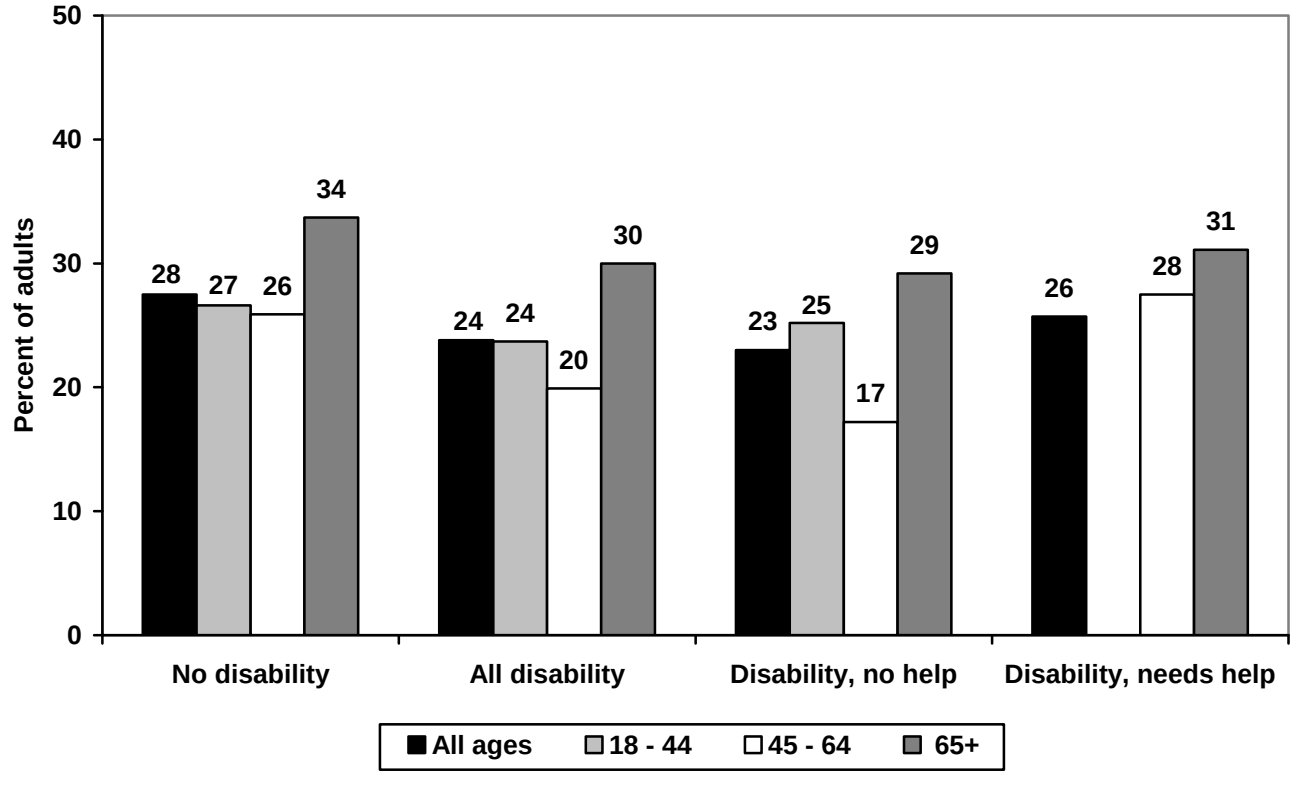
Risk Factors and Preventive Behaviors: Fruit and Vegetable Consumption

Adults

All MA BRFSS respondents were asked about their consumption of fruits and vegetables. This included fruit juice, fruit, salad, carrots, potatoes, and other vegetables. Presented below is the percentage of respondents by disability status who consumed five or more servings of fruits or vegetables per day.

Overall, there was no difference in the consumption of fruits and vegetables between adults with and without a disability. Approximately one in four adults with disabilities had consumed five or more servings of fruits or vegetables compared to 28% of those without disabilities.

Figure 51: MA adults who consumed five or more servings of fruits or vegetables per day, by disability and age group



Insufficient data for "disability, needs help," ages 18-44

Source: MA BRFSS 2009

Chapter 7: Chronic Health Conditions

Chronic Health Conditions: Asthma

Introduction

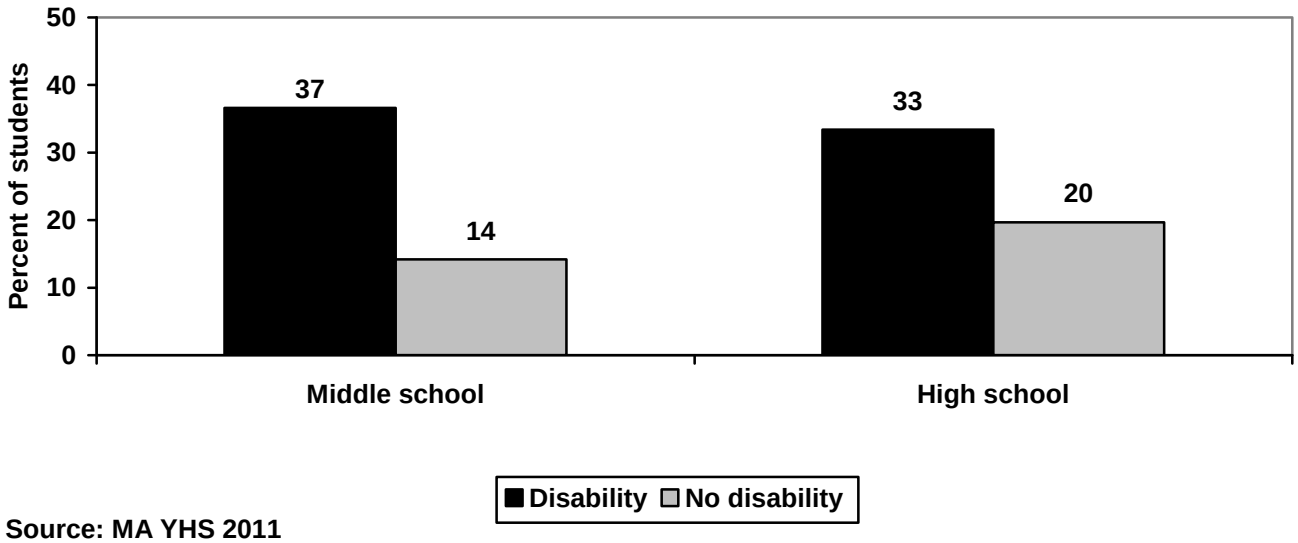
Asthma is a chronic inflammatory disorder that affects the lungs, causing repeated episodes of wheezing, breathlessness, coughing, and chest tightness. Asthma attacks can be triggered by a variety of causes, such as second hand smoke, outdoor air pollution, allergens, irritants, and respiratory viral infections. These environmental irritants are also potential risk factors associated with the development of asthma.

Middle and High School Students

All MA YHS respondents were asked if a doctor or health professional had ever told them they had asthma. Among middle school students, 37% of those with disabilities reported lifetime asthma, which was significantly higher than the 14% of those without disabilities who reported lifetime asthma.

Similarly, high school students with disabilities were more likely to report lifetime asthma compared to those without disabilities. Among high school students, 33% of those with disabilities reported lifetime asthma compared to 20% of those without disabilities.

Figure 52: MA middle and high school students reporting lifetime asthma by disability status



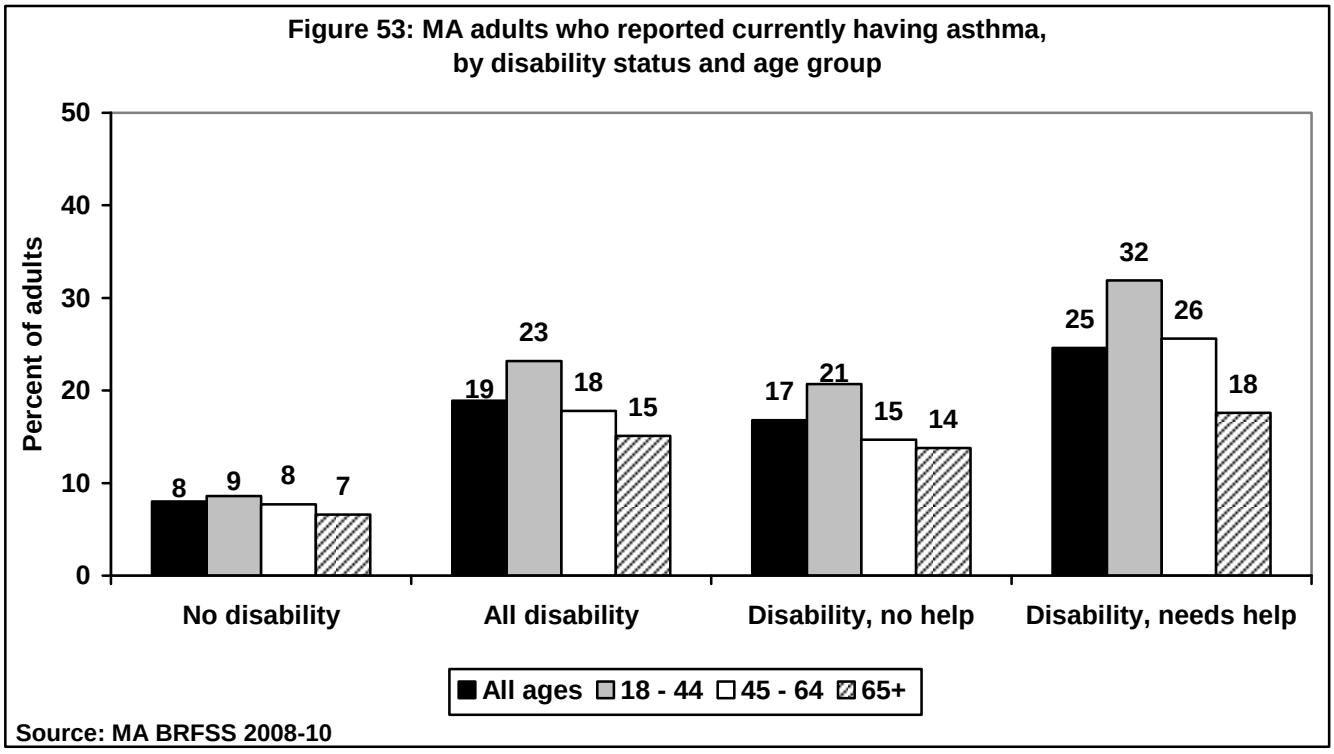
Source: MA YHS 2011

Adults

All MA BRFSS respondents were asked if a doctor, nurse, or other health professional had ever told them they had asthma. Those who reported ever having asthma, were then asked if they currently have asthma.

Adults with disabilities were more than twice as likely as adults without disabilities to report currently having asthma (19% vs. 8%). Younger adults ages 18-44 years who reported needing help with routine and personal care were most likely to report currently having asthma (32%) compared to adults who did not report needing help (21%) and adults who did not report that they had a disability (9%) in the same age group.

Similarly, adults with disabilities who reported needing assistance were more likely to also report lifetime asthma (29%) compared to those with disabilities who did not need assistance (23%) and those without disabilities (13%) (data not shown).

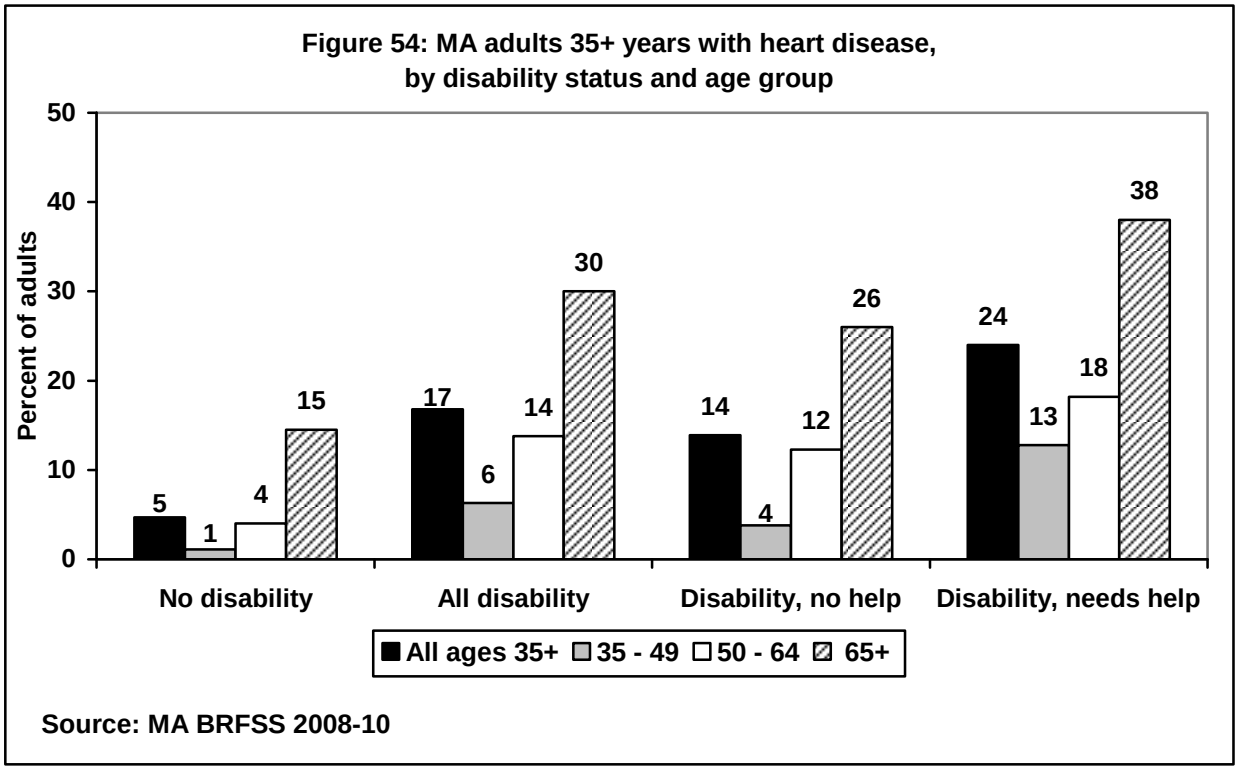


Introduction

All MA BRFSS survey respondents 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 ever been told by health professional that they had had a stroke.

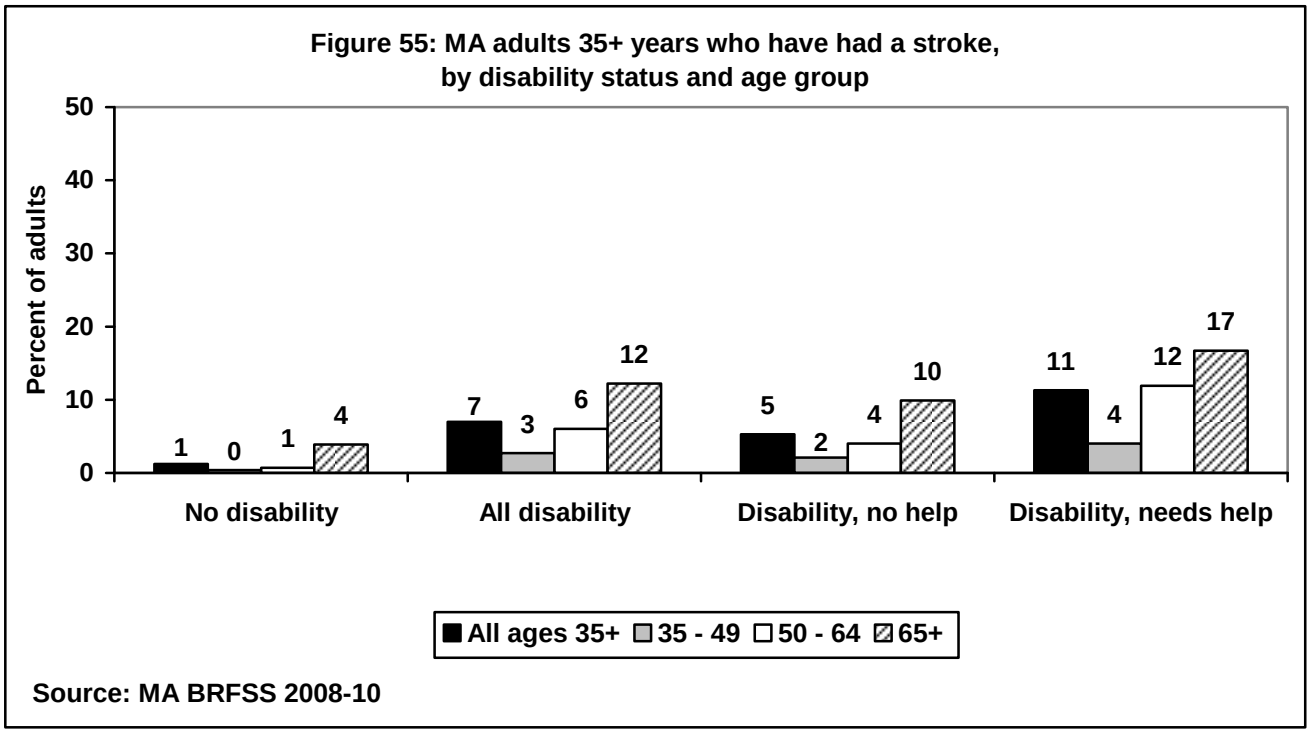
Heart Disease among adults

The prevalence of heart disease was higher among adults with a disability (17%) than among adults with no disability (5%). Adults with a disability ages 65 years and older who reported needing help with personal and routine care activities were most likely to have heart disease compared to all other age and disability groups.



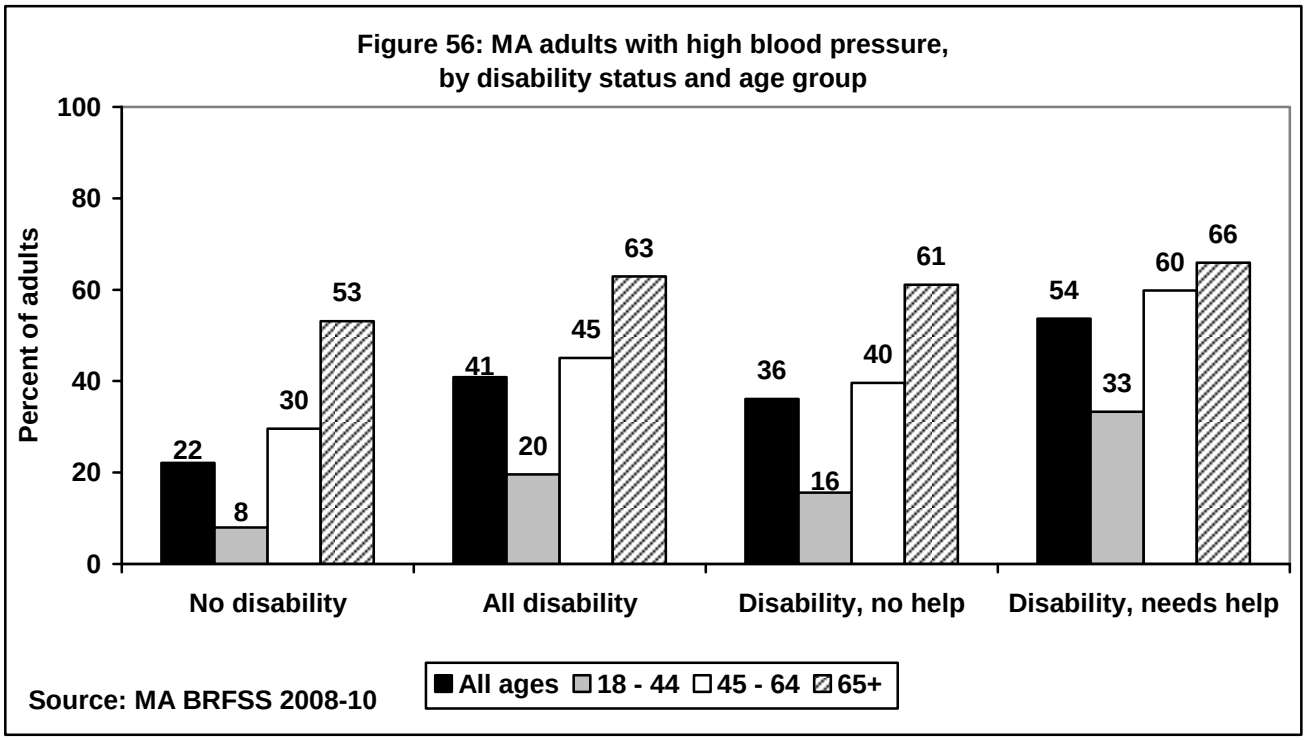
Stroke among adults

Adults with disabilities were significantly more likely (7%) to report having had a stroke compared to their counterparts without disabilities (1%). The prevalence of stroke was also higher among adults with disabilities who needed help with personal or routine care (11%) compared to adults with disabilities who do not need help (5%).



High Blood Pressure among Adults

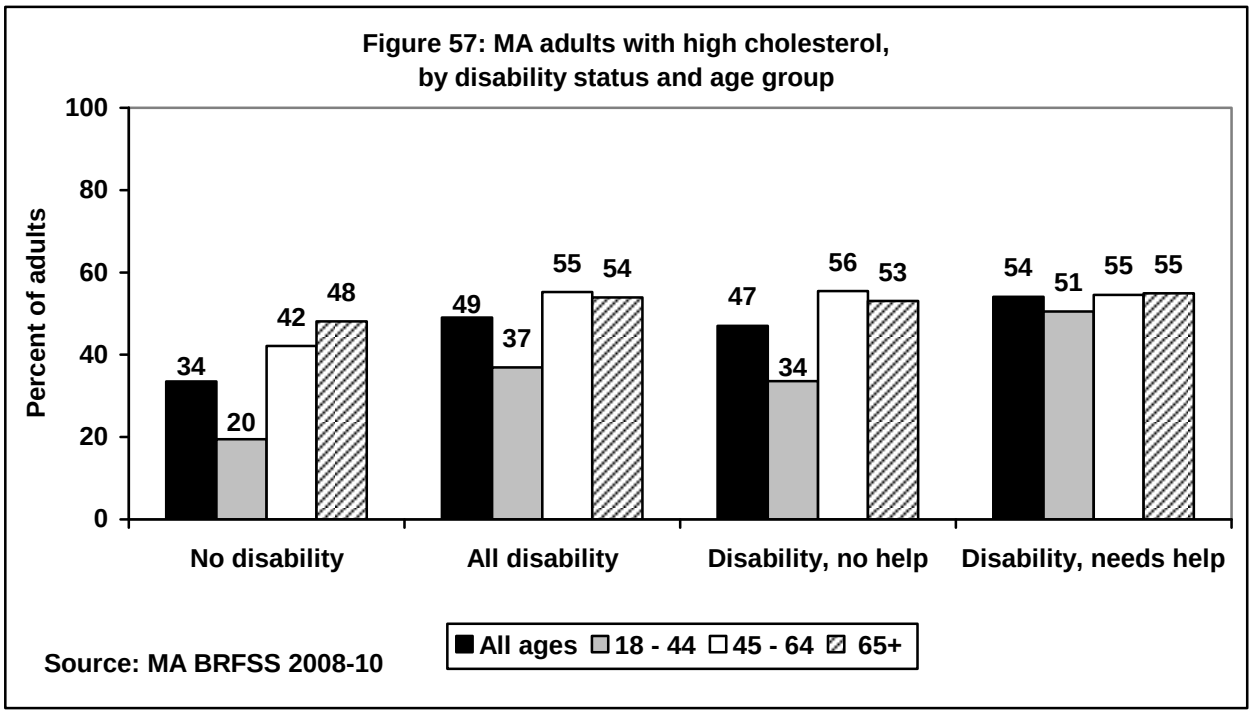
Adults with disabilities were more likely to have ever been told by a health professional that they had high blood pressure (41%) compared to adults without disabilities (22%). Adults with disabilities who reported that they needed help with personal or routine care were more likely to report high blood pressure (54%) than adults who did not need help (36%).



High Cholesterol among Adults

Among adults who ever had their cholesterol checked, adults with disabilities were more likely (49%) than adults without disabilities (34%) to report having high cholesterol. The prevalence of high cholesterol also increased as age increased.

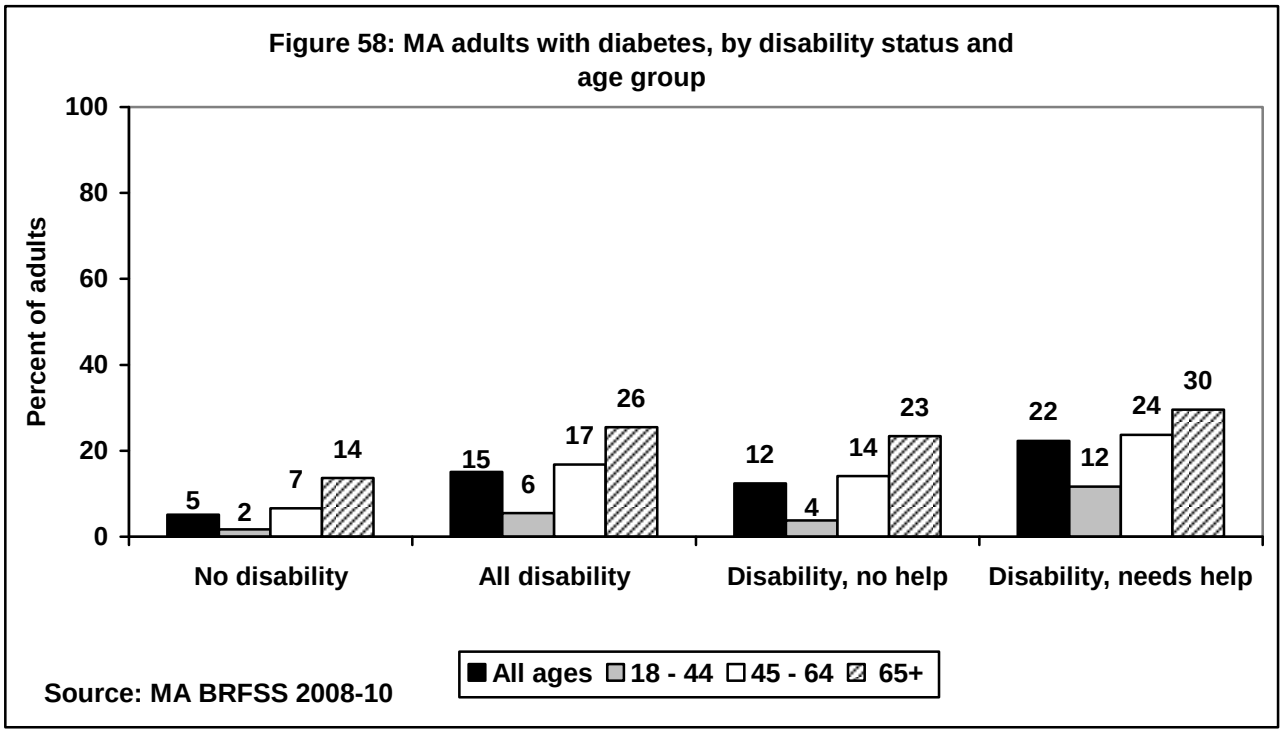
Chronic Health Conditions: High Blood Pressure and High Cholesterol



Chronic Health Conditions: Diabetes

Diabetes among Adults

In 2010, 7% of all Massachusetts adults reported they had ever been told by a doctor that they have diabetes. Adults with disabilities were approximately three times as likely to report having been told they have diabetes (15%) than their counterparts without disabilities (5%). The prevalence of diabetes was highest among adults with disabilities who also reported needing help with personal and routine care (22%), particularly those ages 65 years and older (30%).



Chapter 8: Quality of Life

Quality of Life: Overall Health Status

Introduction

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 (CDC, 2000).

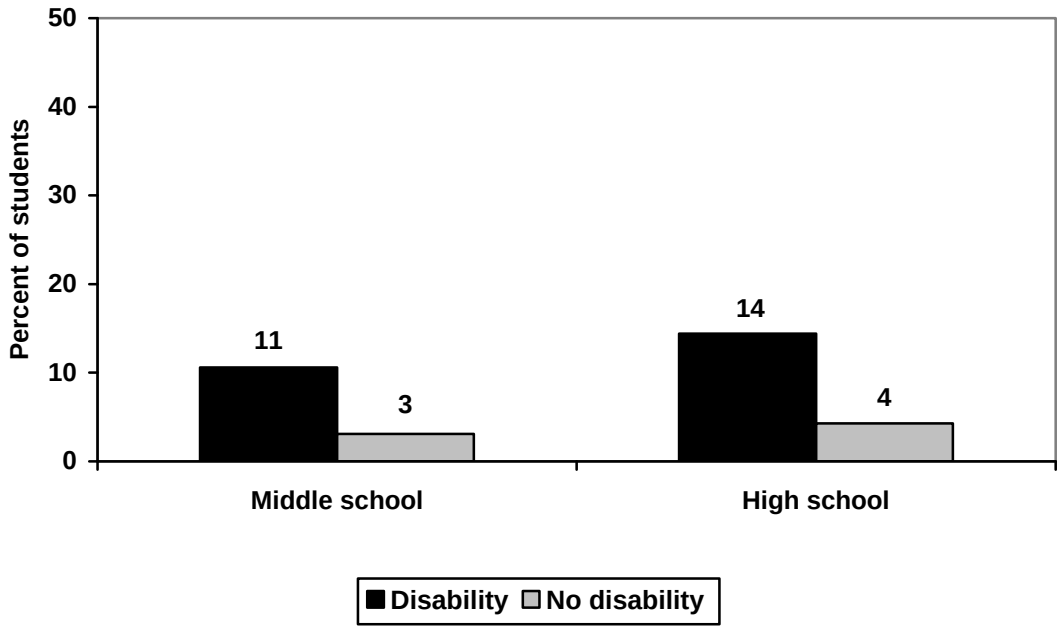
Middle and High School Students

In the 2011 MA YHS, middle and high school students were asked to describe their overall health as excellent, very good, fair or poor. Presented here are the percentages of students who reported that their overall health was fair or poor.

Both middle and high school students with disabilities were more likely to report fair or poor health than similarly aged students without disabilities. Middle school students with disabilities were almost four times as likely to report fair or poor health (11%) compared to their counterparts without disabilities (3%).

Among high school students, 14% of those with disabilities reported fair to poor health compared to 4% of those without disabilities

Figure 59: MA middle and high school students with fair or poor health, by disability status



Source: MA YHS 2011

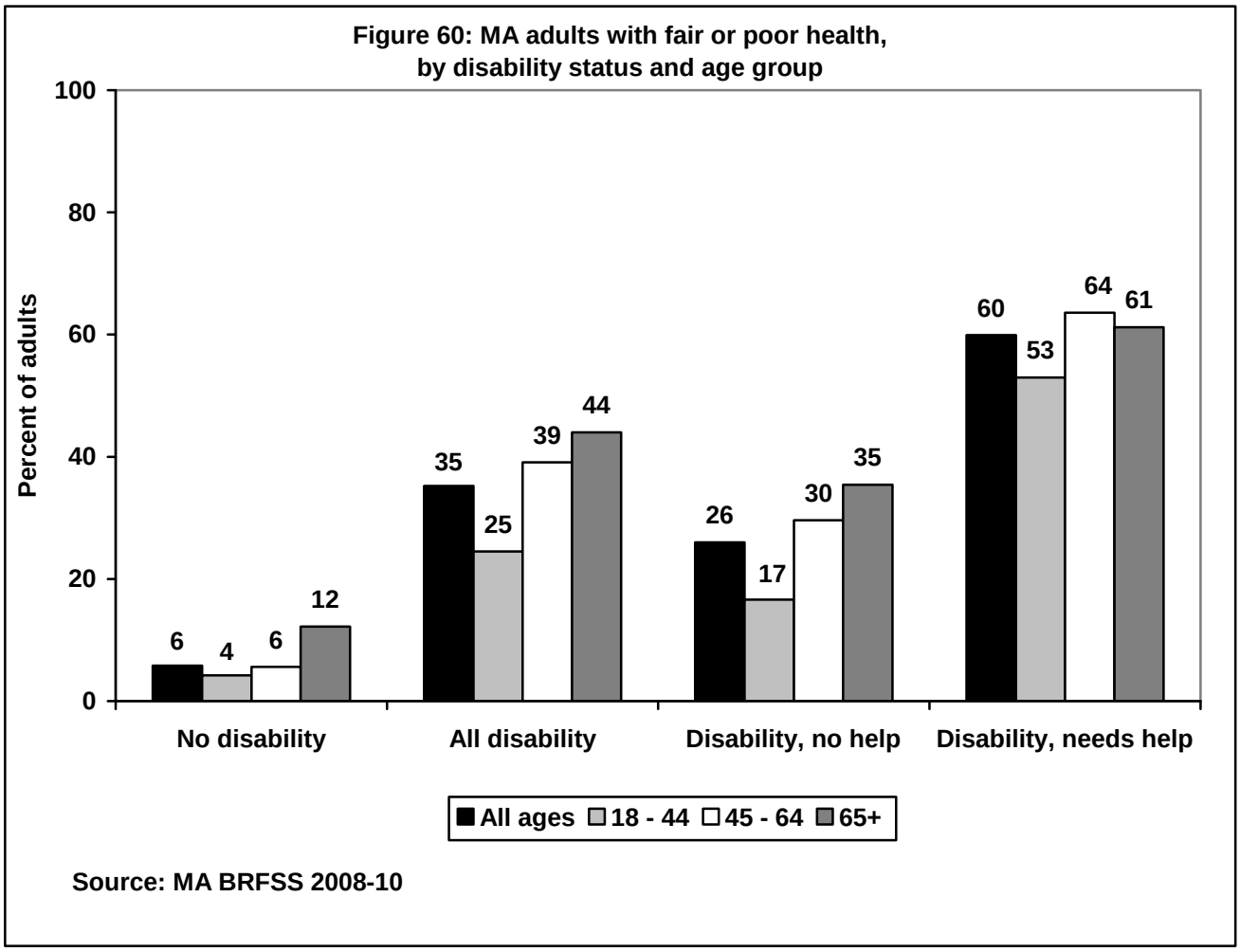
Quality of Life: Overall Health Status

Adults

In the MA BRFSS, all 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 their overall health was fair or poor.

Adults with disabilities (35%) were more likely to report fair or poor health than those without a disability (6%). Fair or poor health generally increased with age for persons with and without disabilities. The percentage of individuals reporting fair or poor health was highest among those with disabilities who needed help with routine and personal care (60%), regardless of age.

Figure 60: MA adults with fair or poor health, by disability status and age group



Source: MA BRFSS 2008-10

Quality of Life: Mental Health Status

Introduction

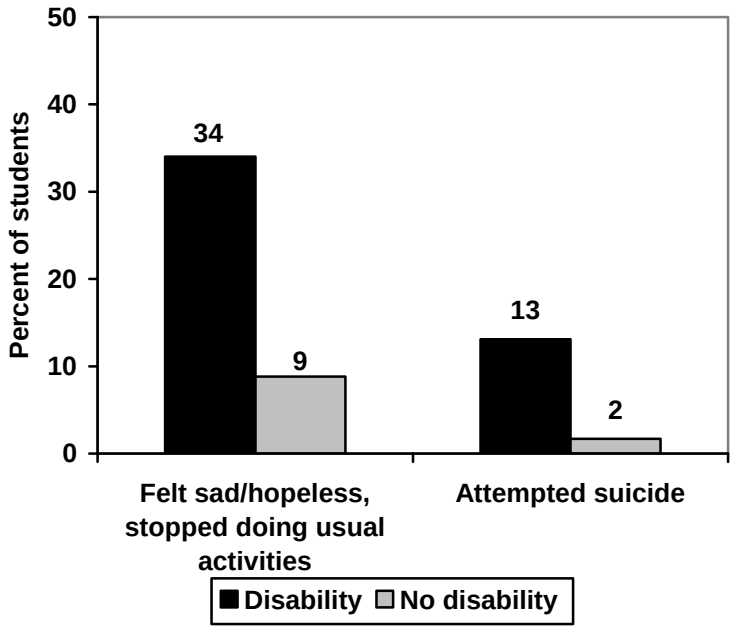
All MA YHS respondents were asked if during the past 12 months they had ever felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some of their usual activities (depressed). Students were also asked if they had attempted suicide in the past 12 months.

Middle School Students

One-third of middle school students with disabilities reported feeling depressed compared to 9% of students without disabilities.

Thirteen percent of middle school students with disabilities reported attempting suicide at least once in the past 12 months compared to 2% of those without disabilities.

Figure 61: Depression and suicide attempts (past 12 months) among MA middle school students, by disability status



Source: MA YHS 2011

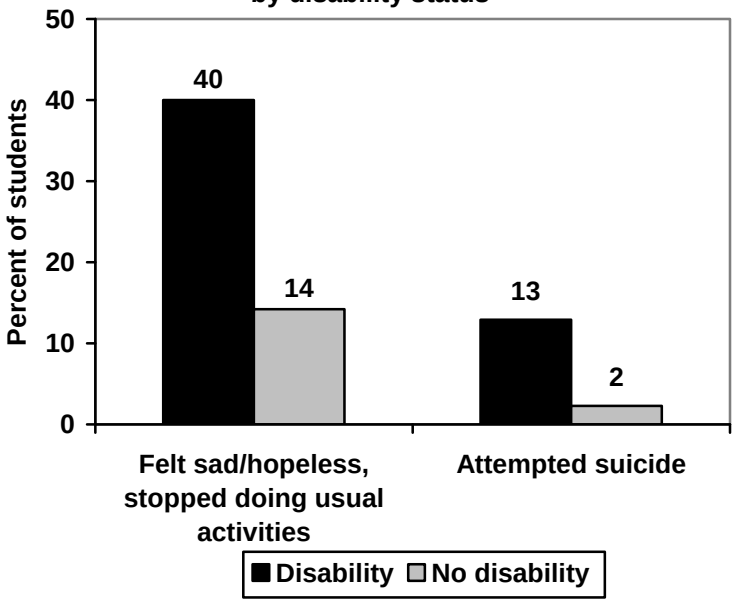
High School Students

Similarly high school students with disabilities were more likely to report feeling so sad or hopeless daily for at least two weeks during the previous year that they discontinued their usual activities (depressed) than were students without disabilities.

Among high school students, 40% of those with disabilities reported these feelings compared to 14% of those without disabilities.

In addition, 13% of high school students with disabilities reported attempting suicide at least once in the past twelve months compared to 2% of those without disabilities.

Figure 62: Depression and suicide attempts (past 12 months) among MA high school students, by disability status



Source: MA YHS 2011

Quality of Life: Mental Health Status

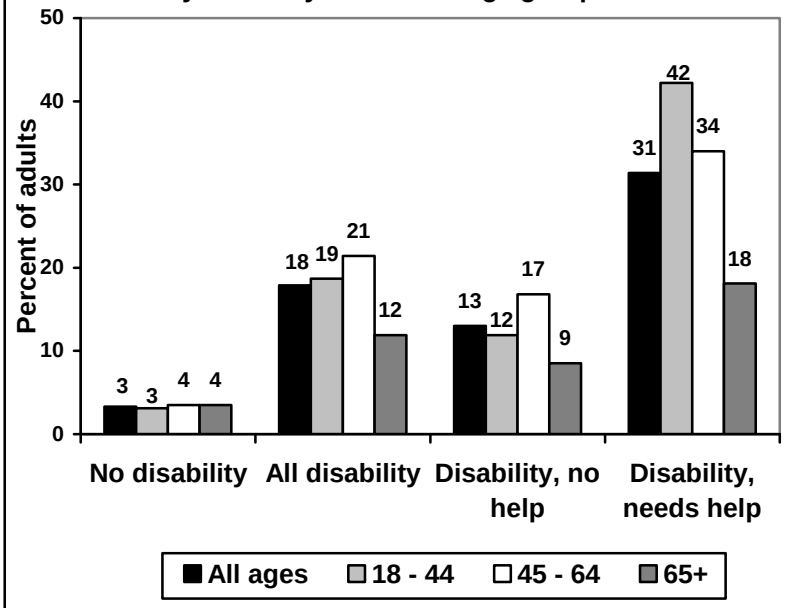
Adults

All MA BRFSS respondents were asked to report the number of days that they had felt sad, blue, or depressed during the past month. Presented here are the percentages of respondents, by disability status and age, who reported that they felt sad, blue, or depressed for at least 15 days in the past month.

Respondents with disabilities were substantially more likely (18%) to report feeling sad, blue, or depressed for 15 or more days in the past month than their non-disabled counterparts (3%). Adults with disabilities who needed assistance with personal or routine care activities were twice as likely (31%) to report feeling sad, blue or depressed in the past month compared to those with disabilities who did not need assistance (13%).

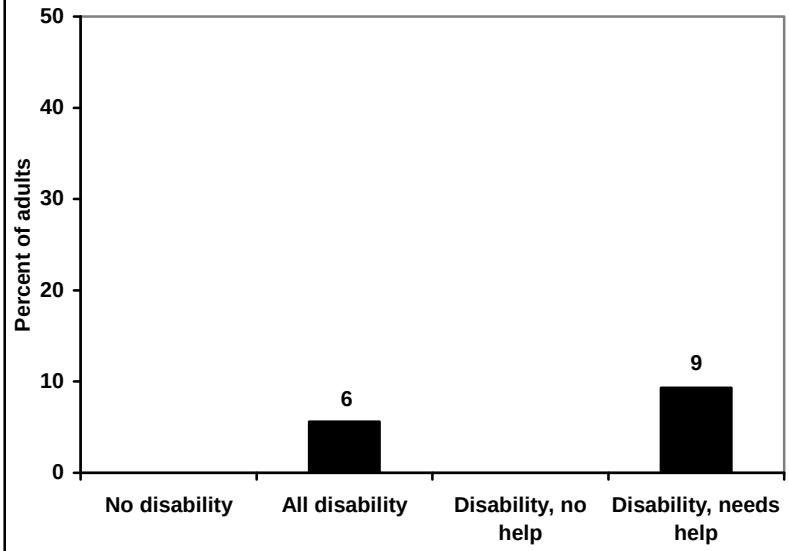
MA BRFSS respondents were also asked if they had seriously contemplated attempting suicide in the past 12 months. Approximately 6% of adults with disabilities reported that they seriously contemplated suicide over the past 12 months, while approximately 9% of adults with disabilities who needed assistance with personal or routine care reported the same.

Figure 63: MA adults sad, blue, or depressed 15+ days of past month, by disability status and age group



Source: MA BRFSS 2008

Figure 64: MA adults who seriously considered suicide in past 12 months, by disability status



Insufficient data for "no disability" and "disability, no help"

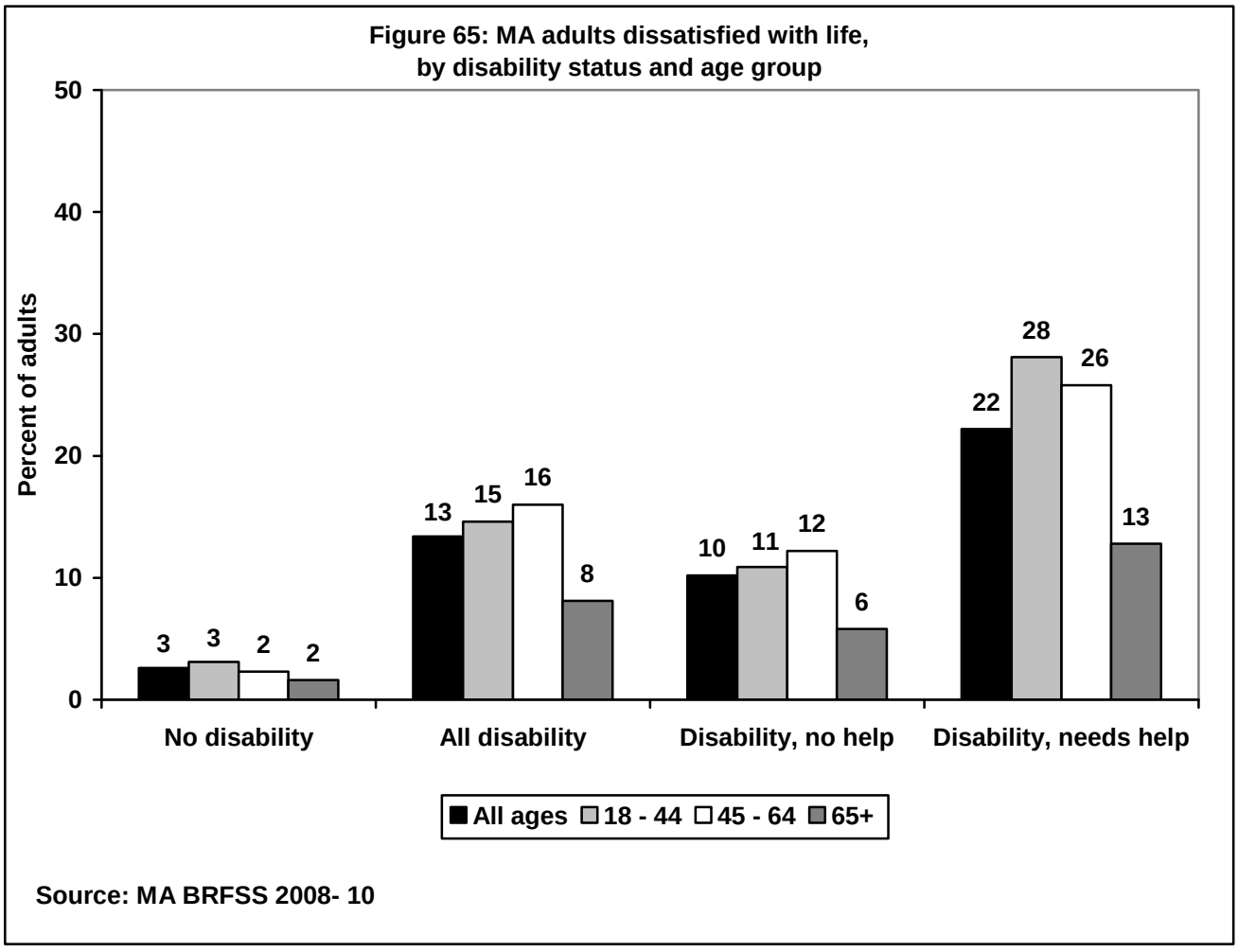
Source: MA BRFSS 2008-2010

Quality of Life: Satisfaction with Life

Adults

All MA BRFSS respondents were asked to describe their satisfaction with life as very satisfied, satisfied, dissatisfied or very dissatisfied. Presented below is the percentage of respondents who indicated that they were dissatisfied or very dissatisfied with life by disability status and age.

Adults with disabilities were more likely to respond that they were dissatisfied or very dissatisfied with their lives compared to those without disabilities (13% vs. 3%). Approximately one in five (22%) people with disabilities needing assistance reported dissatisfaction with life compared to 10% of persons with disabilities who did not need assistance. The percentage of persons with disabilities who report feeling dissatisfied with life was lower for those 65 years and older.



Chapter 9: Violence and Unintentional Injury

Introduction
All middle and high school MA Youth Health Survey (MA YHS) participants were asked if they had been bullied on the computer or bullied at school at least once in the past 12 months.

Overall students with a disability were more likely to be cyberbullied or bullied at school at least once in the past 12 months compared to those without disabilities.

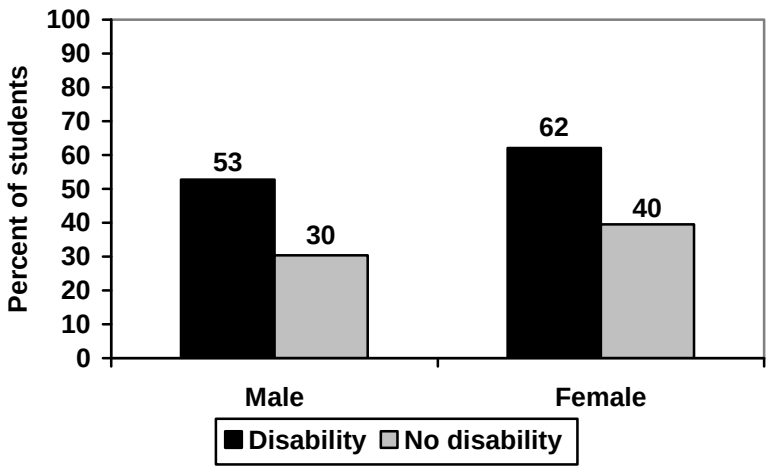
Middle School Students
More than half of male middle school students with a disability (53%) reported being bullied compared to 30% of males without a disability.

A similar difference was seen among female students by disability status: 62% of female students with a disability reported being bullied compared with 40% of females without a disability.

High School Students
Similar differences in bullying experiences were observed among high school students. Male high school students with a disability were more than three times as likely to have been bullied either online or at school compared to male students without a disability (36% vs. 21%).

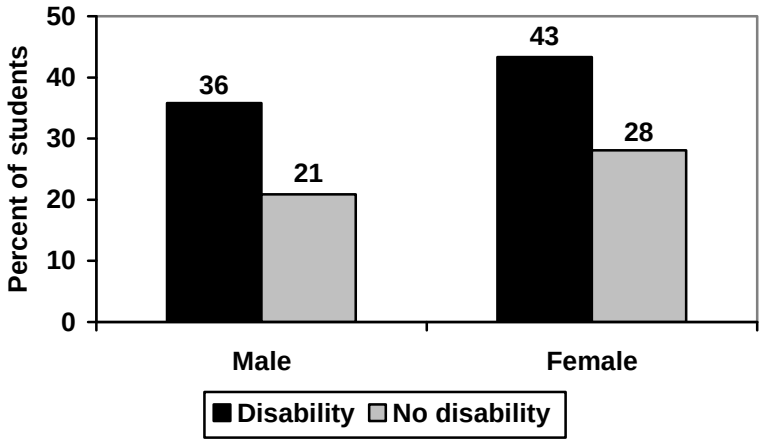
Similarly among females, 43% of those with a disability reported being bullied at school compared to 28% of those without disabilities.

Figure 66: MA middle school students who were bullied at school or online (past 12 months), by disability status and gender



Source: MA YHS 2011

Figure 67: MA high school students who were bullied at school or online (past 12 months), by disability status and gender



Source: MA YHS 2011

Violence and Unintentional Injury: Dating Violence

Introduction

All middle and high school MA YHS participants were asked if they had been physically hurt (shoved, slapped, or hit) by a date or someone they went out with in the past 12 months.

Overall, female youth with disabilities were more likely to report dating violence compared to those without a disability.

Middle School Students

Nine percent of middle school males with a disability reported being hurt by someone they went out with compared to 5% of those without a disability.

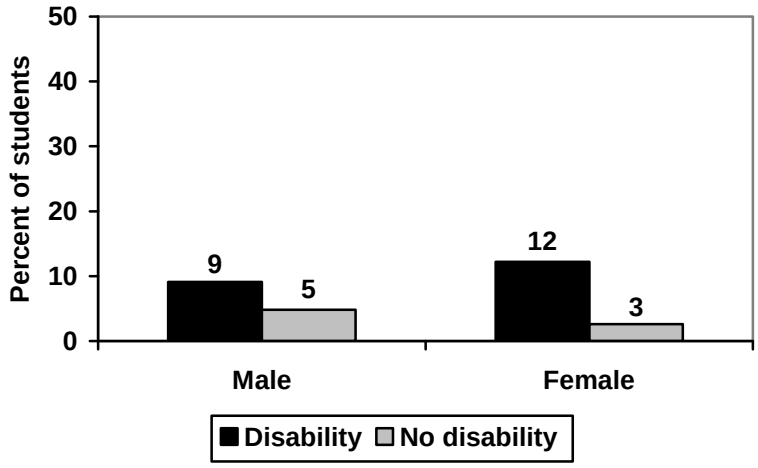
Similarly, 12% of females with a disability reported such violence compared to 3% of those without a disability.

High School Students

Among high school students, 8% of males with a disability reported being physically hurt (shoved, slapped, or hit) by a date or someone they went out with compared to 5% of males without a disability.

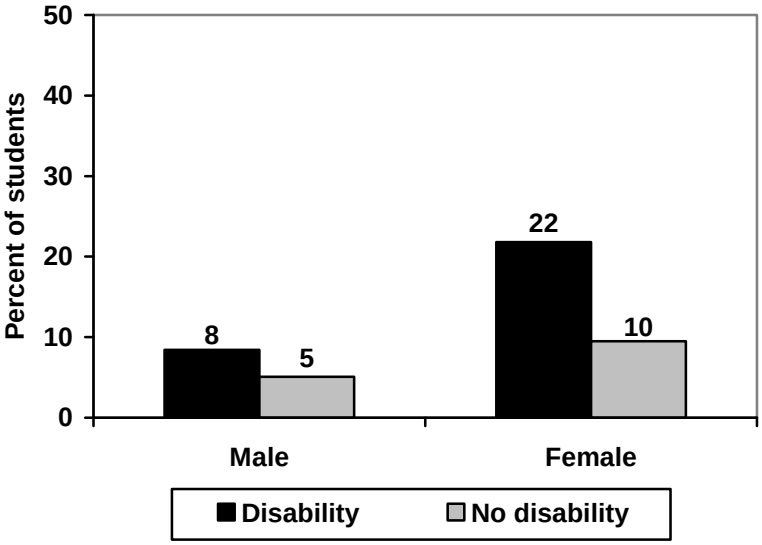
Similarly, 22% of female high school students with a disability reported dating violence compared to 10% without a disability.

Figure 68: MA middle school students who were physically hurt by a date or someone they went out with (past 12 months), by disability status and gender



Source: MA YHS 2011

Figure 69: MA high school students who were physically hurt by a date or someone they went out with (past 12 months), by disability status and gender



Source: MA YHS 2011

Violence and Unintentional Injury: Family Violence

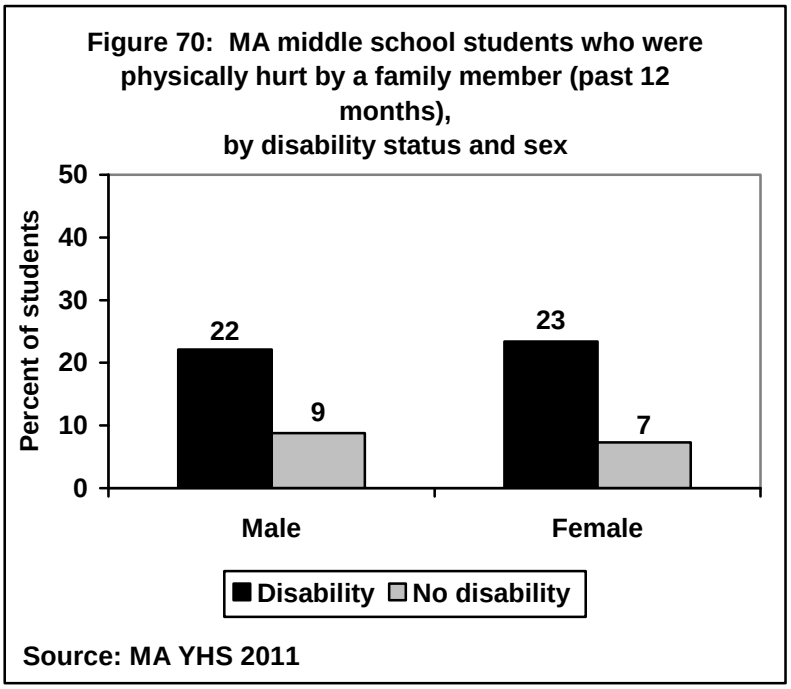
Introduction

All middle school MA YHS participants were asked if they had been physically hurt by someone in their family in the past 12 months and whether they had witnessed violence in their families in the past 12 months.

Overall male and female middle school students with disabilities were more likely to report family violence or having witnessed violence in the family compared to those without a disability.

Physically hurt by a family member

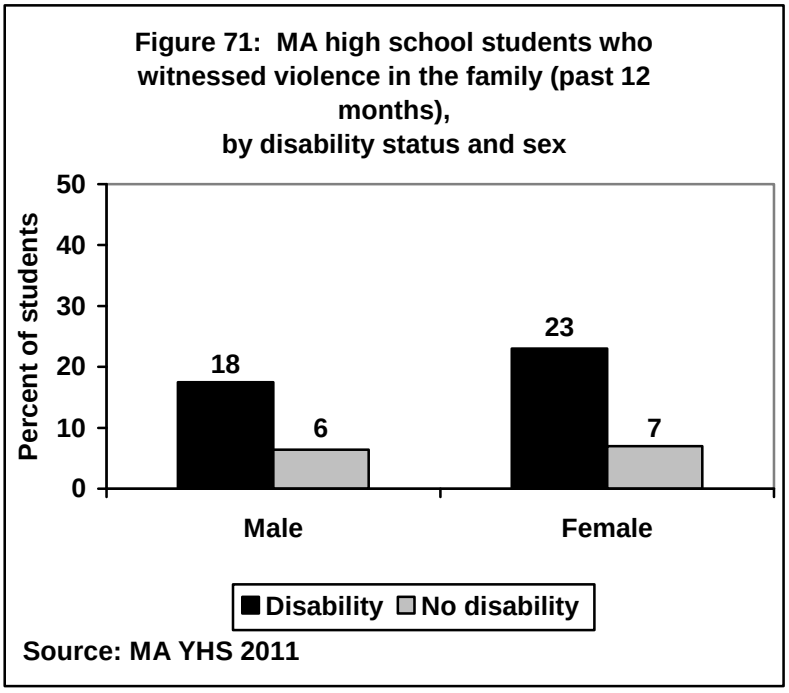
Twenty-two percent of middle school males with a disability reported being hurt by someone in their family compared to 9% of males without a disability. Similarly, 23% of females with a disability reported such violence compared to 7% of females without a disability.



Witnessed violence in family

Among male high school students, 18% of those with a disability reported they had witnessed violence in the family in the past 12 months compared to 6% of those without a disability.

Among female high school students, 23% of those with a disability reported they had witnessed violence in the family in the past 12 months compared to 7% of those without a disability.



Violence and Unintentional Injury: Sexual Violence

Introduction

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, including chronic headaches, back pain, fatigue, sleep disturbances, recurrent nausea, decreased appetite, menstrual pain, and sexual dysfunction (Sarkar and Sarkar, 2005). Psychological problems include post traumatic stress disorder, suicidal behavior, anxiety, eating disorders, and substance abuse.

MA BRFSS 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 by disability status and age who reported that they had experienced sexual violence at some time in their lifetimes.

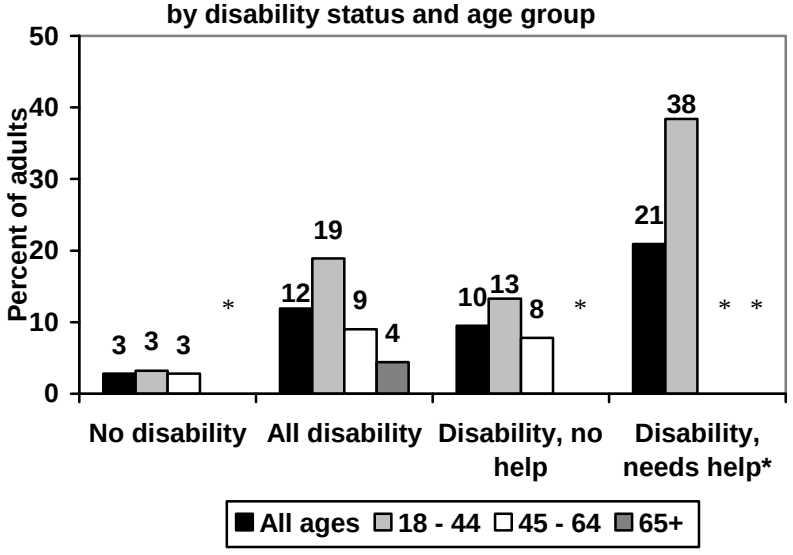
Men

Men with disabilities were more likely to have ever experienced sexual violence than men without disabilities (12% vs. 3).

Women

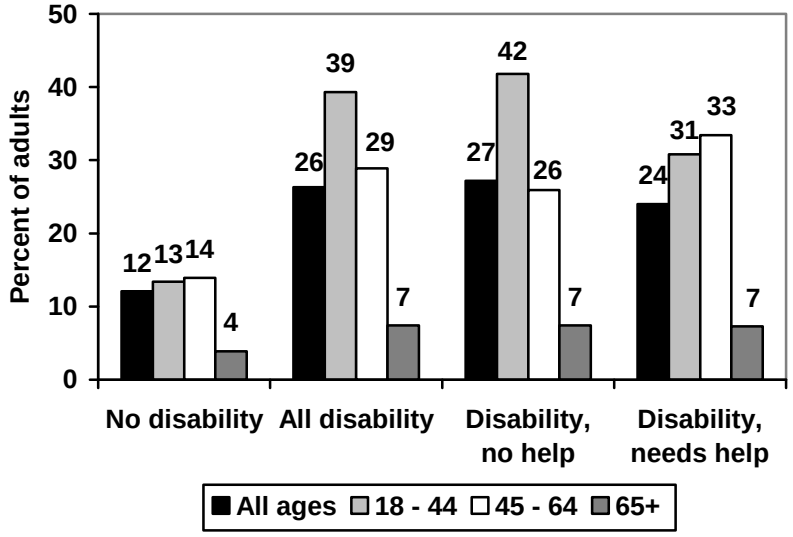
Among women, 26% of those with disabilities reported lifetime sexual violence compared to 12% of those without disabilities. This disparity was most striking among women ages 18-44 years: 39% of women with disabilities in this age category reported lifetime sexual violence compared with 13% of similarly aged women without disabilities.

Figure 72: MA men reporting lifetime sexual violence, by disability status and age group



Source: MA BRFSS 2008-10
***Insufficient data**

Figure 73: MA women reporting lifetime sexual violence, by disability status and age group



Source: MA BRFSS 2008-10

Introduction

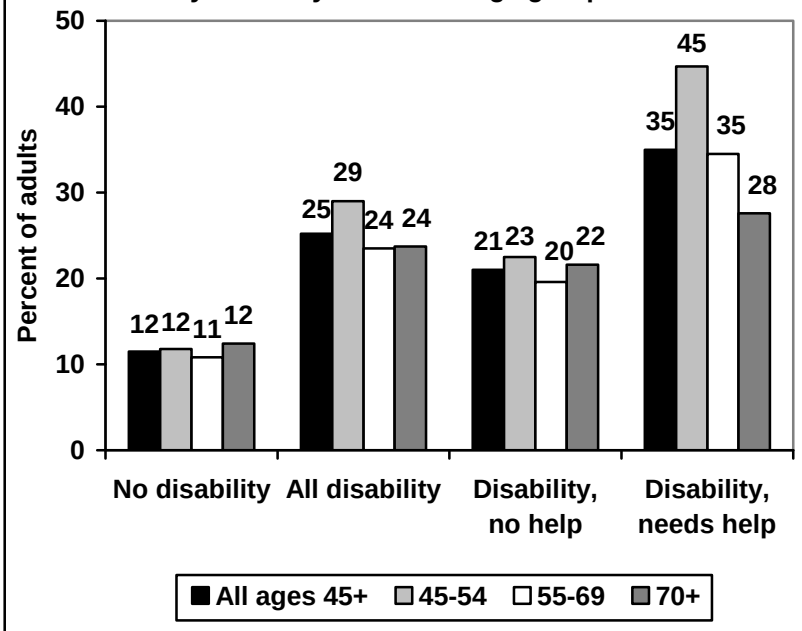
Falls are an important yet often preventable public health problem among older adults and adults with disabilities. These events can lead to severe injury and precipitate a downward decline in the health of individuals. The types of injuries which can result from a fall include, but are not limited to, traumatic brain injuries, hip and other limb fractures, sprains and strains.

In the MA BRFSS, respondents ages 45 years 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.

Adults 45 years or older

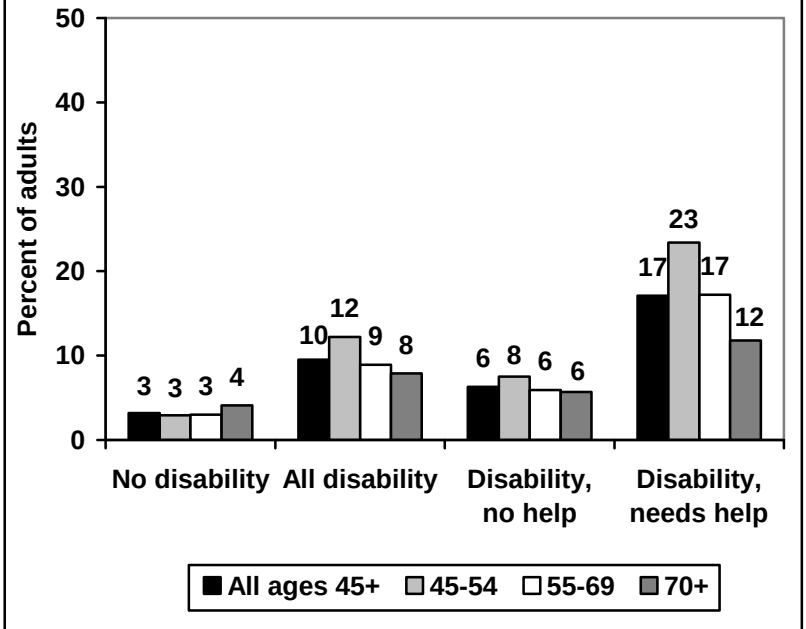
Adults with disabilities were more than twice as likely as adults without disabilities to report one or more falls in the past 3 months (25% vs. 12%). Adults with disabilities who reported needing help were more likely to report having a fall (35%) compared to those with disabilities who did not need assistance (21%). As expected, adults with disabilities overall (10%) and particularly those who reported needing help (17%) were more likely to be injured from a fall in the past three months compared to those without disabilities (3%).

Figure 74: MA adults age 45+ who reported 1 or more falls in the past 3 months, by disability status and age group



Source: MA BRFSS 2008-10

Figure 75: MA adults 45+ who were injured from a fall in the past 3 months, by disability status and age group



Source: MA BRFSS 2008-10

Appendices

Appendix 1 – Data Sources

Multiple data sources were used in this report. The two primary data sources are the 2011 Massachusetts Youth Health Survey (MA YHS) and the 2008-10 Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS). Additional sources of data were used to describe the prevalence of disability (See Chapter 1, Prevalence of Disability). They include the 2008-2010 American Community Survey (ACS) and the 2009-2010 National Survey of Children with Special Health Care Needs (NS-CSHCN). Descriptions of the four data sets are given below.

1. The American Community Survey (ACS)

The ACS is a new continuous data collection effort conducted by the U.S. Census Bureau that is used to produce annual estimates at the national, state and local level on the characteristics of the United States population. The U.S. Census Bureau has three main objectives for the ACS (U.S. Census Bureau, 2006). The first objective is to provide federal, state and local governments with an information base for the administration and evaluation of government programs. The second objective is to use the ACS as a replacement for the decennial Census long form so that the decennial Census can focus solely on counting the population. The third objective is to provide data users with timely information each year on demographic, housing, social and economic statistics that can be compared across states, communities, and population groups.

2. The National Survey of Children with Special Health Care Needs (NS-CSHCN)

NS-CSHCN is sponsored by the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration (HRSA) and is carried out by the Centers for Disease Control and Prevention's National Center for Health Statistics. NS-CSHCN, a parent-report survey, provides detailed information on the prevalence of children with special health care needs in the Nation and in each state, the demographic characteristics of these children, the types of health and support services they and their families need, and their access to and satisfaction with the care they receive (U.S. Department of Health and Human Services, 2007).

3. The Massachusetts Youth Health Survey (MA YHS)

MA YHS is the Massachusetts Department of Public Health's (MDPH) surveillance project to assess the health of public school students in grades 6 through 12 (Massachusetts Department of Public Health, 2008). It is conducted every other year by the MDPH in collaboration with the Massachusetts Department of Elementary and Secondary Education (ESE). The survey was administered to approximately 3 randomly selected high school classrooms and 2 randomly selected middle school classrooms in each participating school. In 2011, data were collected from over 2,000 high school students within 54 schools and from over 3,500 middle school students from grades 6 through 8 within 83 schools. The response rate (student response rate X school response rate) was 69.2% for the high school survey and 62.7% for the middle school survey. The survey contains questions regarding health status, risk behaviors, and protective factors. The MA YHS survey instrument and methodology are available from the Massachusetts Department of Public Health, Office of Statistics and Evaluation.

As a result of close adherence to the scientific sampling process and the creation of weights to account for non-response, the MA YHS statistics presented in this report are representative of students attending public middle and high schools in Massachusetts. Since students from the same school are more likely to be similar to one another than to students from different schools, all analyses account for the effect of clustering at the school level (Massachusetts Department of Public Health, 2008).

4. The Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS)

The BRFSS is a population-based random-digit-dial telephone survey and a commonly accepted source of information on a variety of health topics. The BRFSS collects uniform, state-specific data on preventive health practices and risk behaviors that are linked to chronic disease, injuries, and preventable infectious diseases in the adult population (CDC, 2006). The BRFSS is the largest telephone health survey in the U.S., collecting data from more than 350,000 adults each year. It is administered to adults ages 18 years and above in all 50 states. State results can be compared with national estimates. BRFSS population estimates represent the prevalence of risk factors occurring among individuals living in the community. Up until 2007, the BRFSS was limited to households with landline telephones. Response rates may be calculated in several different ways appropriate for sampling. The CASRO rate (the most frequently used estimate for response rate) was about 49% in 2010.

This report is based on results from the 2008, 2009, and 2010 MA BRFSS surveys. A total of 53,601 interviews were conducted from 2008-10 (20,559 in 2008, 16,731 in 2009, and 16,311 in 2010). Where possible, the information presented here is based on data from all years. However, some questions were not asked in all three years and thus only one or two years of data are available for some analyses.

During 2008-2010, a total of 9,839 individuals self-identified as having disabilities. Of these individuals, 3,263 needed assistance with routine needs or personal care. There were 28,360 survey respondents who did not have disabilities.

The BRFSS statistics presented in this report are weighted to the total Massachusetts population for the corresponding year 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. A detailed description of the weighting process has been published elsewhere (Massachusetts Department of Public Health, 2008). BRFSS survey data and survey questions are in the public domain and may be reproduced without permission.

Appendix 2 – Disability Definitions

The definitions of disabilities differ based on the source of the data. The four data sources used in this report to examine characteristics of and health behaviors and outcomes for persons with disabilities are the American Community Survey (ACS), the National Survey of Children with Special Health Care Needs (NS-CSHCN), the Massachusetts Youth Health Survey (MA YHS), and the Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS).

I. American Community Survey (ACS)

The ACS includes six questions that are used to identify the population with disabilities (U.S. Census Bureau, 2010). As the disability questions changed in 2008, estimates derived from 2008 data forward should not be compared to previous estimates (Brault, 2009). A disability is defined as a report of one of the six disabilities identified by the following questions.

Table 4: American Community Survey disability screeners

17 a) Is this person deaf or does he/she have serious difficulty hearing?
b) Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?
Answer questions 18a – c if this person is 5 years old or over.
18 a) Because of a physical, mental, or emotional condition, does this person have serious difficulty concentrating, remembering, or making decisions?
b) Does this person have serious difficulty walking or climbing stairs?
c) Does this person have difficulty dressing or bathing?
Answer question 19 if this person is 15 years old or over.
19 Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping?

Source: U.S. Census Bureau, 2010

A person is coded as having a disability if he or she or a proxy respondent answers affirmatively for one or more of these six categories.

2. The National Survey of Children with Special Health Care Needs (NS-CSHCN)

Children with special health care needs (CSHCN) are defined by Health Resources and Services Administration's (HRSA) MCHB as: "...those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally" (McPherson, 1998). The screener questions used by NS-CSHCN to identify CSHCN are listed in the following table. All 3 parts of at least one screener question (or, in the case of question 5, the 2 parts) must be answered "Yes" in order for a child to meet the CSHCN screener criteria for having a special health care need (Bethell, 2002).

Table 5: National Survey of Children with Special Health Care Needs disability screeners

1. Does your child currently need or use **medicine prescribed by a doctor** (other than vitamins)?
Yes-> Go to question 1a
No -> Go to question 2
1a. Is this because of ANY medical, behavioral, or other health condition?
Yes -> Go to question 1b
No -> Go to question 2
1b. Is this a condition that has lasted or is expected to last 12 months or longer? (Yes/No)
2. Does your child need or use more **medical care, mental health, or educational services** than is usual for most children of the same age?
Yes -> Go to question 2a
No -> Go to question 3
2a. Is this because of ANY medical, behavioral, or other health condition?
Yes -> Go to question 2b
No -> Go to question 3
2b. Is this a condition that has lasted or is expected to last for 12 months or longer? (Yes/No)
3. Is your child **limited or prevented** in any way in his or her ability to do the things most children of the same age can do?

Yes -> Go to question 3a
No -> Go to question 4
3a. Is this because of ANY medical, behavioral, or other health condition?
Yes -> Go to question 3b
No -> Go to question 4
3b. Is this a condition that has lasted or is expected to last for 12 months or longer? (Yes/No)
4. Does your child need or receive **special therapy**, such as physical, occupational, or speech therapy?
Yes -> Go to question 4a
No -> Go to question 5
4a. Is this because of ANY medical, behavioral, or other health condition?
Yes -> Go to question 4b
No -> Go to question 5
4b. Is this a condition that has lasted or is expected to last 12 months or longer? (Yes/No)
5. Does your child have any kind of emotional, developmental or behavioral problem for which he or she needs or receives **treatment or counseling**?
Yes -> Go to question 5a
No
5a. Has this problem lasted or is it expected to last 12 months or longer? (Yes/No)

Source: CDC, 2010

3. The Massachusetts Youth Health Survey (MA YHS)

To assess disability among youth, the Massachusetts YHS asks two questions: one concerning physical disabilities or long-term health problems, and the other asking about long-term emotional problems or learning disabilities. Students who answered "Yes" to one or more of the screener questions were classified as having a disability.

Table 6: Massachusetts Youth Health disability screeners

1.	Do you have any physical disabilities or long-term health problems?
2.	Do you have any long-term emotional problems or learning disabilities?

4. The Massachusetts Behavioral Risk Factor Surveillance System (MA BRFSS)

The screener questions used in the MA BRFSS to identify adults with disabilities in Massachusetts are listed in the following table.

Table 7: Massachusetts Behavioral Risk Factor Surveillance System disability screeners

Are you limited in any way in any activities because of physical, mental, or emotional problems?
Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?
Because of any impairment or health problem, do you have any trouble learning, remembering, or concentrating?
A disability can be physical, mental, emotional, or communication-related. Would you describe yourself as having a disability of any kind?

Respondents who answered "Yes" to one or more of the screening questions were classified as having a disability and those whose activities had been limited for at least a year or more were considered for this report to have a disability. Adults who were classified as having a disability were also asked whether they needed the help of other persons in handling routine or personal care.

Appendix 3 - Limitations

Some important limitations should be considered when interpreting the findings in this report.

The Massachusetts Youth Health Survey (MA YHS)

The MA YHS provides descriptive data on the what, who, where and when of the self-reported behaviors of middle school and high school youth in MA. However the data have certain limitations. First, MA YHS data can only be generalized to the population that is defined in the sample: public school students in grades 6 through 12. As the data is cross-sectional; no inferences about causality can be made. Students who were enrolled in English as a second language classes, special education classes, correspondence schools, group home schools and correctional schools are not represented. Also, youth who dropped out of school, are enrolled in private schools or are being home schooled are not included.

Second, the MA YHS data are based on self-report from the respondents. By its nature, self-reported data may be subject to error for several reasons. An individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors. Some respondents may over-report socially acceptable behaviors and under-report behaviors deemed unacceptable. Disability is a complex and somewhat subjective concept and the same individuals may characterize their condition differently at different times. In addition, different people may characterize the same condition differently.

There was no consistent policy regarding the inclusion of students who were on an Individualized Education Program (IEP). Students on an IEP either self-administered the survey without assistance or received assistance from an aide if desired. However, some would debate whether aides should be allowed to help students with an IEP to complete the survey. If students get assistance they have less confidentiality with their responses. However, they may be able to process the questions better with assistance. Furthermore, some students might not be able to participate in the survey at all without assistance from an aide. A protocol for standardizing how to include IEP students would be beneficial for future surveys.

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS also has certain methodologic limitations. First, persons with the most severe limitations and with certain disabilities are not represented in this sample since individuals living in institutions are not included in the BRFSS. BRFSS methodology also precludes anyone from assisting respondents in completing the interview if the selected adult had difficulty in participating for any reason, such as an intellectual or developmental disability. In addition, persons not included were those who are hearing impaired, have cognitive, speech, and other communication impairments, have limited physical stamina, or could not get to the telephone.

Second, the BRFSS data are also based on self-reported information and subject to limitations of self-reported data as outlined above. Third, households that do not have a telephone do not have the opportunity to participate in the survey. Approximately 1.7% of Massachusetts households lack a telephone. Up until 2007, MA residents with only mobile phone service were unable to participate in the survey.

In addition, a substantial percent of households contacted to participate in the BRFSS did not complete the survey. Although households were telephoned on repeated occasions, interviewers were not

always able to reach the randomly selected adult in the household and some adults contacted did not agree to participate in the survey. The results might be biased if participants differed systematically from those who chose not to respond. The weighting of the data partially accounts for this non-response.

Appendix 4 - References

American Cancer Society. Colorectal cancer facts and figures 2008-2010. Atlanta: American Cancer Society; 2008. Available at http://www.cancer.org/docroot/STT/STT_0.asp.

Bethell CD, Read D, Stein REK, et al. Identifying children with special health care needs: Development and evaluation of a short screening instrument. Ambul Pediatr 2002;2(1):38-48.

Brault M. Review of Changes to the Measurement of Disability in the 2008 American Community Survey (2009). Available at http://www.census.gov/hhes/www/disability/2008ACS_disability.pdf

Commonwealth of Massachusetts. The Olmstead First Olmstead Plan. 2008. Available at http://www.mass.gov/Eeohhs2/docs/press_release_docs/080912_comm_living_options.pdf

CDC. Pneumococcal polysaccharide vaccine: What you need to know. CDC; 1997. Available at http://www.cdc.gov/vaccines/pubs/vis/default.htm#ppv23.

CDC. Measuring healthy days. Atlanta, Georgia: CDC; November 2000. Available at http://www.cdc.gov/hrqol/pdfs/mhd.pdf.

CDC. Behavioral Risk Factor Surveillance System operational and user's guide. Version 3.0. 2006. Available at ftp://ftp.cdc.gov/pub/Data/Brfss/userguide.pdf.

CDC. Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2011. Available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6033a3.htm

Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health. Massachusetts Report Comparing Results from the 2005/06 and 2009/10 National Survey of Children with Special Health Care Needs. NS-CSHCN 2009/10 . Available at http://www.childhealthdata.org/browse/snapshots/cshcn-profiles?rpt=10&geo=23

Kaiser Commission on Medicaid and the Uninsured. The uninsured and the difference health insurance makes (2011). Available at http://www.kff.org/uninsured/upload/1420-13.pdf

Massachusetts Department of Public Health. BRFSS Methodology (2009). Available at http://www.mass.gov/eohhs/docs/dph/behavioral-risk/methodology.pdf

Massachusetts Department of Public Health. A profile of health among Massachusetts adults, 2010: Results from the Massachusetts Behavioral Risk Factor Surveillance System. MDPH: Health Survey Program. 2011. Available at http://www.mass.gov/Eeohhs2/docs/dph/behavioral_risk/report_2010.pdf.

Massachusetts Department of Public Health. A Profile of Health Among Massachusetts Middle and High School Students, 2011. Available at http://www.mass.gov/eohhs/docs/dph/behavioral-risk/2011-yhs.pdf

Massachusetts Department of Public Health. Massachusetts Deaths 2008. Available at http://www.mass.gov/eohhs/docs/dph/research-epi/death-report-08.pdf

Massachusetts Division of Health Care Finance and Policy. Health Insurance Coverage in Massachusetts: Results from the 2008-2010 Massachusetts Health Insurance Surveys. Available at: http://www.mass.gov/eohhs/docs/dhcfp/r/pubs/10/mhis-report-12-2010.pdf

Massachusetts Health Quality Partners. 2010/11 Adult routine preventive care recommendations. Available at http://www.mhqp.org/guidelines/preventivePDF/MHQP%20Adult%20(Rev.%2009-10)%20copy12-3.pdf

McPherson M, Arango P, Fox H, et al. A new definition of children with special health care needs. Pediatrics 1998;102(1):137–140.

National Center for Health Statistics (January 15, 2010). *Reliability of estimates.* Retrieved August 22, 2012, from http://www.cdc.gov/nchs/ahcd/ahcd_estimation_reliability.htm.

Sarkar NN, Sarkar R. Sexual assault on woman: Its impact on her life and living in society. Sexual and Relationship Therapy 2005;20(4):407-419.

Stein R E K, Westbrook LE, Bauman LJ. The questionnaire for identifying children with chronic conditions: A measure based on a noncategorical approach. Pediatrics 1997;99(4):513–21.

University of Michigan Institute for Social Research (sponsored by the National Institute on Drug Abuse, National Institutes of Health). Monitoring the future: National results on adolescent drug use (2012). Available at http://monitoringthefuture.org/pubs/monographs/mtf-overview2011.pdf

U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999–2005 incidence and mortality web-based report. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2009. Available at: www.cdc.gov/uscs.

U.S. Census Bureau. American Community Survey Population: Question on Disability (2010). Available at http://www.census.gov/acs/www/Downloads/QbyQfact/disability.pdf

U.S. Department of Health and Human Services. Healthy People 2010. 2nd ed. With understanding and improving health and objectives for improving health. 2 vols. Washington, DC: U.S. Government Printing Office; November 2000. Available at http://www.healthypeople.gov/document/tableofcontents.htm.

U.S. Department of Health and Human Services. 2008 Physical Activity Guidelines for Americans. Available at http://www.health.gov/paguidelines/guidelines/default.aspx#toc

U.S. Department of Health and Human Services. The Surgeon General's call to action to prevent underage drinking: A guide to action for families. U.S. Department of Health and Human Services, Office of the Surgeon General; 2007. Available at http://www.surgeongeneral.gov/topics/underagedrinking/calltoaction.pdf.

U.S. Preventive Services Task Force. Screening for cervical cancer. March 2012. Available at: http://www.uspreventiveservicestaskforce.org/uspstf11/cervcancer/cervcancerrs.htm.

Appendix 5: Data Summary Tables – MIDDLE AND HIGH SCHOOL STUDENTS

Table 8: Summary prevalence of disability by demographic characteristics of MA middle and high school students, MYHS 2011

Demographics	Middle School Disability %		High School Disability %	
	%	95% CI	%	95% CI
Overall Middle School	18.8	16.8-20.7		
Overall High School			28.3	25.8-30.8
Grades				
6th	14.5	11.9-17.1		
7th	21.5	17.9-25.0		
8th	20.1	16.6-23.5		
9th			27.6	22.8-32.5
10th			30.1	25.8-34.3
11th			27.7	22.3-33.2
12th			27.4	22.9-31.9
Race				
Non- Hispanic White	18.0	15.5-20.5	28.8	26.1-31.4
Non- Hispanic Black	20.1	15.6-24.6	22.8	16.0-29.5
Hispanic	21.4	16.8-26.1	28.5	22.1-34.8
Other	22.1	16.7-27.6	27.3	20.3-34.3
Gender				
Male	16.2	13.8-18.7	25.5	22.4-28.6
Female	21.5	18.9-24.2	31.3	27.9-34.7

% = Weighted

MIDDLE SCHOOL STUDENTS:

Table 9: Health risks and behaviors among MA middle school students by disability status, MA YHS 2011

	Total		***Disability***		***No Disability***	
	%	95% CI	%	95% CI	%	95% CI
Tobacco use						
Current smoker	3.0	2.2-3.8	7.8	5.3-10.3	1.8	1.2-2.5
Ever smoked/puffed cigarette	10.4	8.6-12.2	20.0	16.5-23.4	7.8	6.0-9.7
Alcohol use						
Lifetime alcohol use	20.3	17.8-22.8	35.2	30.2-40.2	16.3	13.8-18.8
Current alcohol use	8.1	6.7-9.5	17.5	13.6-21.4	5.7	4.4-7.0
Marijuana use						
Lifetime marijuana use	8.1	6.4-9.8	16.2	11.8-20.6	6.5	5.1-8.0
Current marijuana use	3.6	2.6-4.5	7.9	4.7-11.1	2.8	2.0-3.6
BMI						
Overweight	15.0	13.4-16.7	14.7	11.5-17.9	14.4	12.4-16.5
Obese	9.0	7.7-10.3	9.7	6.8-12.6	8.0	6.4-9.6
Fruits or vegetables eaten yesterday						
3 or more	67.2	65.1-69.3	65.2	60.7-69.7	68.5	66.0-71.0
Quality of Life						
General health						
Excellent/very good/good	95.2	94.4-96.0	89.4	87.0-91.9	96.9	96.1-97.6
Fair /poor	4.8	4.0-5.6	10.6	8.1-13.0	3.1	2.4-3.9
Depression						
Felt so sad/hopeless, stopped doing usual things	15.4	13.5-17.2	34.0	29.3-38.7	8.8	7.3-10.2
Attempted suicide	4.2	3.3-5.2	13.1	9.7-16.6	1.7	1.0-2.3

MIDDLE SCHOOL STUDENTS:

Table 9 continued: Health risks and behaviors among MA middle school students by disability status, MA YHS 2011

	Total		***Disability***		***No Disability***	
	%	95% CI	%	95% CI	%	95% CI
Injury and Violence						
Bullied at school or online at least once in the past 12 months						
Female	45.0	42.2-47.8	62.1	56.1-68.1	39.5	36.1-42.9
Male	34.7	31.8-37.5	52.7	46.1-59.3	30.4	27.2-33.7
Physically hurt by a date or someone you went out with						
Female	6.0	4.6-7.5	12.2	8.6-15.8	2.6	1.6-3.7
Male	4.7	3.6-5.7	9.1	5.1-13.1	4.8	3.4-6.3
Physically hurt by family member						
Female	11.6	10.1-13.1	23.4	18.1-28.7	7.3	5.8-8.8
Male	11.2	9.4-13.0	22.1	16.1-28.1	8.8	6.9-10.8
Witnessed violence in family						
Female	10.9	9.1-12.7	23.0	17.3-28.7	7.0	5.3-8.6
Male	8.7	7.3-10.0	17.5	12.5-22.5	6.4	5.1-7.6

HIGH SCHOOL STUDENTS:

Table 10: Health risks and behaviors among MA high school students by disability status, MA YHS 2011

	Total		***Disability***		***No Disability***	
	%	95% CI	%	95% CI	%	95% CI
Tobacco use						
Current smoker	13.2	10.5-15.9	19.7	15.7-23.8	9.9	7.7-12.2
Ever smoked/puffed cigarette	34.6	31.0-38.2	42.8	37.5-48.1	31.8	28.2-35.3
Alcohol use						
Lifetime alcohol use	68.6	65.8-71.3	72.0	68.0-76.0	67.8	64.9-70.7
Current alcohol use	40.3	36.9-43.7	40.9	35.6-46.1	40.0	36.4-43.7
Marijuana use						
Lifetime marijuana use	45.8	42.5-49.1	49.3	44.3-54.4	44.2	40.6-47.8
Current marijuana use	26.5	23.4-29.5	31.5	26.6-36.3	24.2	21.0-27.4
BMI						
Overweight	13.8	12.0-15.6	13.5	10.6-16.5	13.7	11.6-15.8
Obese	10.6	8.5-12.7	11.4	7.8-15.1	10.1	7.9-12.4
Fruits/vegetables eaten yesterday						
3 or more	57.7	54.3-61.1	55.8	51.7-60.0	58.9	54.9-63.0
Quality of Life						
General health						
Excellent/ Very Good/ Good	92.0	90.6-93.4	85.6	83.2-87.9	95.7	94.3-97.0
Fair/ Poor	8.0	6.6-9.4	14.4	12.1-16.8	4.3	3.0-5.7
Depression						
Felt so sad/hopeless, stopped doing usual things	23.2	20.9-25.6	40.1	36.2-44.0	14.2	12.1-16.3
Attempted suicide	5.5	4.2-6.8	12.9	9.4-16.5	2.3	1.4-3.2

HIGH SCHOOL STUDENTS:

Table 10 continued: Health risks and behaviors among MA high school students by disability status, MA YHS 2011

	Total		***Disability***		***No Disability***	
	%	95% CI	%	95% CI	%	95% CI
Injury and Violence						
Bullied at school or online at least once in the past 12 months						
Female	34.8	31.2-38.3	43.3	37.8-48.8	28.1	24.1-32.0
Male	25.9	22.8-29.0	35.8	28.8-42.8	20.9	17.9-23.9
Physically hurt by a date or someone you went out with						
Female	13.1	11.2-15.0	21.8	16.8-26.7	9.5	7.4-11.5
Male	6.2	4.8-7.6	8.4	4.8-11.9	5.1	3.6-6.6

Appendix 6: Data Summary Tables – Adults

Table 11: Prevalence of disability among MA adults by demographic characteristics (BRFSS 2008-10)

	Any disability			Disability, no help			Disability, need help[a]		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Age group									
All ages	20.2	19.5	20.8	14.7	14.1	15.3	5.4	5.1	5.8
18 - 44	14.6	13.5	15.6	11.4	10.5	12.4	3.1	2.7	3.6
45-64	22.3	21.4	23.2	16.0	15.2	16.8	6.2	5.7	6.7
65+	31.8	30.5	33.0	21.1	20.1	22.2	10.6	9.8	11.3
Race									
White									
All ages	20.5	19.8	21.2	15.2	14.6	15.8	5.3	4.9	5.6
18-44	14.8	13.6	16.0	11.8	10.7	12.9	3.0	2.5	3.5
45-64	21.8	20.8	22.7	16.2	15.3	17.0	5.5	5.0	6.0
65+	31.6	30.3	32.9	21.2	20.1	22.4	10.3	9.5	11.1
Black									
All ages	19.2	16.5	22.0	12.7	10.2	15.1	6.5	5.1	8.0
18-44	14.7	10.7	18.7	10.6	6.9	14.2	4.2	2.2	6.1
45-64	23.1	18.9	27.3	13.9	10.5	17.4	9.0	6.4	11.5
65+	31.0	24.2	37.7	18.4	12.9	23.9	12.6	8.1	17.0
Hispanic									
All ages	20.2	17.7	22.7	12.7	10.5	14.9	7.5	6.2	8.8
18-44	15.4	12.2	18.5	10.9	8.0	13.8	4.4	2.9	5.8
45-64	28.5	24.2	32.8	15.6	12.1	19.1	12.9	10.0	15.7
65+	38.1	30.8	45.3	19.2	13.0	25.4	18.8	13.6	24.0
Other (includes Asians)									
All ages	15.7	12.5	18.9	11.9	8.9	14.9	3.7	2.4	5.0
18-44	11.5	7.5	15.5	9.5	5.7	13.2	+		
45-64	22.0	15.1	28.8	14.5	8.0	20.9	7.3	4.0	10.6
65+	29.7	21.2	38.3	21.9	14.0	29.8	7.8	3.5	12.0
Gender									
Males									
All ages	19.8	18.8	20.8	15.5	14.5	16.4	4.3	3.8	4.8

	Any disability			Disability, no help			Disability, need help[a]		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
18-44	14.5	12.8	16.1	11.8	10.3	13.3	2.7	2.0	3.4
45-64	22.7	21.2	24.1	17.7	16.4	19.0	5.0	4.2	5.7
65+	31.2	29.1	33.2	22.7	20.9	24.6	8.4	7.2	9.6

Table 11 continued: Prevalence of disability among MA adults by demographic characteristics (BRFSS 2008-10)

	Any disability			Disability, no help			Disability, need help[a]		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Females									
All ages	20.5	19.7	21.3	14.0	13.3	14.7	6.5	6.1	6.9
18-44	14.7	13.4	16.1	11.1	9.9	12.3	3.6	3.0	4.2
45-64	21.9	20.8	23.0	14.5	13.5	15.4	7.3	6.7	8.0
65+	32.2	30.7	33.7	20.1	18.8	21.4	12.0	11.0	13.1
Education									
Less than high school									
All ages	36.5	33.2	39.8	22.2	19.2	25.3	14.2	12.2	16.2
18-44	29.3	23.2	35.3	19.6	13.9	25.2	9.7	6.5	12.9
45-64	47.6	42.3	52.9	26.9	22.0	31.8	20.5	16.7	24.3
65+	38.2	34.5	41.9	22.2	19.0	25.4	15.8	13.2	18.4
High school graduate									
All ages	24.8	23.4	26.2	16.9	15.6	18.2	7.8	7.1	8.6
18-44	18.1	15.6	20.7	13.9	11.5	16.3	4.2	3.1	5.3
45-64	27.3	25.2	29.4	18.0	16.2	19.7	9.3	8.0	10.6
65+	33.5	31.3	35.8	21.1	19.2	23.0	12.4	10.9	13.9
College 1-3 yrs									
All ages	22.2	20.9	23.6	15.9	14.8	17.1	6.2	5.5	6.9
18-44	16.3	14.1	18.4	12.1	10.2	13.9	4.2	3.1	5.3
45-64	25.2	23.3	27.1	17.5	15.8	19.2	7.6	6.5	8.7
65+	34.1	31.4	36.8	24.1	21.6	26.6	9.9	8.3	11.5
College 4+ yrs									
All ages	14.7	14.0	15.5	12.0	11.2	12.7	2.7	2.4	3.1
18-44	10.3	9.1	11.6	9.0	7.7	10.2	1.4	0.9	1.8
45-64	16.4	15.3	17.5	13.5	12.5	14.6	2.9	2.4	3.3
65+	27.1	25.1	29.1	19.2	17.4	21.0	7.8	6.6	9.1
Household Income									
< $25,000									
All ages	39.2	37.4	41.1	23.5	21.9	25.1	15.7	14.4	16.9
18-44	30.4	26.9	33.9	19.8	16.6	22.9	10.6	8.6	12.7
45-64	53.3	50.4	56.2	29.9	27.4	32.5	23.3	21.0	25.5
>65	39.9	37.6	42.2	23.4	21.4	25.4	16.4	14.7	18.2
$ 25- 49,999									

All ages	23.5	22.0	25.1	17.5	16.0	18.9	6.0	5.3	6.8
18-44	15.6	12.9	18.2	12.4	10.0	14.9	3.1	2.0	4.2
45-64	26.7	24.2	29.1	19.3	17.1	21.5	7.3	5.9	8.7
>65	33.5	31.0	36.1	23.7	21.4	25.9	9.8	8.2	11.4

Table 11 continued: Prevalence of disability among MA adults by demographic characteristics (BRFSS 2008-10)

	Any disability			Disability, no help			Disability, need help		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
$50,000+									
All ages	12.9	12.2	13.6	11.0	10.3	11.6	1.9	1.7	2.2
18-44	9.6	8.5	10.7	8.6	7.5	9.6	1.0	0.7	1.4
45-64	14.9	13.9	15.9	12.5	11.5	13.4	2.5	2.0	2.9
>65	23.9	21.6	26.2	18.6	16.5	20.7	5.3	4.0	6.5
Major city of residence									
Boston									
All ages	20.1	18.3	21.8	14.4	12.9	16.0	5.6	4.7	6.4
18-44	13.8	11.3	16.3	11.1	8.8	13.5	2.7	1.6	3.7
45-64	26.3	23.4	29.2	17.2	14.7	19.8	8.8	7.0	10.5
65+	32.0	28.4	35.5	21.5	18.4	24.6	10.4	8.2	12.7
Springfield									
All ages	25.7	23.2	28.2	14.4	12.4	16.3	11.3	9.7	12.9
18-44	17.0	13.4	20.6	9.6	6.7	12.4	7.4	5.1	9.7
45-64	33.0	29.2	36.7	18.6	15.5	21.6	14.4	11.7	17.0
65+	40.1	35.4	44.8	21.9	18.0	25.8	18.0	14.2	21.9
New Bedford									
All ages	28.5	25.6	31.5	17.8	15.1	20.4	10.7	8.9	12.6
18-44	23.0	18.1	28.0	15.4	10.9	20.0	7.6	4.8	10.4
45-64	34.2	30.4	38.0	21.1	17.9	24.3	13.0	10.4	15.7
65+	37.0	31.7	42.3	19.6	15.6	23.6	17.4	12.5	22.2
Fall River									
All ages	25.9	23.2	28.6	16.5	14.3	18.8	9.2	7.4	11.1
18-44	19.7	15.4	24.0	12.3	8.9	15.7	7.1	4.1	10.1
45-64	33.1	29.0	37.2	21.6	18.0	25.3	11.4	8.8	14.1
65+	32.3	27.5	37.1	20.6	16.1	25.0	11.6	8.6	14.5
Lawrence									
All ages	21.9	19.1	24.8	11.6	9.3	13.8	10.3	8.3	12.2
18-44	14.6	10.9	18.3	9.7	6.5	12.8	4.9	2.8	7.1
45-64	34.1	28.9	39.3	15.1	11.5	18.8	18.7	14.3	23.1
65+	31.3	24.9	37.8	13.4	8.8	17.9	18.0	12.6	23.3
Lowell									
All ages	22.3	19.8	24.8	14.8	12.7	16.9	7.4	6.1	8.7
18-44	15.7	12.3	19.0	11.2	8.3	14.1	4.5	2.8	6.1

45-64	30.9	27.2	34.7	20.0	16.7	23.3	10.8	8.5	13.1
65+	35.0	30.4	39.6	21.1	17.2	24.9	13.8	10.6	17.0

Table 11 continued: Prevalence of disability among MA adults by demographic characteristics (BRFSS 2008-10)

	Any disability			Disability, no help			Disability, need help[a]		
	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL	%	95% CI LL	95% CI UL
Worcester									
All ages	23.5	20.8	26.1	15.3	13.1	17.5	8.2	6.3	10.0
18-44	17.6	13.4	21.8	11.8	8.5	15.0	5.8	2.7	8.9
45-64	27.4	23.5	31.3	18.8	15.0	22.6	8.6	6.8	10.4
65+	37.7	32.9	42.5	21.8	17.8	25.7	15.9	12.0	19.7
Rest of state*									
All ages	19.7	18.9	20.4	14.7	14.0	15.3	5.0	4.6	5.3
18-44	14.2	13.0	15.5	11.4	10.3	12.6	2.8	2.3	3.3
45-64	21.1	20.1	22.1	15.6	14.7	16.5	5.5	4.9	6.0
65+	31.3	29.9	32.7	21.2	19.9	22.4	10.0	9.1	10.9

*State population excluding Boston, Springfield, New Bedford, Fall River, Lawrence, Lowell, and Worcester

[a] Needs assistance group includes those individuals who have disabilities and who responded that they needed the help of other persons with their personal care needs or in handling their routine needs.
+Insufficient data

Table 12: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			***DISABILITY***								
				All disability			**Disability, no help**			**Disability, needs help[a]**		
Variable	**%**	95% CI		**%**	95% CI		**%**	95% CI		**%**	95% CI	
SOCIO-ECONOMIC CHARACTERISTICS												
Employed												
All Ages	72.9	72.0	73.7	40.7	39.0	42.5	49.0	46.9	51.1	18.5	15.9	21.1
18-44	79.8	78.5	81.1	55.1	51.2	59.0	61.9	57.4	66.4	30.4	23.3	37.6
45-64	84.1	83.2	85.1	48.4	46.2	50.7	58.9	56.2	61.5	21.8	18.3	25.3
65+	22.8	21.3	24.2	10.8	9.3	12.3	14.0	11.9	16.0	4.6	3.0	6.3
Out of work												
All Ages	5.2	4.8	5.7	9.0	7.9	10.0	9.2	8.0	10.6	8.2	6.5	9.9
18-44	5.9	5.2	6.7	13.5	10.9	16.1	13.5	10.4	16.5	13.7	9.1	18.4
45-64	5.7	5.1	6.3	10.3	8.9	11.6	10.3	8.7	11.9	10.1	7.6	12.7
65+	1.6	1.3	2.0	1.5	1.0	2.1	1.7	1.0	2.4	+		
Unable to work												
All Ages	0.7	0.6	0.8	17.9	16.7	19.1	10.0	8.9	11.1	39.2	36.4	42.0
18-44	0.6	0.4	0.8	16.0	13.4	18.5	7.6	5.4	9.7	46.4	39.1	53.6
45-64	0.8	0.6	1.0	27.3	25.4	29.2	16.6	14.7	18.5	54.8	50.8	58.9
65+	1.1	0.7	1.4	7.5	6.4	8.7	4.0	2.9	5.0	14.8	12.1	17.6
Home/studying/retired												
All Ages	21.2	20.4	21.9	32.4	30.8	33.9	31.7	29.8	33.6	34.0	31.5	36.5
18-44	13.7	12.5	14.9	15.4	12.3	18.6	17.1	13.2	20.9	9.5	5.4	13.5
45-64	9.3	8.7	10.0	14.0	12.4	15.6	14.3	12.3	16.2	13.2	10.6	15.8
65+	74.5	73.1	76.0	80.1	78.2	81.9	80.4	78.1	82.7	79.3	76.1	82.4
HEALTH ACCESS												
Medicaid												
All Ages	8.9	8.3	9.5	15.1	13.8	16.5	13.2	11.6	14.8	20.3	17.8	22.8
18-44	11.6	10.5	12.7	23.6	20.3	27.0	20.8	16.9	24.6	33.9	27.0	40.9
45-64	6.6	5.9	7.2	14.4	12.9	15.9	11.4	9.7	13.0	22.2	18.9	25.4
65+	5.1	4.3	5.8	5.5	4.5	6.6	4.8	3.6	6.0	6.8	4.9	8.7
Medicare												
All Ages	15.4	14.9	16.0	38.9	37.4	40.5	32.5	30.7	34.2	56.2	53.3	59.1
18-44	2.8	2.3	3.4	13.7	11.3	16.1	8.2	5.9	10.4	33.9	27.2	40.6
45-64	2.2	1.8	2.5	23.9	22.1	25.8	17.5	15.5	19.4	40.7	36.8	44.5
65+	90.0	89.0	91.0	92.4	91.2	93.7	92.1	90.5	93.7	93.0	90.9	95.0
Private												
All Ages	74.6	73.7	75.4	53.6	51.9	55.3	58.5	56.4	60.5	40.7	37.9	43.6
18-44	77.3	75.9	78.7	59.2	55.4	63.0	64.7	60.3	69.0	39.6	32.5	46.8
45-64	85.1	84.2	86.0	62.0	59.8	64.1	68.8	66.4	71.2	44.2	40.2	48.2
65+	40.8	39.2	42.5	34.7	32.5	37.0	33.4	30.6	36.2	37.5	33.6	41.4

Table 12 continued: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			***DISABILITY***								
				All disability			**Disability, no help**			**Disability, needs help [a]**		
Variable	**%**	95% CI		**%**	95% CI		**%**	95% CI		**%**	95% CI	
No insurance (18-64)												
All Ages	3.0	2.5	3.4	3.1	2.3	4.0	3.4	2.3	4.4	2.5	1.1	3.8
18-44	3.6	3.0	4.3	4.5	2.8	6.2	4.7	2.7	6.8	+		
45-64	2.0	1.6	2.3	1.9	1.3	2.5	2.0	1.3	2.7	+		
Other insurance (including Commonwealth Care)												
All Ages	4.6	4.2	5.0	5.7	4.9	6.5	5.7	4.8	6.6	5.6	4.2	7.0
18-44	4.8	4.1	5.5	4.4	2.9	5.9	4.5	2.8	6.2	+		
45-64	4.6	4.1	5.2	7.6	6.4	8.9	7.4	6.0	8.8	8.3	5.7	11.0
65+	3.8	3.2	4.5	4.5	3.3	5.6	4.7	3.2	6.2	4.0	2.4	5.5
Have primary care doctor												
All Ages	89.6	88.9	90.3	92.9	91.8	93.9	92.7	91.4	94.0	93.5	91.6	95.4
18-44	85.0	83.8	86.2	86.7	84.0	89.4	86.7	83.6	89.8	86.7	81.0	92.5
45-64	93.9	93.2	94.5	95.0	94.0	96.0	95.1	93.9	96.2	94.8	92.7	96.8
65+	96.0	95.3	96.6	97.8	97.1	98.4	98.0	97.2	98.7	97.6	96.4	98.7
Routine checkup in past year												
All Ages	77.6	76.7	78.4	83.8	82.4	85.2	82.4	80.8	84.1	87.4	85.3	89.5
18-44	71.9	70.5	73.4	77.0	73.8	80.2	75.4	71.6	79.2	82.8	77.2	88.5
45-64	80.1	79.0	81.2	83.4	81.6	85.2	83.2	81.0	85.4	84.0	80.8	87.1
65+	91.5	90.6	92.4	93.2	92.1	94.4	92.2	90.6	93.7	95.3	93.7	97.0
Could not see doctor due to cost												
All Ages	5.2	4.7	5.6	11.7	10.5	12.9	10.9	9.5	12.3	14.0	11.8	16.3
18-44	6.5	5.7	7.3	17.4	14.5	20.3	16.7	13.4	20.0	20.0	13.5	26.5
45-64	4.5	3.9	5.1	11.4	10.0	12.7	9.5	8.1	11.0	16.0	13.0	19.0
65+	1.8	1.4	2.3	4.9	3.8	6.0	4.0	2.8	5.3	6.6	4.6	8.5
Dental visit in past year												
All Ages	81.7	80.9	82.5	71.2	69.6	72.8	73.5	71.6	75.4	65.0	62.1	67.9
18-44	80.2	78.9	81.6	73.1	69.5	76.6	73.5	69.5	77.6	71.5	64.1	78.8
45-64	85.6	84.6	86.6	73.1	70.9	75.3	76.1	73.5	78.6	65.6	61.5	69.7
65+	77.5	76.0	79.0	65.7	63.3	68.1	69.2	66.3	72.0	58.7	54.5	62.8
Teeth removed (6 or more)												
All Ages	9.7	9.2	10.2	27.4	26.0	28.9	22.8	21.2	24.4	40.0	37.0	42.9
18-44	2.0	1.6	2.4	8.6	6.6	10.5	6.0	4.1	7.9	18.2	12.4	23.9
45-64	10.5	9.7	11.4	28.8	26.6	31.0	23.9	21.5	26.4	41.1	36.9	45.4
65+	36.3	34.5	38.0	51.0	48.4	53.5	47.9	44.8	51.1	56.9	52.6	61.3
Flu shot (18 +)												
All Ages	43.1	42.2	44.0	52.3	50.5	54.0	50.2	48.1	52.3	57.8	54.9	60.7
18-44	34.2	32.7	35.7	32.9	29.3	36.5	30.9	26.8	35.0	39.8	32.6	47.0
45-64	44.4	43.1	45.8	53.1	50.8	55.3	51.8	49.1	54.5	56.5	52.5	60.6
65+	71.2	69.7	72.7	75.9	73.9	77.9	76.5	74.0	79.0	74.6	71.2	78.1

Table 12 continued: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			***DISABILITY***								
				All disability			**Disability, no help**			**Disability, needs help [a]**		
Variable	**%**	95% CI		**%**	95% CI		**%**	95% CI		**%**	95% CI	
Pneumonia vaccine (18+)												
All Ages	22.2	21.4	23.0	44.7	42.9	46.4	40.8	38.7	42.9	54.5	51.5	57.5
18-44	12.2	11.0	13.5	25.9	21.9	29.8	22.4	17.9	26.9	37.9	29.9	45.8
45-64	16.3	15.3	17.3	36.6	34.3	38.8	33.1	30.4	35.7	45.2	41.0	49.3
65+	66.1	64.5	67.7	76.8	74.8	78.8	76.0	73.5	78.5	78.1	74.7	81.5
Mammogram (past two years, women 40+)												
Age 40+	85.0	84.0	86.1	81.8	80.0	83.5	83.5	81.4	85.7	78.4	75.4	81.5
40-64	84.5	83.2	85.8	81.7	79.3	84.2	82.7	79.8	85.7	79.9	75.7	84.1
65+	86.6	85.1	88.1	81.8	79.4	84.2	84.9	82.0	87.8	76.3	72.0	80.5
Clinical breast exam (women, 18+ in past 2 years)												
All Ages	86.7	85.8	87.7	84.1	82.6	85.6	86.1	84.2	88.0	79.9	77.3	82.5
18-44	85.5	83.9	87.1	87.7	84.5	90.9	88.8	84.8	92.7	84.9	79.6	90.2
45-64	90.9	89.9	91.9	88.0	86.0	89.9	88.6	86.1	91.1	86.6	83.4	89.8
65+	81.9	80.3	83.6	75.1	72.4	77.8	79.0	75.8	82.3	68.2	63.4	73.0
Pap test (women, no hysterectomy) in past 3 years												
All Ages	86.4	85.5	87.3	77.1	75.3	78.8	78.8	76.6	81.0	73.3	70.4	76.1
18-44	90.5	89.0	92.0	89.8	86.5	93.1	89.2	84.9	93.4	91.7	87.7	95.6
45-64	90.7	89.6	91.7	83.4	81.2	85.6	84.1	81.4	86.8	82.0	78.3	85.8
65+	64.7	62.5	66.8	54.3	51.1	57.4	57.9	53.9	61.9	48.0	43.0	53.1
PSA test (men,50+)												
All Ages	62.0	59.9	64.0	59.3	56.2	62.4	61.3	57.8	64.8	52.6	46.2	59.1
50-64	56.5	53.8	59.2	53.8	49.5	58.1	55.1	50.3	60.0	48.8	39.4	58.2
65+	72.2	69.4	75.0	67.1	62.9	71.3	70.9	66.2	75.6	56.8	48.0	65.5
Digital rectal exam (men,50+)												
All Ages	64.7	62.7	66.6	62.1	59.1	65.1	63.0	59.6	66.4	59.1	53.1	65.2
50-64	63.2	60.6	65.7	60.7	56.6	64.9	61.9	57.2	66.6	55.8	46.7	64.9
65+	67.6	64.7	70.4	64.0	59.8	68.2	64.7	59.7	69.6	62.3	54.3	70.3
Stool blood test/past 2 years (50+)												
All Ages	20.1	19.2	21.0	22.9	21.5	24.4	22.7	20.9	24.5	23.5	20.8	26.1
50-64	16.2	15.1	17.3	19.1	17.1	21.1	17.9	15.6	20.1	22.3	18.3	26.3
65+	26.5	25.0	28.0	27.2	25.1	29.3	28.6	25.9	31.3	24.5	21.0	28.0
Colonoscopy/Sigmoidoscopy exam/past 5yrs (50+)												
All Ages	63.4	62.3	64.6	63.9	62.3	65.6	66.4	64.4	68.4	57.9	54.8	60.9
50-64	62.1	60.6	63.6	63.9	61.4	66.3	64.7	61.8	67.6	61.3	56.8	65.7
65+	65.7	64.0	67.3	64.0	61.7	66.3	68.5	65.8	71.2	54.8	50.7	58.9

Table 12 continued: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			***DISABILITY***								
				All disability			**Disability, no help**			**Disability, needs help [a]**		
Variable	**%**	95% CI		**%**	95% CI		**%**	95% CI		**%**	95% CI	
HEALTH RISKS												
Current smoker												
All Ages	12.7	12.0	13.4	22.4	20.9	23.9	19.9	18.2	21.6	29.1	26.3	31.9
18-44	14.2	13.1	15.3	31.8	28.2	35.3	27.7	23.8	31.7	46.7	39.4	54.0
45-64	12.8	12.0	13.6	23.5	21.6	25.3	19.4	17.3	21.4	34.1	30.3	38.0
65+	7.4	6.6	8.3	8.7	7.5	9.9	8.6	7.1	10.1	8.7	6.7	10.7
Quit attempts												
All Ages	60.5	57.8	63.2	62.2	58.6	65.9	59.3	54.6	64.1	67.7	62.4	73.0
18-44	64.8	60.8	68.9	63.7	57.3	70.0	62.0	54.0	69.9	67.3	57.4	77.2
45-64	55.8	52.4	59.3	62.7	58.4	66.9	57.4	51.7	63.2	70.5	64.4	76.5
65+	49.6	43.6	55.5	52.0	44.8	59.2	50.1	40.9	59.2	56.4	44.7	68.1
Binge drinking (5 + drinks)												
All Ages	18.8	17.9	19.6	13.4	12.0	14.7	15.3	13.6	16.9	8.3	6.5	10.0
18-44	25.9	24.4	27.4	23.0	19.7	26.2	25.4	21.5	29.3	14.3	9.4	19.3
45-64	14.2	13.2	15.1	11.8	10.3	13.2	12.8	11.0	14.6	9.1	6.8	11.5
65+	4.3	3.6	5.0	3.4	2.5	4.3	4.0	2.8	5.2	2.2	1.0	3.4
Any leisure time physical activity/past 30 days												
All Ages	82.6	81.9	83.3	65.9	64.4	67.4	71.6	69.9	73.4	50.8	48.0	53.7
18-44	84.1	82.9	85.2	75.9	72.9	78.9	80.4	77.1	83.6	59.7	52.8	66.6
45-64	82.9	81.9	83.9	64.6	62.5	66.7	70.0	67.6	72.5	51.0	47.0	55.0
65+	76.6	75.2	78.0	54.5	52.2	56.8	60.4	57.5	63.2	43.2	39.2	47.1
Overweight/obese												
All Ages	57.0	56.0	57.9	66.1	64.4	67.9	65.1	62.9	67.2	69.0	66.3	71.7
18-44	53.4	51.7	55.0	59.8	55.8	63.8	57.3	52.6	62.0	69.0	62.1	75.9
45-64	62.2	60.9	63.5	71.8	69.8	73.8	71.6	69.1	74.1	72.1	68.5	75.7
65+	58.2	56.6	59.9	66.4	64.1	68.7	66.8	64.0	69.6	65.4	61.4	69.3
Obese												
All Ages	19.7	19.0	20.5	32.1	30.5	33.7	30.2	28.3	32.1	37.3	34.6	40.1
18-44	19.4	18.1	20.6	28.6	25.2	32.0	26.6	22.7	30.5	36.1	29.2	42.9
45-64	21.5	20.4	22.6	36.7	34.5	38.9	35.1	32.5	37.7	40.9	36.9	44.9
65+	17.5	16.2	18.8	30.2	28.0	32.3	28.2	25.6	30.8	34.3	30.5	38.1
Fruit/vegetable consumption												
All Ages	27.5	24.9	30.0	23.8	19.8	27.8	23.0	18.2	27.8	25.7	18.5	32.9
18-44	26.6	22.2	31.0	23.7	14.8	32.6	25.2	14.7	35.7	+		
45-64	25.9	22.8	29.0	19.9	15.0	24.8	17.2	11.9	22.5	27.5	16.8	38.1
65+	33.7	29.1	38.3	30.0	24.1	35.9	29.2	21.9	36.4	31.1	21.0	41.2

Table 12 continued: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			***DISABILITY***								
				All disability			**Disability, no help**			**Disability, needs help [a]**		
Variable	**%**	95% CI		**%**	95% CI		**%**	95% CI		**%**	95% CI	
SECONDARY CONDITIONS												
Asthma (ever)												
All Ages	13.1	12.4	13.8	24.3	22.9	25.8	22.5	20.7	24.3	29.4	26.8	32.0
18-44	15.0	13.8	16.2	30.0	26.5	33.5	28.3	24.2	32.3	36.1	29.1	43.0
45-64	11.8	11.0	12.7	23.1	21.3	24.9	19.7	17.6	21.8	31.9	28.3	35.5
65+	9.5	8.5	10.4	19.0	17.2	20.8	17.9	15.7	20.1	21.1	18.0	24.3
Asthma (current)												
All Ages	8.0	7.4	8.5	18.9	17.5	20.2	16.8	15.2	18.4	24.6	22.1	27.1
18-44	8.6	7.6	9.5	23.2	20.0	26.4	20.7	17.2	24.3	31.9	25.0	38.7
45-64	7.7	7.1	8.4	17.8	16.2	19.4	14.7	12.9	16.6	25.6	22.3	29.0
65+	6.6	5.7	7.4	15.1	13.4	16.8	13.8	11.8	15.9	17.6	14.7	20.5
Heart disease (ages 35+)												
Age 35+	4.7	4.3	5.0	16.8	15.7	18.0	13.9	12.6	15.2	24.0	21.7	26.3
35-49	1.1	0.7	1.4	6.3	4.7	7.9	3.8	2.2	5.4	12.8	8.8	16.9
50-64	4.0	3.4	4.5	13.8	12.0	15.5	12.3	10.2	14.4	18.2	14.8	21.5
65+	14.5	13.3	15.8	30.0	27.8	32.2	26.0	23.4	28.6	38.0	34.1	41.9
Stroke (ages 35+)												
Age 35+	1.2	1.0	1.3	7.0	6.3	7.8	5.3	4.4	6.1	11.3	9.7	12.9
35-49	0.4	0.2	0.5	2.7	1.6	3.7	2.1	0.9	3.4	4.0	2.1	5.9
50-64	0.7	0.5	0.9	6.0	4.9	7.2	4.0	2.8	5.2	11.9	9.0	14.7
65+	3.9	3.3	4.6	12.2	10.6	13.8	9.9	8.1	11.8	16.7	13.7	19.7
High blood pressure												
All Ages	22.1	20.0	24.2	40.9	36.4	45.5	36.1	30.8	41.4	53.7	45.4	62.1
18-44	8.0	5.5	10.4	19.6	12.0	27.3	15.6	7.2	24.0	33.3	16.1	50.5
45-64	29.6	26.2	33.0	45.1	39.0	51.2	39.6	32.5	46.8	59.8	49.2	70.4
65+	53.1	48.3	57.9	62.9	56.5	69.2	61.1	53.3	69.0	65.9	55.0	76.8
High cholesterol												
All Ages	33.5	31.0	36.0	49.0	43.9	54.0	47.0	40.9	53.2	54.1	46.1	62.2
18-44	19.5	15.5	23.5	36.9	25.0	48.9	33.6	20.0	47.1	50.5	28.1	72.9
45-64	42.1	38.4	45.8	55.2	48.9	61.5	55.5	48.1	62.9	54.5	42.7	66.3
65+	48.1	43.2	53.0	53.9	47.3	60.5	53.1	45.0	61.3	54.9	43.6	66.1
Diabetes												
All Ages	5.1	4.8	5.5	15.1	14.1	16.1	12.4	11.3	13.6	22.3	20.2	24.4
18-44	1.7	1.4	2.1	5.5	3.9	7.1	3.8	2.2	5.4	11.7	7.4	16.0
45-64	6.6	5.9	7.2	16.8	15.2	18.4	14.1	12.3	15.9	23.7	20.5	26.9
65+	13.7	12.6	14.9	25.5	23.5	27.5	23.4	20.9	25.8	29.6	26.1	33.1

Table 12 continued: Data summary: comparison between adults with and without disabilities (BRFSS 2008-10)

	NO DISABILITY			DISABILITY								
				All disability			Disability, no help			Disability, needs help [a]		
Variable	%	95% CI		%	95% CI		%	95% CI		%	95% CI	
QUALITY OF LIFE												
Fair/Poor health												
All Ages	5.8	5.4	6.2	35.2	33.7	36.8	26.0	24.3	27.8	59.9	57.0	62.7
18-44	4.2	3.6	4.8	24.5	21.3	27.7	16.6	13.4	19.8	53.0	45.7	60.3
45-64	5.6	5.0	6.2	39.1	36.9	41.3	29.6	27.0	32.1	63.6	59.6	67.6
65+	12.2	11.1	13.2	44.0	41.7	46.3	35.4	32.7	38.2	61.2	57.3	65.1
15+ days/month sad, blue, depressed (2008 only)												
All Ages	3.3	2.6	4.0	17.9	14.7	21.2	13.0	10.0	16.0	31.4	23.6	39.2
18-44	3.1	2.0	4.2	18.7	11.8	25.6	11.9	6.4	17.4	42.2	22.7	61.7
45-64	3.5	2.4	4.6	21.4	16.8	25.9	16.8	11.9	21.8	34.0	24.0	43.9
65+	3.5	1.9	5.1	11.9	8.3	15.4	8.5	4.8	12.1	18.1	10.6	25.6
Suicide ideation past 12 months												
All Ages	+			5.6	3.3	7.9	+			9.3	4.4	14.1
Dissatisfied with life												
All Ages	2.6	2.3	2.9	13.4	12.3	14.6	10.2	9.0	11.4	22.2	19.6	24.7
18-44	3.1	2.5	3.6	14.6	12.0	17.2	10.9	8.3	13.5	28.1	21.2	35.0
45-64	2.3	1.9	2.7	16.0	14.4	17.7	12.2	10.5	14.0	25.8	22.2	29.3
65+	1.6	1.2	1.9	8.1	6.8	9.3	5.8	4.5	7.1	12.8	10.2	15.4
VIOLENCE AND INJURY												
Sexual violence men												
All Ages	2.8	2.0	3.6	11.9	8.8	15.1	9.5	6.5	12.5	20.9	11.7	30.1
18-44	3.2	1.9	4.4	18.9	11.5	26.2	13.3	6.6	20.1	38.4	18.8	57.9
45-64	2.8	1.8	3.9	9.0	5.9	12.2	7.8	4.4	11.2	+		
65+	+			4.4	1.9	6.9	+			+		
Sexual violence women												
All Ages	12.1	10.8	13.4	26.3	22.8	29.7	27.2	22.7	31.6	24.0	19.1	28.8
18-44	13.4	11.2	15.5	39.3	31.5	47.0	41.8	32.6	50.9	30.8	18.1	43.5
45-64	13.9	12.0	15.8	28.9	24.6	33.1	25.9	20.8	31.0	33.4	25.9	40.9
65+	3.9	2.6	5.2	7.4	4.7	10.1	7.4	3.9	11.0	7.3	3.3	11.2
Unintentional falls												
Age 45+	11.5	10.9	12.2	25.2	23.7	26.6	21.0	19.4	22.6	35.0	32.2	37.8
45-54	11.8	10.6	12.9	29.0	26.0	32.0	22.5	19.2	25.7	44.7	38.7	50.6
55-69	10.8	9.8	11.8	23.5	21.4	25.6	19.6	17.3	22.0	34.5	30.1	38.9
70+	12.4	11.0	13.7	23.7	21.3	26.1	21.6	18.7	24.5	27.6	23.5	31.7
Injured by unintentional falls												
Age 45+	3.2	2.9	3.6	9.5	8.6	10.5	6.3	5.4	7.3	17.1	14.9	19.3
45-54	2.9	2.4	3.5	12.2	10.1	14.3	7.5	5.4	9.5	23.4	18.4	28.5
55-69	3.0	2.5	3.5	8.9	7.5	10.2	5.9	4.6	7.3	17.2	13.7	20.7
70+	4.1	3.3	5.0	7.9	6.3	9.4	5.7	4.0	7.4	11.8	8.8	14.9

[a] Needs assistance group includes those individuals who have disabilities and who responded that they needed the help of other persons with their personal care needs or in handling their routine needs.
+Insufficient data