Health of Persons with Disabilities in Michigan

Annual Data Report
2015

Disability and Health Program
Michigan Department of Health and Human Services

Contents

Executive Summary

This data report is intended to be a comprehensive but not exhaustive review of some of the key statistical information used to guide the program priorities and decisions of the Michigan Disability and Health Initiative. This program is funded through a Cooperative Agreement between the Centers for Disease Control and Prevention and the Michigan Department of Health and Human Services and operates as a partnership with other public health and disability advocacy and service organizations in Michigan. The sources of most of the data in this report are the 2010-2013 Michigan Behavioral Risk Factor Surveys (MiBRFS). These surveys define persons with disabilities as those who experience limitations in activities due to physical, mental or emotional problems or who are required to use special equipment due to a health problem.

The following are some significant facts and figures pertaining to the prevalence of disability in Michigan:

- Disability prevalence in Michigan is significantly influenced by age, race/ethnicity, education and income and also showed some regional variations.
- The number of Michigan adults with disabilities is estimated to increase by over 200,000 by 2030.
- Michigan has a higher prevalence of persons with disability than the nation.

Persons with disabilities in Michigan who reported a higher prevalence of fair or poor health status were middle-aged (35-64 years of age), Black, non-Hispanic and tended to have lower household income and education.

Persons with disabilities in Michigan had significantly poorer general, physical and mental health status and substantially higher rates of chronic conditions compared to persons without disability. These disparities were not fully explained by the older age distribution of persons with disabilities. Compared to persons with disabilities in other states, persons with disabilities in Michigan were more likely to report having no poor mental health days within the past month. Hypertension, high cholesterol, arthritis and kidney disease rates among persons with disability in Michigan were among the highest in the nation.

Persons with disability in Michigan had higher rates of health risk factors: obesity, smoking, inadequate physical activity and fruit consumption, relative to persons without disability. The proportion of obese individuals among adults with disability in Michigan was the 14th highest among the 54 U.S. states and territories in the national Behavioral Risk Factor Surveillance System (BRFSS). Smoking and insufficient sleep days were also higher in Michigan than in most states. Reducing the high prevalence of behavioral risk factors among persons with disabilities can go a long way to reducing the disparities in chronic disease prevalence by disability status.

Mixed results were evident for persons with disabilities in Michigan regarding health care access and clinical preventive health services. While persons with disabilities were more likely to report having a personal health care provider than persons without disabilities, they were less likely to report being able to see a doctor when needed due to cost. Persons with disabilities received routine annual check-ups, cholesterol screening, HIV tests and influenza and pneumonia vaccinations at higher rates than persons without disabilities. However, females with disabilities received clinical breast exams and Pap tests at

lower rates than persons without disabilities. Compared to persons with disabilities in most other states, persons with disabilities Michigan had higher rates of Mammograms and Pap tests but lower rates of influenza and pneumonia vaccinations among persons age 65 and over.

Many adults with major chronic conditions also have disabilities, ranging from around 40% of those with asthma or cancer to nearly 60% of those with cardiovascular disease or COPD.   This co-occurrence reinforces the need for chronic disease programs to be accessible to and effective for people with disabilities.

Prevalence of Disability

Definition of Disability

In conjunction with the U.S. Centers for Disease Control and Prevention (CDC), the Michigan Department of Health and Human Services (MDHHS) conducts the Behavioral Risk Factor Survey (BRFS) annually in Michigan. The Michigan BRFS (MiBRFS) serves as the source of all of the data in this report. Future reports on the health and health care use of persons with disabilities on Medicaid will contain data from the Michigan Medicaid system.

Two questions in the MiBRFS are used to classify survey respondents as having a disability or not. These questions are as follows: 1) *Are you limited in any way in any activities because of physical, mental, or emotional problems?* and 2) *Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?* A person with a disability is defined as someone who answers "Yes" to either of these questions.

Demographic Characteristics

Table 1 shows the prevalence or percentage of persons with the combined definition of disability ("Yes" to either disability question), the definition based on activity limitations ("Yes" to the first disability question) and the definition based on using special equipment ("Yes" to the second disability question) for selected demographic groups. For each definition of disability, prevalence rates increased with age and increased as education and household income declined. Activity limitation rates did not differ by race-ethnicity, but Black, non-Hispanics had a higher overall disability rate and used special equipment at a higher rate than White, non-Hispanics. Regional disability prevalence rates tended to be highest in the Detroit Metro and thumb regions and lowest in the Upper Peninsula and mid-Michigan regions - see Table 4 within the 2013 MiBRFS Emergency Preparedness Region Tables and the 2013 MiBRFS Michigan Economic Development Collaborative Region Tables.

Projections: 2012 – 2030

The number of persons with disabilities in Michigan who are age 18 and older is projected to increase by 207,000 between 2012 and 2030 (Figure 1). These projections assume that disability rates by age and sex for Michigan adults will remain relatively constant during this period and that the proportion of adults who are older will continue to increase.

Michigan-U.S. Comparisons

National BRFS data released by the CDC for 2012 showed that disability prevalence rates in Michigan exceeded national rates by approximately two percentage points in the total adult population and in almost every selected age and gender group shown in Figure 2, with the exception of persons age 65 or older. Michigan disability rates by race/ethnicity were comparable to that of the United States as a whole.

Key Health Indicators

Health Status of Persons With Disabilities by Demographic Characteristics

Who are the groups of persons with disabilities in Michigan who are at highest risk for fair or poor heath? Fair or poor health was assessed by the BRFS through responses to the question: "In general, would you say that your health is excellent, very good, good, fair or poor?" Approximately 46% of persons with disabilities in Michigan in 2013 rated their health as fair or poor.

Fair/poor health status rates among adults with disabilities were lowest among persons under age 35, peaked among persons ages 35 to 64 and declined after age 64 (Table 2). Rates of fair/poor health status did not differ significantly between males and females, but Black, non-Hispanics had a significantly higher rate than White, non-Hispanics. Strong trends were seen for higher fair/poor health status rates among persons with disabilities as their educational and income levels decreased.

Health Indicator Comparisons Between Persons With and Without Disabilities

Significant health disparities exist between persons with and without disabilities in Michigan. Health status indicators provide prime examples of these disparities. Persons with disabilities had higher rates of fair/poor self-reported health status, poor physical health, poor mental health and (permanent) tooth loss, compared to persons without disparities (Table 3a).   Regarding health care access indicators, persons with disabilities had rates of insurance coverage than were similar to persons without disabilities, and persons with disabilities were more likely to have a personal health care provider. However, persons with disabilities were more likely to report that access to care was limited by its cost.

The following adverse health risk behaviors were significantly more prevalent among persons with disabilities than among those without disabilities: obesity, no leisure time physical activity and current smoking. Persons with disabilities also reported the following *healthy* behaviors at significantly *lower* rates than persons without disabilities: getting adequate physical activity and eating one or more servings of fruit per day. However, on the positive side, persons with disabilities were *less* likely than persons without to report binge drinking.

Persons with disabilities used some clinical preventive practices at higher levels than persons without disabilities but used others at lower levels. Practices with more favorable usage for persons with disabilities included: annual check-ups, cholesterol screening, HIV tests, influenza vaccinations (all adults) and pneumonia vaccinations (all adults and persons age 65 and over). However, persons with disabilities were less likely than those without to have an annual dental visit, and women with disabilities received properly-timed clinical breast exams and Pap tests at lower rates.

With the exception of ever told arthritis, each of the chronic conditions shown in Table 3a was experienced at a significantly higher rate by persons with disabilities. Modestly higher prevalence (50% to two times higher) among persons with disabilities was seen for high blood pressure, cholesterol, asthma, cancer, non-correctable visual impairment, falls, and injuries due to falls; substantially higher

prevalence (nearly three to four times higher) was seen for COPD, kidney and cardiovascular diseases, diabetes, and depression.

Because age is related to disability as well as to some of the health conditions and behaviors in Table 3a, prevalence rates were adjusted in Table 3b for differences in age between persons with and without disabilities. This allowed rates to be compared between these two populations as if they each had the same age distribution. The majority of the significant differences between the rates by disability status reported in Table 3a remained significantly different after age-adjustment in Table 3b, indicating that factors other than age underlie the vast majority of these differences.

Mammography screening rates did not differ significantly by disability status in Tables 3a and 3b. However, when persons with a disability were defined as those who 1) had activity limitations only, 2) had activity limitations AND used special equipment, and 3) used special equipment only, screening rates were lower for both groups who used special equipment, compared to persons without a disability or persons with a disability based on activity status alone (Figure 3). The screening rate for persons who had an activity limitation and who used special equipment (67.8%) was significantly lower than the rate for persons without a disability (76.4%) and the rate for persons with an activity limitation only (79.3%). This pattern of lower rates of preventive health practice use for persons with activity limitation and use of special equipment, compared to persons without disabilities and persons with activity limitations only, was also evident for annual dental visits and clinical breast exams (Figures 4 and 5). It suggests that persons who have both activity limitations and use special equipment may have more serious problems with access to mammography, clinical breast exams and dental care or that having both conditions may be a marker for a more severe type of disability that inhibits greater use of these services.

Michigan-U.S. Comparisons for Persons With Disabilities

Table 4 shows the results of comparisons of key health indicators among persons with disabilities in Michigan with these same indicators for all 50 states, the District of Columbia and four territories. The prevalence rates for each indicator for Michigan and the U.S., as well as Michigan's ranking on these indicators, were included. These indicators reflected 2012 data, unless otherwise indicated below, and were age-adjusted to control for differences in the age composition of Michigan and the other states and territories. Because of significant differences in the BRFS survey methods prior to 2011, the 2010 results included in Table 4 should not be compared to the 2011 or 2012 results in Table 4 or in other tables.

Below is a summary of the positive and negative rankings of persons with disabilities in Michigan on the health indicators in Table 4 by indicator category. Rankings in the highest or lowest 15 (out of the 54 states, D.C. and three U.S. territories) were listed.

Health Status and Access Indicators

Positive Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Lower rate of not having a personal health care provider (Rank: 47; MI: 14.1%, US: 18.6%) and

Health Risk Behaviors

Positive Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Higher rate of always wearing a seatbelt (Rank: 15; MI: 87.3%, US: 84.3%).

Negative Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Higher rate of obesity (Rank: 14; MI: 40.8%, US: 38.4%),
- Higher rate of current smoking (Rank: 6; MI: 36.9%, US: 30.3%) and
- Lower rate of no insufficient sleep days in past month - 2010 (Rank: 42; MI: 20.3%, US: 21.5%).

Clinical Preventive Health Practices

Positive Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Higher rate of having a Mammogram within the past two years (Rank: 14; MI: 78.0%, US: 75.1%) and

Negative Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Lower rate of flu vaccination among those aged 65 and older (Rank: 40; MI: 58.3%, US: 62.5%) and
- Lower rate of pneumonia vaccination among those aged 65 and older (Rank: 45; MI: 72.8%, US: 74.9%).

Chronic Health Conditions

Negative Results for Persons with Disabilities in Michigan (Based on National Rankings)

- Higher rate of ever told have high blood pressure - 2011 (Rank: 12; MI: 44.0%, US: 41.7%),
- Higher rate of ever told have high cholesterol – 2011 (Rank: 12; MI: 47.1%, US: 44.4%)
- Higher rate of ever told have arthritis (Rank: 10; MI: 52.0%, US: 47.7%) and
- Higher rate of ever told have kidney disease (Rank: 9; MI: 6.8%, US: 5.6%).

Prevalence of Disability Among Persons With Selected Chronic Conditions

Persons in Michigan with certain chronic conditions tend to have a high prevalence of disability (Figure 6). The tendency of disability to co-occur among persons with such conditions make persons with disability a target population for inclusion in public health intervention programs addressing these chronic diseases (e.g., arthritis, diabetes and other chronic disease self-management programs). Results in Figure 6 also demonstrate that programs dedicated to the needs of persons with mental illness (e.g., depressive disorders) can also capture a large prevalence of persons with disabilities. Programs that focus on certain behavioral risk factors (e.g., obesity and inadequate physical activity) are also likely to attract and serve substantial numbers of persons with disabilities (Figure 7).

Tables and Figures

	Disability[a]		Any Activity Limitation[b]		Used Special Equipment[c]	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval

Table 1: Prevalence of Disability, Activity Limitation and Use of Special Equipment By Selected Characteristics, Michigan Adults, 2013
(Estimates from the 2013 Michigan Behavioral Risk Factor Surveillance System)

	Disability[a]		Any Activity Limitation[b]		Used Special Equipment[c]	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Total	**25.5**	**(24.5-26.6)**	**23.0**	**(22.0-24.1)**	**9.6**	**(9.0-10.3)**
Age						
18 - 24	11.2	(8.9-14.0)	10.4	(8.3-13.1)	--[d]	--[d]
25 - 34	15.1	(12.3-18.4)	14.3	(11.5-17.5)	3.2	(2.0-5.2)
35 - 44	20.5	(17.9-23.4)	19.0	(16.4-21.8)	6.1	(4.7-8.0)
45 - 54	26.5	(24.0-29.0)	24.5	(22.1-27.0)	9.7	(8.1-11.5)
55 - 64	35.1	(32.8-37.6)	33.0	(30.7-35.4)	12.7	(11.0-14.5)
65 - 74	34.4	(31.7-37.1)	29.9	(27.4-32.4)	15.7	(13.6-18.0)
75 +	42.5	(39.6-45.5)	34.0	(31.3-36.8)	25.9	(23.4-28.6)
Gender						
Male	25.8	(24.2-27.4)	23.1	(21.6-24.7)	9.5	(8.5-10.6)
Female	25.2	(23.9-26.6)	23.0	(21.7-24.3)	9.7	(8.8-10.6)
Race/Ethnicity						
White non-Hispanic	25.0	(23.9-26.1)	22.9	(21.8-24.0)	8.9	(8.2-9.6)
Black non-Hispanic	30.0	(26.3-34.0)	26.3	(22.8-30.2)	14.1	(11.5-17.2)
Other non-Hispanic	21.9	(17.8-26.6)	19.6	(15.8-24.1)	8.9	(6.5-12.0)
Hispanic	18.9	(13.5-26.0)	16.6	(11.4-23.6)	5.6	(3.3-9.3)
Education						
Less than high school	41.1	(36.2-46.1)	35.8	(31.1-40.7)	17.9	(14.6-21.8)
High school graduate	27.1	(25.4-28.8)	25.0	(23.3-26.7)	10.3	(9.3-11.4)
Some college	24.3	(22.7-26.1)	22.1	(20.5-23.8)	8.7	(7.7-9.8)
College graduate	17.2	(15.9-18.6)	15.4	(14.2-16.6)	5.8	(5.0-6.7)
Household Income						
< $20,000	44.7	(41.5-47.9)	40.7	(37.6-43.9)	19.7	(17.4-22.2)
$20,000 - $34,999	30.3	(27.9-32.8)	26.9	(24.6-29.3)	13.0	(11.2-15.0)
$35,000 - $49,999	24.9	(22.1-27.9)	22.9	(20.2-25.9)	8.2	(6.8-9.9)
$50,000 - $74,999	18.4	(16.3-20.7)	16.6	(14.6-18.8)	5.1	(4.1-6.4)
$75,000 +	12.2	(10.8-13.7)	10.7	(9.4-12.1)	3.2	(2.5-4.0)

[a] Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems, or reported that they required use of special equipment (such as a cane, a wheelchair, a special bed, or a special telephone) due to a health problem. (N = 12,556)
[b] Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems. (N = 12,563)
[c] Among all adults, the proportion who reported that they required use of special equipment (such as a can, a wheelchair, a special bed, or a special telephone) due to a health problem. (N = 12,595)
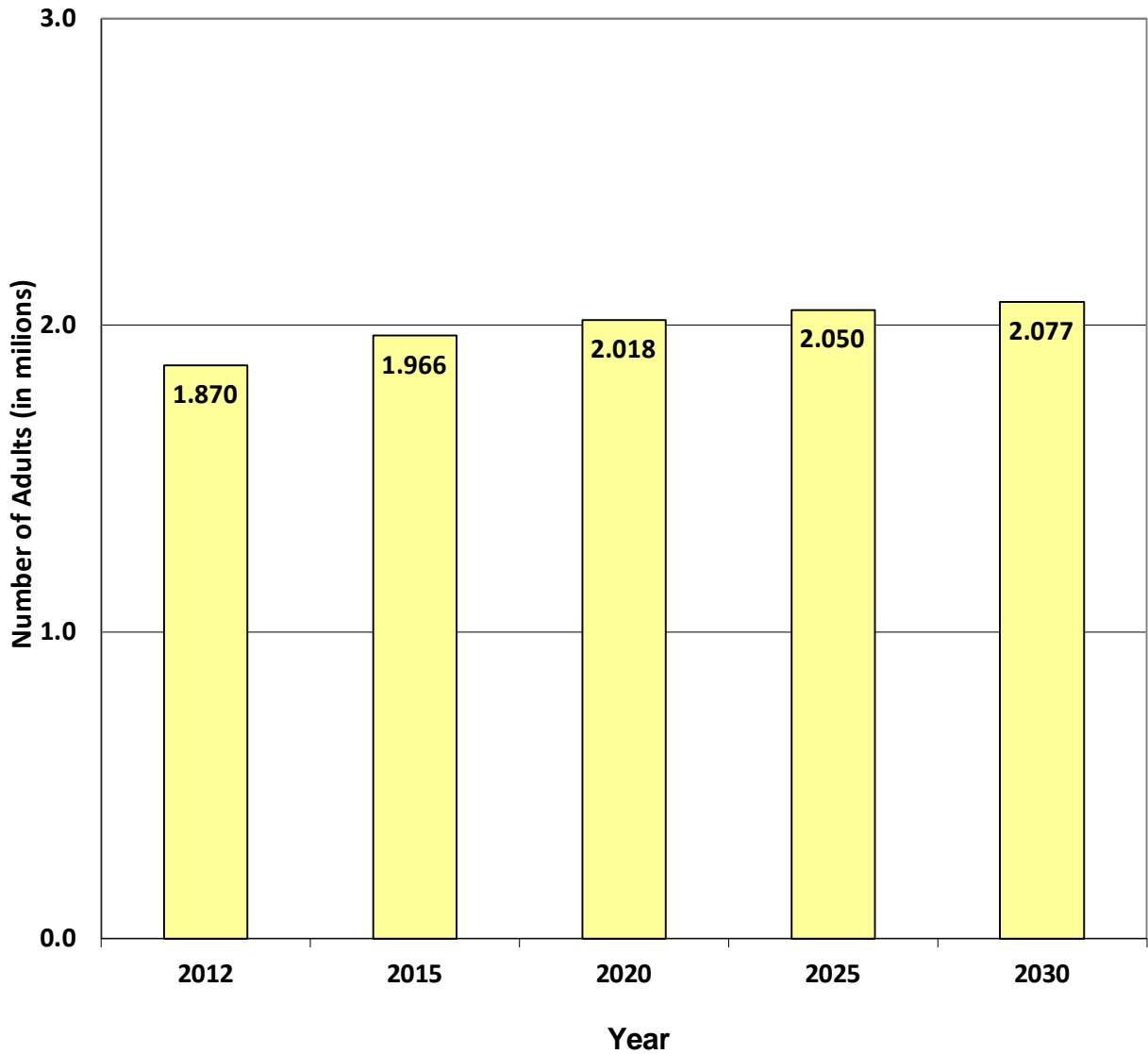[d] Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

Due to significant changes in the BRFSS methodology, the estimates within these tables should not be compared to Michigan BRFSS estimates from 2010 and earlier.

Figure 1. Projected Number (in Millions) of Michigan Adults With Disabilities, 2012-2030

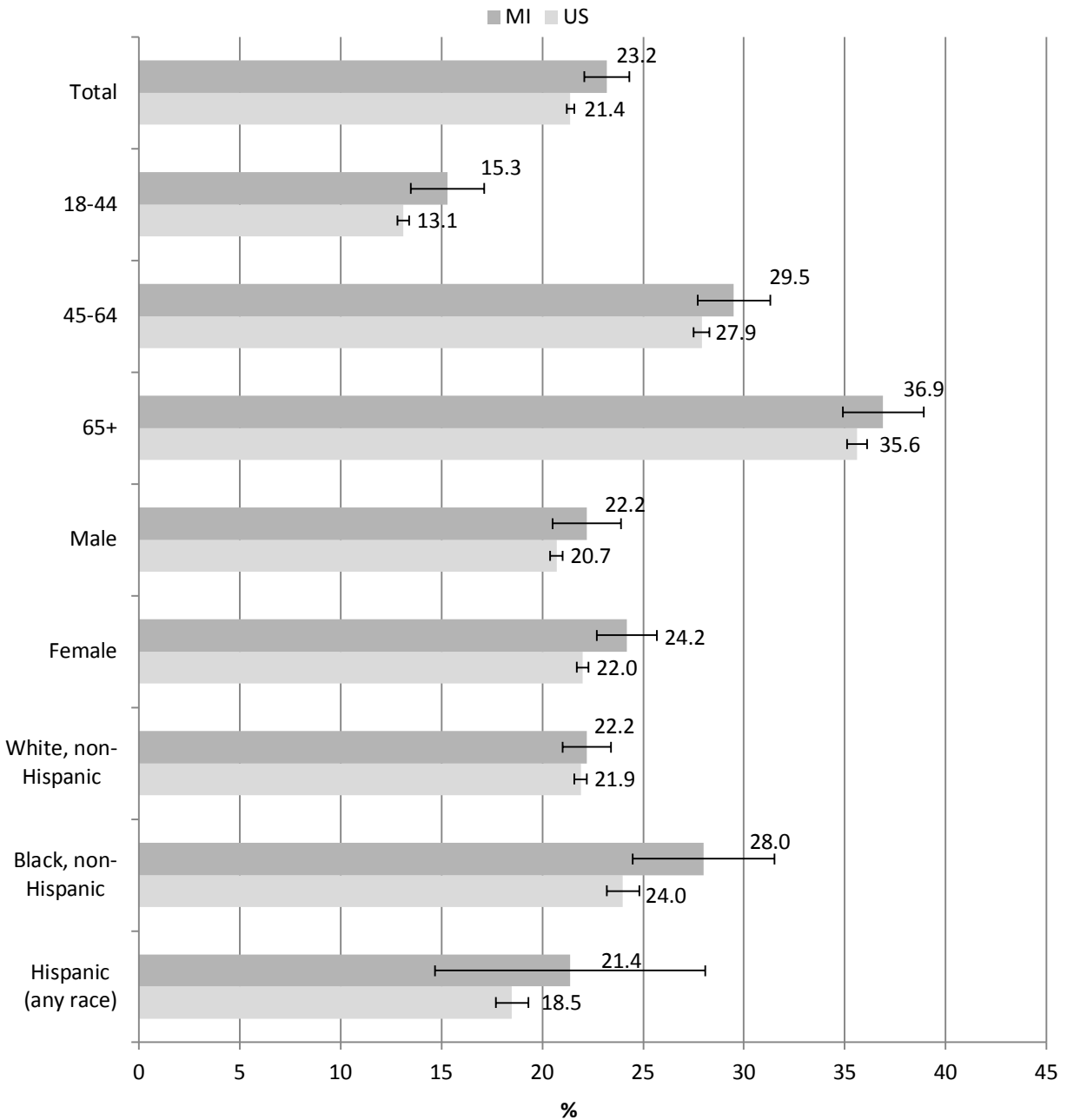Source: U.S. Census Bureau and 2012 Michigan Behavioral Risk Factor Survey. Due to significant changes in the BRFSS methodology, the estimates within this chart should not be compared to BRFSS estimates from 2010 and earlier.

Figure 2. Prevalence (%*) of Adults With Disabilities By Demographic Group, Michigan and U.S.** Adults, 2012

■ MI ■ US

Demographic Group	MI	US
Total	23.2	21.4
18-44	15.3	13.1
45-64	29.5	27.9
65+	36.9	35.6
Male	22.2	20.7
Female	24.2	22.0
White, non-Hispanic	22.2	21.9
Black, non-Hispanic	28.0	24.0
Hispanic (any race)	21.4	18.5

%

*All percentages are age-adjusted to the 2000 US standard population, except those for the three age groups. Source: CDC, Disability and Health Data System using data from the 2012 Behavioral Risk Factor Surveillance System. Due to significant changes in the BRFSS methodology, these estimates should not be compared to BRFSS estimates from 2010 and earlier. **50 states, District of Columbia, Guam, Puerto Rico

Table 2. Prevalence of Fair/Poor Health Status By Selected Characteristics, Michigan Adults With Disabilities, 2013 (Estimates from the 2013 Michigan Behavioral Risk Factor Surveillance System)	General Health: Fair or Poor[a]	
	%	95% Confidence Interval
Total	45.7	(43.3-48.1)
Age		
18 - 24	25.8	(17.3-36.7)
25 - 34	37.3	(27.0-48.9)
35 - 44	46.1	(38.6-53.8)
45 - 54	49.9	(44.3-55.5)
55 - 64	52.9	(48.6-57.1)
65 - 74	45.5	(40.5-50.6)
75 +	40.9	(36.5-45.4)
Gender		
Male	44.7	(41.2-48.4)
Female	46.6	(43.5-49.7)
Race/Ethnicity		
White non-Hispanic	42.7	(40.2-45.2)
Black non-Hispanic	53.0	(45.2-60.6)
Other non-Hispanic	49.0	(38.8-59.4)
Hispanic	--[b]	--[b]
Education		
Less than high school	70.0	(62.2-76.8)
High school graduate	44.3	(40.8-47.9)
Some college	42.2	(38.4-46.1)
College graduate	26.7	(23.1-30.7)
Household Income		
< $20,000	60.4	(55.8-64.8)
$20,000 - $34,999	49.7	(45.0-54.5)
$35,000 - $49,999	45.0	(38.2-52.0)
$50,000 - $74,999	32.6	(26.8-39.1)
$75,000 +	22.1	(17.4-27.6)
[a] Among all adults with disabilities, the proportion who reported that their health, in general, was either fair or poor. [b] Suppressed due to a denominator < 50 and/or a relative standard error > 30%.		

Due to significant changes in the BRFSS methodology, the estimates within these tables should not be compared to Michigan BRFSS estimates from 2010 and earlier.

Table 3a: Prevalence Estimates Among Michigan Adults With and Without Disabilities 2013* Michigan Behavioral Risk Factor Survey (MiBRFS) % (95% Confidence Interval)		
Health Status and Access Indicators	**With Disability[1]**	**Without Disability**
General Health, Fair or Poor[2]	45.7 (43.3-48.1)	8.0 (7.2-8.8)
Poor Physical Health on at least 14 Days in the Past Month[3]	36.9 (34.6-39.2)	4.5 (3.9-5.1)
Poor Mental Health on at least 14 Days in the Past Month[4]	26.1 (23.9-28.4)	7.1 (6.4-8.0)
No Permanent Teeth Removed[5] (2012)	36.5 (33.9-39.0)	63.2 (61.7-64.7)
No Health Care Coverage (Among 18 – 64 Year Olds)[6]	17.0 (14.5-19.8)	17.5 (16.2-18.9)
No Personal Health Care Provider[7]	9.7 (8.2-11.6)	19.5 (18.3-20.8)
No Health Care Access During Past 12 Months Due to Cost[8]	25.6 (23.4-28.0)	12.0 (11.1-13.1)
Health Risk Behaviors		
Obese[9]	42.6 (40.2-45.0)	27.9 (26.6-29.2)
No Leisure-Time Physical Activity[10]	35.7 (33.5-38.0)	20.5 (19.3-21.7)
Adequate Physical Activity[11]	14.5 (12.8-16.3)	21.2 (20.1-22.5)
Fruit Consumption (1 or more servings per day)[12]	59.4 (57.0-61.8)	63.4 (62.0-64.8)
Vegetable Consumption (1 or more servings per day)[13]	73.4 (71.1-75.6)	75.9 (74.6-77.2)
Current Smoker[14]	28.7 (26.4-31.1)	18.8 (17.6-20.0)
Heavy Drinking[15]	4.9 (3.9-6.0)	6.7 (6.1-7.5)
Binge Drinking[16]	13.6 (12.0-15.5)	20.7 (19.6-21.9)
Always Use a Seatbelt[17]	90.2 (88.7-91.5)	89.3 (88.3-90.3)
Clinical Preventive Health Practices		
No Routine Checkup in Past Year[18]	21.9 (20.0-24.0)	33.1 (31.7-34.5)
Had Dental Visit in Past Year[19] (2012)	57.8 (55.2-60.4)	71.3 (69.8-72.7)
Cholesterol Checked Within Past 5 Years (Among Age 20+)[20]	88.7 (86.7-90.5)	78.7 (77.4-80.0)
Ever Had an HIV Test (Among 18 – 64 Year Olds)[21]	50.1 (46.9-53.2)	38.4 (36.8-40.1)
Influenza Vaccination[22]	43.0 (40.7-45.3)	32.9 (31.6-34.1)
Influenza Vaccination Among Those Age 65+[23]	59.1 (55.7-62.5)	55.2 (52.7-57.8)
Pneumonia Vaccination Among Those Age 65+[24]	73.1 (69.6-76.4)	65.7 (63.2-68.2)
Had Sigmoidoscopy in Past 5 Yrs/Colonoscopy in Past 10 Yrs (Age 50+)[25]	71.6 (69.0-74.0)	67.3 (65.5-69.0)
Had Fecal Occult Blood Test in Past Year (Age 50+)[26]	8.8 (7.4-10.4)	8.5 (7.5-9.6)
Had Mammogram in Past 2 Years (Females Age 40)[27] (2012)	75.0 (72.2-77.6)	77.4 (75.4-79.2)
Had Clinical Breast Exam in Past 2 Yrs (Females Age 40+)[28] (2012)	72.4 (69.5-75.1)	79.9 (78.1-81.6)
Had Pap Test in Past 3 Years (Females)[29] (2012)	74.0 (70.3-77.4)	81.0 (78.9-82.8)
Chronic Health Conditions		
Ever Told High Blood Pressure[30]	54.9 (52.5-57.3)	27.9 (26.7-29.1)
Ever Told High Cholesterol (Age 20+)[31]	54.9 (52.5-57.4)	36.1 (34.7-37.5)
Ever Told Asthma[32]	19.3 (17.4-21.4)	13.8 (12.8-14.8)
Still Have Asthma[33]	21.3 (19.4-23.4)	8.9 (8.1-9.7)
Ever Told Chronic Obstructive Pulmonary Disease[34]	37.6 (35.2-40.0)	4.4 (3.9-5.0)
Ever Told Arthritis[35]	22.4 (20.6-24.3)	20.9 (19.9-21.9)
Ever Told Any Cardiovascular Disease[36]	18.7 (17.1-20.4)	5.9 (5.4-6.6)
Ever Told Cancer[37]	24.9 (22.8-27.1)	9.6 (8.9-10.3)

Chronic Health Conditions, cont.	With Disability[1]	Without Disability
Ever Told Diabetes[38]	20.4 (18.7-22.2)	6.9 (6.3-7.5)
Ever Told Kidney Disease[39]	6.8 (5.7-8.1)	1.7 (1.4-2.0)
Ever Told Depression[40]	41.7 (39.4-44.1)	14.3 (13.4-15.3)
Ever Told Non-Correctable Visual Impairment[41] (2012)	30.5 (28.2-32.9)	12.7 (11.7-13.8)
Fell in Past 12 Months (Age 45+)[42] (2012)	30.4 (27.9-33.0)	11.4 (10.3-12.5)
Injured Due to Fall in Past 12 Months (Age 45+ Who Fell)[43] (2012)	42.4 (37.2-47.7)	26.5 (22.0-31.7)

* Data are for 2013, unless otherwise specified. 2012 data are from the 2012 Michigan Behavioral Risk Factor Survey (MiBRFS).

See "Additional Footnotes for Tables 3a, 3b and 4" after Table 4.

Due to significant changes in the BRFSS methodology, the 2013 and 2012 estimates within this table should not be compared to Michigan BRFSS estimates from years prior to 2011.

Table 3b: Age-Adjusted^ Prevalence Estimates Among Michigan Adults With and Without Disabilities 2013* Michigan Behavioral Risk Factor Survey (BRFS) % (95% Confidence Interval)		
Health Status and Access Indicators	**With Disability[1]**	**Without Disability**
General Health, Fair or Poor[2]	42.9 (39.7-46.1)	7.9 (7.2-8.8)
Poor Physical Health on at least 14 Days in the Past Month[3]	34.6 (31.7-37.6)	4.5 (3.9-5.2)
Poor Mental Health on at least 14 Days in the Past Month[4]	29.1 (26.2-32.2)	7.2 (6.4-8.0)
No Permanent Teeth Removed[5] (2012)	45.2 (41.9-48.7)	63.6 (62.2-65.0)
No Health Care Coverage (Among 18 – 64 Year Olds)[6]	20.7 (17.3-24.7)	17.8 (16.5-19.3)
No Personal Health Care Provider[7]	14.1 (11.6-17.1)	19.7 (18.5-20.9)
No Health Care Access During Past 12 Months Due to Cost[8]	31.0 (27.9-34.1)	12.2 (11.2-13.2)
Health Risk Behaviors		
Obese[9]	40.8 (37.7-44.0)	28.1 (26.8-29.4)
No Leisure-Time Physical Activity[10]	32.7 (29.9-35.7)	20.6 (19.4-21.9)
Adequate Physical Activity[11]	13.6 (11.6-15.8)	16.0 (15.0-17.1)
Fruit Consumption (1 or more servings per day)[12]	56.7 (53.4-60.0)	63.7 (60.7-63.3)
Vegetable Consumption (1 or more servings per day)[13]	70.2 (66.9-73.4)	76.1 (74.7-77.3)
Current Smoker[14]	33.9 (30.9-37.1)	19.1 (17.9-20.3)
Heavy Drinking[15]	(5.4 (4.2-6.9)	6.7 (6.0-7.5)
Binge Drinking[16]	17.3 (14.8-20.1)	20.8 (19.6-22.0)
Always Use a Seatbelt[17]	89.3 (87.1-91.2)	89.5 (88.5-90.5)
Clinical Preventive Health Practices		
No Routine Checkup in Past Year[18]	26.7 (23.7-29.9)	33.5 (32.2-34.9)
Had Dental Visit in Past Year[19] (2012)	55.2 (51.6-58.7)	71.0 (69.4-72.4)
Cholesterol Checked Within Past 5 Years (Age 20+)[20]	79.7 (76.4-82.6)	76.5 (75.2-77.7)
Ever Had an HIV Test (Among 18 – 64 Year Olds)[21]	54.6 (50.8-58.4)	41.1 (39.4-42.8)
Influenza Vaccination[22]	36.6 (33.6-39.6)	32.6 (31.3-33.9)
Pneumonia Vaccination Among Those Age 65+[24]	73.1 (69.7-76.3)	66.7 (64.2-69.2)
Had Sigmoidoscopy in Past 5 Yrs/Colonoscopy in Past 10 Yrs (Age 50+)[25]	71.6 (69.1-74.0)	68.3 (66.6-69.9)
Had Fecal Occult Blood Test in Past Year (Age 50+)[26]	8.8 (7.5-10.4)	8.8 (7.8-9.9)
Had Mammogram in Past 2 Years (Females Age 40+)[27] (2012)	74.5 (70.9-77.7)	76.4 (74.3-78.2)
Had Clinical Breast Exam in Past 2 Yrs (Females Age 40+)[28] (2012)	73.6 (70.2-76.7)	79.7 (77.8-81.5)
Had Pap Test in Past 3 Years (Females)[29] (2012)	76.3 (72.1-80.2)	80.3 (78.3-82.1)
Chronic Health Conditions		
Ever Told High Blood Pressure[30]	45.4 (42.4-48.5)	27.7 (26.5-28.8)
Ever Told High Cholesterol (Age 20+)[31]	44.3 (40.9-47.6)	30.9 (29.6-32.2)
Ever Told Asthma[32]	27.8 (24.9-31.0)	13.7 (12.7-14.8)
Still Have Asthma[33]	21.0 (18.4-23.9)	8.9 (8.1-9.7)
Ever Told Chronic Obstructive Pulmonary Disease[34]	18.0 (15.7-20.5)	4.3 (3.8-4.9)
Ever Told Arthritis[35]	52.1 (49.1-55.1)	20.4 (19.5-21.4)
Ever Told Any Cardiovascular Disease[36]	16.3 (14.5-18.3)	5.9 (5.4-6.6)
Ever Told Cancer[37]	13.6 (12.1-15.2)	9.5 (8.9-10.2)

| Chronic Health Conditions, cont.	With Disability[1]	Without Disability
Ever Told Diabetes[38]	15.5 (13.7-17.5)	6.7 (6.1-7.3)
Ever Told Kidney Disease[39]	5.8 (4.4-7.6)	1.7 (1.4-2.1)
Ever Told Depression[40]	44.8 (41.6-48.1)	14.4 (13.5-15.5)
Ever Told Non-Correctable Visual Impairment[41] (2012)	28.6 (25.7-31.7)	12.6 (11.6-13.7)
Fell in Past 12 Months (Age 45+)[42] (2012)	30.4 (27.9-33.1)	11.3 (10.2-12.5)
Injured Due to Fall in Past 12 Months (Age 45+ Who Fell)[43] (2012)	42.1 (37.0-47.3)	26.8 (22.2-32.1)

^ Age-adjusted by the direct method using the 2000 U.S. standard population.

* Data are for 2013, unless otherwise specified. 2012 data are from the Centers for Disease Control and Prevention (CDC), Disability and Health Data System (DHDS) based on data from the 2012 Behavioral Risk Factor Surveillance System (BRFSS) http://dhds.cdc.gov. Last accessed 4/17/15.

See "Additional Footnotes for Tables 3a, 3b and 4" after Table 4.

Due to significant changes in the BRFSS methodology, the 2013 and 2012 estimates within this table should not be compared to Michigan BRFSS estimates from years prior to 2011.

Figure 3. Age-Adjusted Percent With a Mammogram in Past Two Years By Detailed Disability Status, Michigan Women Age 40 and Over, 2012

Source: 2012 Michigan Behavioral Risk Factor Survey
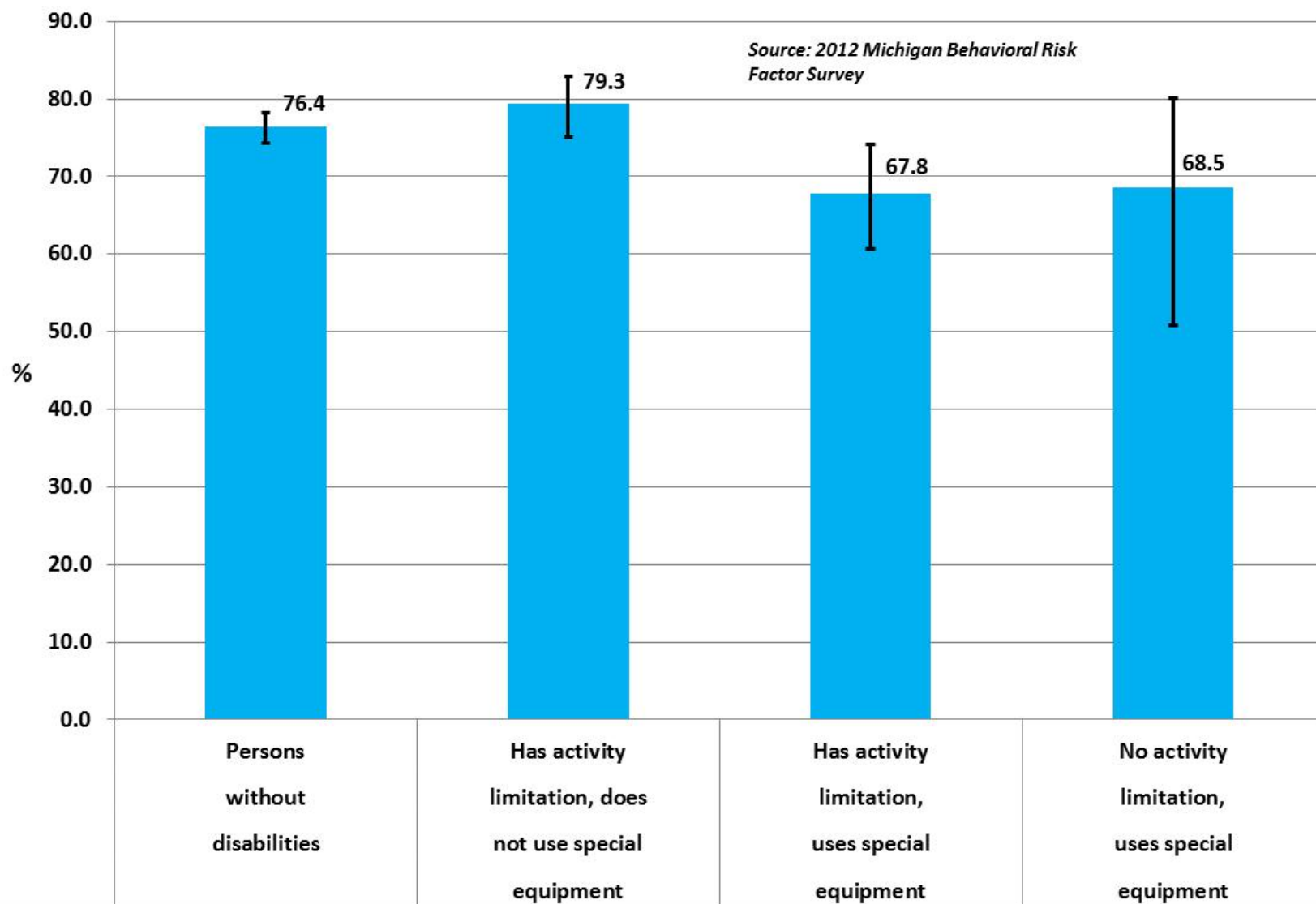
Figure 4. Age-Adjusted Percent With a Clinical Breast Exam in Past Two Years By Detailed Disability Status, Michigan Women Age 40 or Over, 2012

Source: 2012 Michigan Behavioral Risk Factor Survey
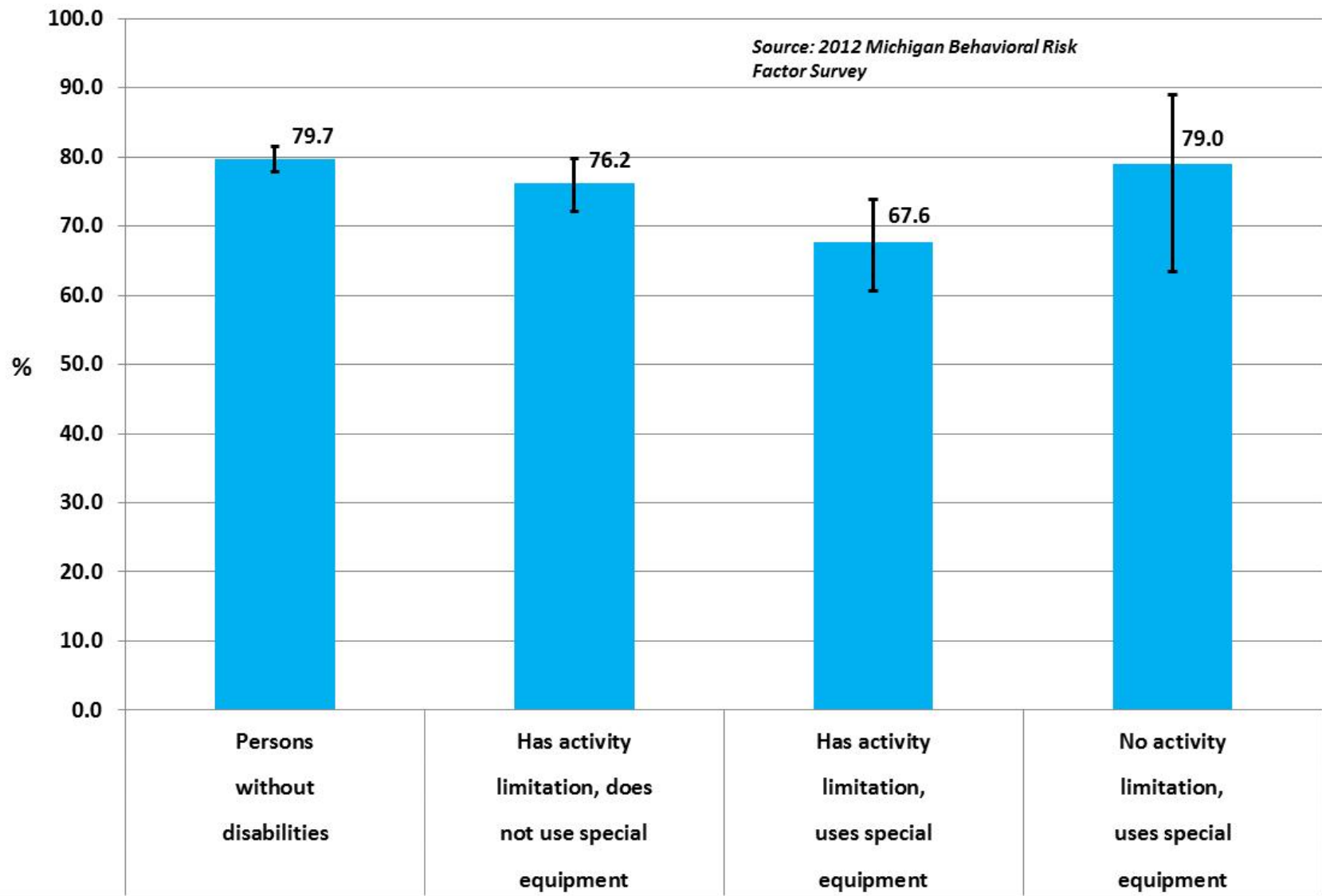
Figure 5. Age-Adjusted Percent With a Dental Visit in Past Year By Detailed Disability Status, Michigan Adults, 2012

Source: 2012 Michigan Behavioral Risk Factor Survey
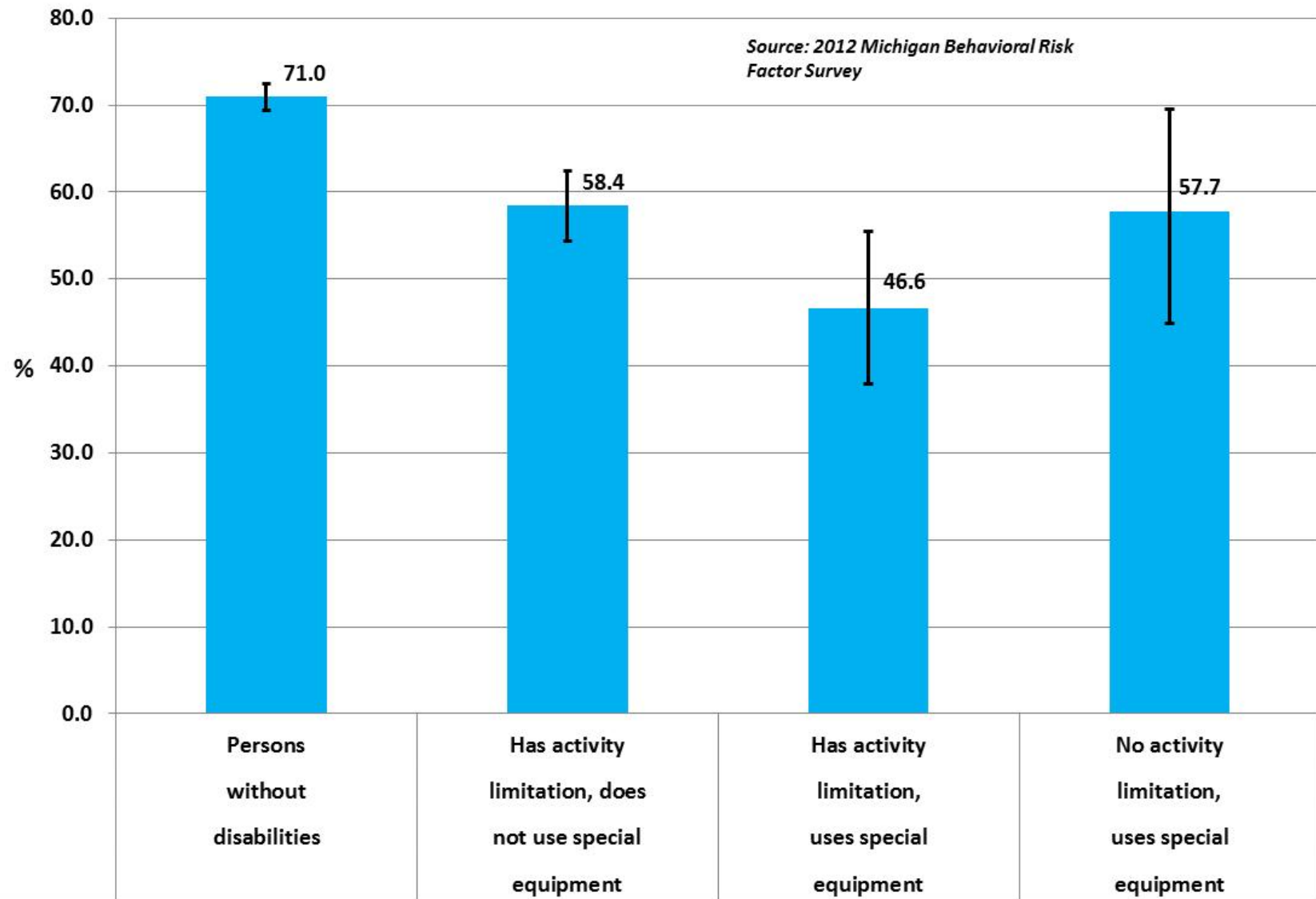
Table 4: Age-Adjusted Prevalence (%) Estimates[&] For Adults With Disabilities[†], Michigan and United States and Territories[§], 2012[¶]			
	Michigan %	**Michigan Rank^**	**U.S.[§] %**
Health Status and Access Indicators			
General Health: Fair or Poor[2]	41.1 (37.6-44.6)	33	44.3 (43.5-45.1)
No Poor Physical Health Days in the Past Month[44]	33.3 (30.0-36.6)	14	30.9 (30.2-31.6)
No Poor Mental Health Days in the Past Month[45]	45.4 (41.9-48.9)	12	42.1 (41.3-42.9)
No Permanent Teeth Removed[5]	45.2 (41.8-48.6)	23	43.5 (42.7-44.3)
No Health Care Coverage[46]	15.0 (12.3-17.7)	40	19.1 (18.4-19.8)
No Personal Health Care Provider[7]	14.1 (11.3-16.9)	47	18.6 (17.9-19.3)
No Health Care Access During Past 12 Months Due to Cost[8]	25.4 (22.2-28.6)	40	30.3 (29.5-31.1)
Health Risk Behaviors			
Obese[9]	40.8 (37.2-44.4)	14	38.4 (37.6-39.2)
Adequate Physical Activity[11] (2011)	16.4 (13.7-19.1)	24	15.7 (15.1-16.3)
Fruit Consumption (1 or more servings per day)[12] (2011)	56.9 (53.5-60.3)	30	57.8 (57.1-58.5)
Vegetable Consumption (1 or more servings per day)[13] (2011)	74.2 (71.2-77.2)	34	75.3 (74.7-75.9)
Current Smoker[14]	36.9 (33.4-40.4)	6	30.3 (29.5-31.1)
Binge Drinking[16]	17.5 (14.5-20.5)	15	15.3 (14.6-16.0)
Always Use a Seatbelt[17]	87.3 (84.7-89.9)	15	84.3 (83.7-84.9)
No Insufficient Sleep Days in Past Month[47] (2010)	20.3 (17.9-22.7)	42	21.5 (21.0-22.0)
Clinical Preventive Health Practices			
No Routine Checkup in Past Year[18]	30.5 (27.1-33.9)	30	31.2 (30.4-32.0)
Had Dental Visit in Past Year[19]	55.0 (51.4-58.6)	31	56.1 (55.3-56.9)
Had Teeth Cleaned in Past Year[48] (2010)	60.1 (56.3-63.9)	24	57.7 (56.9-58.5)
Cholesterol Checked Within Past 5 Years Age 20+[20] (2011)	80.5 (77.5-83.5)	17	79.1 (78.4-79.8)
Ever Had an HIV Test Among Those Age 18 – 64 Years[21]	51.6 (47.5-55.7)	24	53.3 (52.3-54.3)
Influenza Vaccination Among Those Age 18+[22]	35.8 (32.6-39.0)	39	38.1 (37.4-38.8)
Influenza Vaccination Among Those Age 65+[23]	58.3 (55.0-61.6)	40	62.5 (61.7-63.3)
Pneumonia Vaccination Among Those Age 65+[24]	72.8 (69.8-75.8)	45	74.9 (74.1-75.7)
Had Sigmoidoscopy in Past 5 Yrs/Colonoscopy in Past 10 Yrs (Age 50+)[25]	67.6 (64.5-70.7)	17	65.6 (64.9-66.3)
Had Mammogram in Past 2 Years (Females Age 40)[27]	78.0 (74.7-81.3)	14	75.1 (74.2-76.0)
Had Clinical Breast Exam in Past 2 Years (Females Age 40+)[28]	72.4 (69.6-75.2)	15	69.3 (68.6-70.0)
Had Pap Test in Past 3 Years (Females)[29]	82.8 (79.0-88.6)	16	79.7 (78.7-80.7)
Chronic Health Conditions			
Ever Told High Blood Pressure[30] (2011)	44.0 (40.9-47.1)	12	41.7 (41.1-42.3)
Ever Told High Cholesterol (Age 20+)[31] (2011)	47.1 (45.3-50.7)	12	44.4 (43.6-45.2)
Ever Told Asthma[32]	26.3 (23.0-29.6)	10	24.2 (23.5-24.9)
Still Have Asthma[33]	19.1 (16.1-22.1)	26	18.6 (18.0-19.2)
Ever Told Arthritis[35]	52.0 (48.8-55.2)	10	47.7 (47.0-48.4)
Ever Told Kidney Disease[39]	6.8 (4.9-8.7)	9	5.6 (5.3-5.9)

Ever Told Stroke[49]	7.3 (5.8-8.8)	12	6.4 (6.1-6.7)
Ever Told Heart Disase[50]	12.6 (11.1-14.1)	22	12.5 (12.1-12.9)
Ever Told Diabetes[38]	15.8 (13.7-17.9)	24	16.2 (15.7-16.7)
Fell in Past 12 Months (Age 45+)[42]	30.3 (27.8-32.8)	51	43.2 (42.6-43.8)
Injured Due to Fall in Past 12 Months (Age 45+)[43]	42.1 (36.8-47.4)	50	49.2 (48.3-50.1)

[&] Estimates were age-adjusted to the 2000 U.S. standard population. However, rates for the population age 65 years and older are not age-adjusted but are age-specific rates based on events within the population age 65 years and older.

[†] Persons with disabilities were those who reported being limited in any activities because of physical, mental or emotional problems, or reported that they required use of special equipment (such as a cane, wheelchair, special bed, or special telephone) due to a health problem.

[§] The 50 states, District of Columbia, Guam, Puerto Rico and U.S. Virgin Islands.

¶ Data are for 2012, unless otherwise specified.

^Rank based on highest to lowest.

Due to significant changes in the BRFSS methodology, the 2012 and 2011 estimates within this table should not be compared to Michigan BRFSS estimates from years prior to 2011.

Source: Centers for Disease Control and Prevention. Disability and Health Data System (DHDS) based on data from the 2010-2012 Behavioral Risk Factor Surveillance System (BRFSS) http://dhds.cdc.gov. Last accessed 4/17/15.

Additional Footnotes for Tables 3a, 3b and 4

[1] Persons with disabilities were those who reported being limited in any activities because of physical, mental or emotional problems, or reported that they required use of special equipment (such as cane, a wheelchair, a special bed, or a special telephone) due to a health problem.

[2] Among all adults, the proportion who reported that their health, in general, was either fair or poor.

[3] Among all adults, the proportion who reported 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days.

[4] Among all adults, the proportion who reported 14 or more days of poor mental health, which includes stress, depression, and problems with emotions, during the past 30 days.

[5] Among all adults, the proportion who reported that they were not missing any teeth due to tooth decay or gum disease. This excludes teeth lost for other reasons, such as injury or orthodontics.

[6] Among adults aged 18-64 years, the proportion who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare or Indian Health Services.

[7] Among all adults, the proportion who reported that they did not have anyone that they thought of as their personal doctor or health care provider.

[8] Among all adults, the proportion who reported that in the past 12 months, they could not see a doctor when they needed to due to the cost.

[9] Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in $kg/(height in meters)^2$]. Weight and height were self-reported. Pregnant women were excluded. Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.

[10] Among all adults, the proportion who reported not participating in any leisure-time physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise during the past month.

[11] Among adults who participate in some form of leisure-time physical activity, the proportion who reported that they do either moderate physical activities for at least 150 minutes per week, vigorous physical activities for at least 75 minutes per week, or an equivalent combination of moderate and vigorous physical activities **and** also participate in muscle strengthening activities on two or more days per week.

[12] Among all adults, the proportion whose total reported consumption of fruits (including 100% fruit juice) was one or more times per day.

[13] Among all adults, the proportion whose total reported consumption of vegetables was one or more times per day.

[14] Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (5 packs) in their life and that they smoke cigarettes now, either every day or on some days.

[15] Among all adults, the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the previous month.

[16] Among all adults, the proportion who reported consuming five or more drinks per occasion (for men) or 4 or more drinks per occasion (for women) at least once in the previous month.

[17] Among all adults, the proportion who reported always using a seatbelt when driving or riding in a car.

[18] Among all adults, the proportion who reported that they did not have a routine checkup in the past year.

[19] Among all adults, the proportion who reported that they had visited a dentist or dental clinic for any reason in the previous year.

[20] Among adults age 20 and over who ever had their cholesterol checked, the proportion who reported having had their blood cholesterol checked in the past 5 years.

[21] Among adults aged 18 - 64 years, the proportion who reported that they ever had been tested for HIV, apart from tests that were part of a blood donation. Don't know was considered a valid response to this question.

[22] Among all adults, the proportion who reported that they had a flu vaccine, either by an injection in the arm or sprayed in the nose during the past twelve months.

[23] Among adults aged 65 years and over, the proportion who reported that they had a flu vaccine, either by an injection in the arm or sprayed in the nose during the past twelve months.

[24] Among adults aged 65 years and over, the proportion who reported that they ever had a pneumococcal vaccine.

[25] Among adults aged 50 years and older, the proportion who reported having a sigmoidoscopy within the past five years or a colonoscopy within the past ten years.

[26] Among adults aged 50 years and older, the proportion who reported having a blood stool test within the past year using a home kit.

[27] Among women aged 40 years and older, the proportion who reported having a mammogram in the past two years.

[28] Among women aged 40 years and older, the proportion who reported having a clinical breast exam in the past two years.

[29] Among all adult women (excluding those who had a hysterectomy), the proportion who reported having a Pap test within the previous three years.

[30] Among all adults, the proportion who reported that they were ever told by a doctor that they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered to not have been diagnosed.

[31] Among adults age 20 and over who ever had their blood cholesterol checked, the proportion who reported that a doctor, nurse, or other health professional had told them that their cholesterol was high.

[32] Among all adults, the proportion who reported that they were ever told by a doctor, nurse, or other health care professional that they had asthma.

[33] Among all adults, the proportion who reported that they still had asthma.

[34] Among all adults, the proportion who reported ever being told by a doctor that they had chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis.

[35] Among all adults, the proportion who reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

[36] Among all adults, the proportion who had ever been told by a doctor that they had a heart attack, coronary heart disease or a stroke.

[37] Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer.

[38] Among all adults, the proportion who reported that they were ever told by a doctor that they had diabetes. Adults told they have prediabetes and women who had diabetes only during pregnancy were classified as not having been diagnosed.

[39] Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease.

[40] Among all adults, the proportion who reported ever being told by a doctor that they had a depressive disorder including depression, major depression, dysthymia, or minor depression.

[41] Among all adults, the proportion who reported ever being told by a doctor that they had a visual impairment in one or both eyes, even when wearing glasses.

[42] Among adults aged 45 years and older, the proportion reported to have unintentionally come to rest on the ground or another lower level during the past twelve months.

[43] Among adults aged 45 years and older who had fallen during the past 3 months, the proportion reported to have been injured due to a fall during the past twelve months.

[44] Among all adults, the proportion who reported zero days of poor physical health, which includes physical illness and injury, during the past 30 days.

[45] Among all adults, the proportion who reported zero days of poor mental health, which includes stress, depression, and problems with emotions, during the past 30 days.

[46] Among all adults, the proportion who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare or Indian Health Services.

[47] Among all adults, the proportion who reported no days of poor rest or sleep, during the past 30 days.

[48] Among all adults, the proportion who reported that they had their teeth cleaned by a dentist or dental hygienist in the previous year.

[49] Among all adults, the proportion who had ever been told by a doctor that they had a stroke.

[50] Among all adults, the proportion who had had either a heart attack or angina/coronary heart disease during their lifetime, or both.
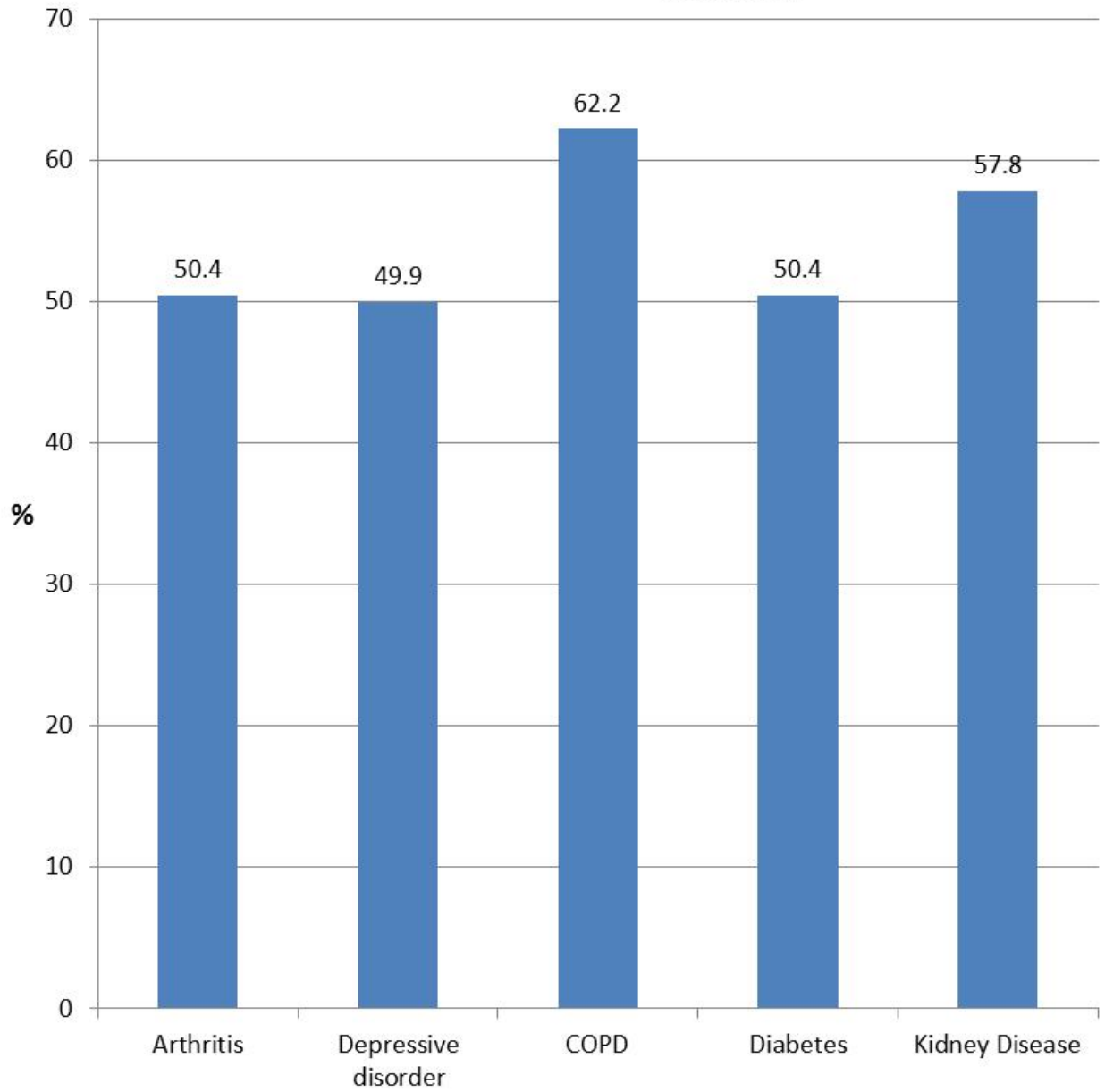
Figure 6. Prevalence (%) of Persons with Disabilities Among Adults with Selected Chronic Conditions, Michigan 2013

Source: 2013 Michigan Behavioral Risk Factor Survey
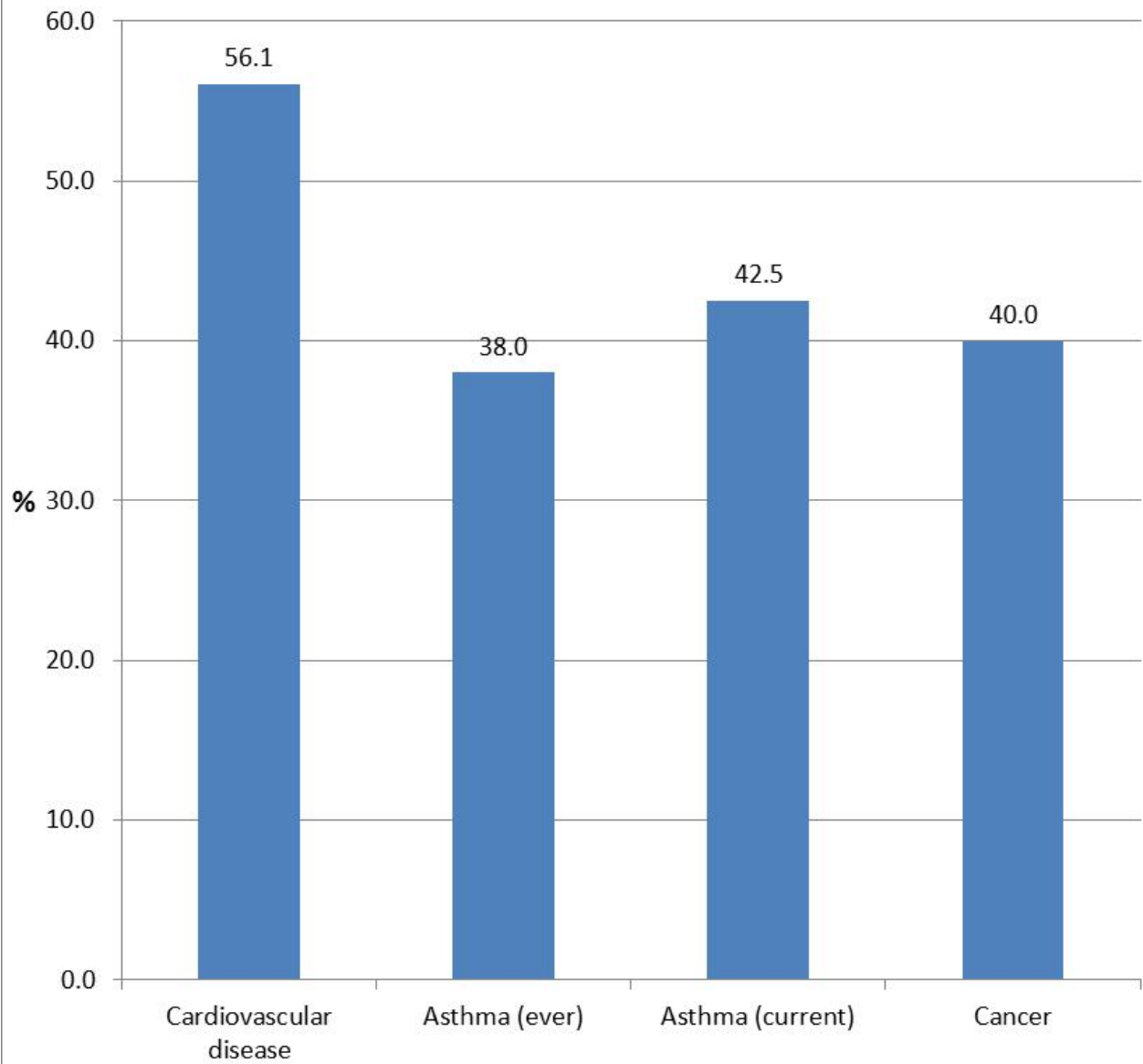
Figure 6 (cont.) Prevalence (%) of Persons with Disabilities Among Adults with Selected Chronic Conditions, Michigan 2013

Source: 2013 Michigan Behavioral Risk Factor Survey

Figure 7. **Prevalence (%) of Persons with Disabilities Among Adults with Selected Behavioral Risk Factors, Michigan 2013**

Source: 2013 Michigan Behavioral Risk Factor Survey