

**Estimates for Selected Risk Factors and Health Indicators
by Emergency Preparedness Region**

State of Michigan

**Michigan Behavioral Risk Factor Surveillance System
(Michigan BRFSS)**

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Introduction

The Michigan Behavioral Risk Factor Survey (BRFS) is an annual, statewide telephone survey of Michigan adults aged 18 years and older that is conducted through a collaborative effort among the Division of Behavioral Surveillance (DBS) of the Centers for Disease Control and Prevention (CDC), the Michigan State University Institute for Public Policy and Social Research (IPPSR), and the Michigan Department of Community Health. Michigan BRFS data contribute to the national [Behavioral Risk Factor Surveillance System](#) that is managed by the DBS at the CDC.

Due to increases in the utilization of cell phone communication, 2011 marks the first year in which the Michigan BRFS collected data from both land line and cell phone interviews. In 2011, the total sample size of completed interviews for the core survey was 11,049 (land line = 9,308; cell phone = 1,741). Due to variability in response rates to individual questions and differences in specific sub-populations of interest for particular questions, not all estimates are based on a total sample size of 11,049. As a result, item-by-item sample sizes and population descriptions are included within each table. Furthermore, only comparisons between estimates with non-overlapping 95% confidence intervals should be considered significantly different.

For the 2011 Michigan BRFS, the sample of land line telephone numbers that were utilized for data collection was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. In addition, census tracts with a high population density of African Americans were oversampled within the land line portion of the survey. The sample of cell phone numbers used within the 2011 Michigan BRFS data collection process was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange within the State of Michigan.

To allow for the incorporation of cell phone data into the final Michigan BRFS dataset and to improve the accuracy of prevalence estimates based on Michigan BRFS data, a new weighting methodology, known as iterative proportional fitting or raking, was introduced in 2011. Estimates based on this new methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of Michigan adults by telephone source (land line vs. cell phone), detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status.

In 2012, Michigan BRFS data from the 2011 survey year were analyzed by Michigan Emergency Preparedness (EP) region. A map identifying each of Michigan's eight emergency preparedness regions is included on the following page. Population-based prevalence estimates and asymmetric confidence intervals were calculated for indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among the adult population in Michigan. Respondents who refused to answer a question were removed from the denominator during the analysis of such questions. Those who responded "Don't Know/Not Sure" were also excluded from the denominator unless indicated otherwise. All analyses were performed in SAS-Callable SUDAAN®, a statistical computing that is designed for complex sample surveys.

Important Disclaimer for 2011

Significant changes have been made to the BRFS methodology in 2011. As a result, the estimates provided within the following tables should not be compared to Michigan BRFS estimates from previous years. For more information regarding these changes, please visit the following website: <http://www.cdc.gov/surveillancepractice/reports/brfss/brfss.html>.

If you have any questions regarding any of the estimates within the following tables, please contact Chris Fussman at MDCH, by phone, (517) 335-8144, or by email, MIBRFSS@michigan.gov.

Local Health Jurisdictions, Emergency Preparedness Regions and Michigan Counties



Table 1: Health Status by EP Region 2011 Michigan BRFSS		
	General Health, Fair or Poor^a	
	%	95% Confidence Interval
Michigan Total	17.2	(16.2-18.3)
EP Region		
Region 1	14.0	(11.4-17.0)
Region 2N	14.7	(12.5-17.2)
Region 2S	19.5	(17.1-22.1)
Region 3	18.4	(15.4-21.8)
Region 5	21.9	(18.3-26.0)
Region 6	15.0	(12.6-17.7)
Region 7	18.6	(14.8-23.0)
Region 8	16.7	(13.5-20.3)

^a Among all adults, the proportion who reported that their health, in general, was either fair or poor. (N = 11,037)

Table 2: Health Status on at Least 14 Days in the Past Month by EP Region 2011 Michigan BRFSS						
	Poor Physical Health^a		Poor Mental Health^b		Activity Limitation^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	13.1	(12.2-14.1)	13.1	(12.1-14.2)	9.4	(8.5-10.2)
EP Region						
Region 1	14.5	(11.7-17.8)	12.6	(10.1-15.7)	10.6	(8.3-13.6)
Region 2N	11.2	(9.2-13.5)	12.6	(10.2-15.5)	7.5	(5.9-9.5)
Region 2S	14.5	(12.4-17.0)	14.3	(12.1-16.9)	10.5	(8.6-12.8)
Region 3	13.5	(11.0-16.5)	14.7	(12.0-18.0)	10.8	(8.6-13.6)
Region 5	13.2	(10.3-16.6)	11.9	(9.3-15.1)	8.4	(6.2-11.3)
Region 6	12.2	(10.1-14.8)	13.6	(11.1-16.5)	8.9	(7.0-11.3)
Region 7	12.9	(9.8-16.8)	10.6	(7.8-14.4)	9.1	(6.6-12.5)
Region 8	13.4	(10.5-17.0)	11.1	(8.3-14.9)	8.9	(6.6-11.8)

^a 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. (N = 10,866)

^b 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. (N = 10,915)

^c Among all adults, the proportion who reported 14 or more days in the past 30 days in which either poor physical health or poor mental health kept respondents from doing their usual activities, such as self-care, work, and recreation. (N = 10,970)

**Table 3: Mean Number of Days of Poor Physical Health, Poor Mental Health, and Activity Limitations by EP Region
2011 Michigan BRFSS**

	Poor Physical Health ^a		Poor Mental Health ^b		Activity Limitation ^c	
	Mean # of days	95% Confidence Interval	Mean # of days	95% Confidence Interval	Mean # of days	95% Confidence Interval
Michigan Total	4.1	(3.9-4.4)	4.2	(4.0-4.5)	2.9	(2.7-3.1)
EP Region						
Region 1	4.5	(3.8-5.3)	4.0	(3.4-4.7)	3.2	(2.5-3.9)
Region 2N	3.6	(3.1-4.2)	4.2	(3.5-4.9)	2.3	(1.8-2.8)
Region 2S	4.6	(4.0-5.2)	4.6	(4.0-5.2)	3.3	(2.7-3.8)
Region 3	4.1	(3.5-4.8)	4.6	(3.9-5.4)	3.2	(2.6-3.8)
Region 5	4.1	(3.3-4.8)	3.8	(3.1-4.6)	2.9	(2.2-3.7)
Region 6	3.9	(3.3-4.4)	4.2	(3.5-4.8)	2.7	(2.2-3.2)
Region 7	4.0	(3.1-5.0)	3.7	(2.8-4.5)	2.8	(2.1-3.6)
Region 8	4.2	(3.4-4.9)	3.6	(2.9-4.4)	2.6	(2.0-3.2)

^a Among all adults, the mean number of days during the past 30 days in which physical health, including illness and injury, was not good. (N = 10,866)

^b Among all adults, the mean number of days during the past 30 days in which mental health, including stress, depression, and problems with emotions, was not good. (N = 10,915)

^c Among all adults, the mean number of days during the past 30 days in which poor physical health or poor mental health kept respondent from doing their usual activities, such as self-care, work, and recreation. (N = 10,970)

Table 4: Disability by EP Region 2011 Michigan BRFSS						
	Total Disability^a		Any Activity Limitation^b		Used Special Equipment^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	28.2	(27.0-29.5)	26.4	(25.2-27.7)	8.4	(7.7-9.2)
EP Region						
Region 1	30.9	(27.2-34.8)	28.6	(25.0-32.5)	10.4	(8.1-13.3)
Region 2N	27.1	(24.3-30.2)	25.3	(22.5-28.3)	7.2	(5.7-9.1)
Region 2S	26.8	(24.1-29.6)	25.0	(22.4-27.9)	8.7	(7.2-10.5)
Region 3	28.9	(25.4-32.7)	27.2	(23.8-30.9)	9.6	(7.6-12.1)
Region 5	30.4	(26.4-34.7)	28.5	(24.6-32.7)	8.4	(6.3-11.2)
Region 6	27.3	(24.1-30.6)	25.6	(22.5-28.9)	7.1	(5.8-8.8)
Region 7	28.5	(24.2-33.2)	27.2	(23.0-31.9)	8.5	(6.2-11.5)
Region 8	30.8	(26.5-35.4)	29.4	(25.3-33.9)	8.3	(6.1-11.1)

^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 = 10,691)

^b Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems. (N = 10,688)

^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 = 10,718)

**Table 5: Weight Status by EP Region
2011 Michigan BRFSS**

	Obese ^a		Overweight ^b		Normal Weight ^c		Underweight ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	31.3	(30.0-32.6)	34.2	(32.8-35.5)	33.0	(31.6-34.4)	1.6	(1.2-2.1)
EP Region								
Region 1	32.2	(28.4-36.3)	34.0	(30.1-38.0)	32.1	(28.3-36.1)	1.7	(0.9-3.5)
Region 2N	24.6	(21.9-27.5)	35.5	(32.4-38.7)	37.9	(34.6-41.4)	2.0	(1.1-3.5)
Region 2S	31.5	(28.6-34.6)	32.4	(29.5-35.5)	34.5	(31.4-37.7)	1.6	(0.9-2.6)
Region 3	38.0	(34.1-42.2)	33.5	(29.8-37.5)	26.6	(23.2-30.5)	1.8	(0.7-4.7)
Region 5	39.7	(35.3-44.4)	33.7	(29.5-38.2)	25.7	(22.0-29.9)	0.8	(0.3-2.0)
Region 6	28.3	(25.1-31.7)	35.3	(31.8-38.9)	34.8	(31.2-38.7)	1.6	(0.8-3.2)
Region 7	30.5	(25.8-35.6)	33.3	(28.3-38.7)	35.3	(30.2-40.7)	0.9	(0.4-2.3)
Region 8	33.5	(29.0-38.4)	35.5	(30.9-40.4)	29.4	(25.1-34.2)	1.5	(0.6-3.5)

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. (N = 10,579)

^a Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.

^b Among all adults, the proportion of respondents whose BMI was greater than or equal to 25.0, but less than 30.0.

^c Among all adults, the proportion of respondents whose BMI was greater than or equal to 18.5, but less than 25.0.

^d Among all adults, the proportion of respondents whose BMI was less than 18.5.

Table 6: Health Care Access by EP Region 2011 Michigan BRFS						
	No Health Care Coverage^a (Among 18 - 64 year olds)		No Personal Health Care Provider^b		No Health Care Access During Past 12 Months Due to Cost^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	18.3	(17.0-19.6)	15.5	(14.4-16.7)	16.5	(15.4-17.6)
EP Region						
Region 1	15.7	(12.4-19.8)	15.3	(12.3-18.9)	13.8	(11.1-16.9)
Region 2N	16.6	(13.8-19.8)	14.2	(11.6-17.1)	15.2	(12.8-18.0)
Region 2S	21.2	(18.2-24.5)	18.1	(15.6-21.0)	17.6	(15.3-20.2)
Region 3	18.3	(14.7-22.4)	14.8	(12.0-18.2)	20.4	(17.1-24.2)
Region 5	19.6	(15.4-24.5)	17.4	(14.0-21.4)	16.5	(13.2-20.3)
Region 6	16.5	(13.6-19.7)	13.8	(11.1-16.9)	15.8	(13.3-18.6)
Region 7	16.2	(12.0-21.4)	12.8	(9.4-17.2)	15.0	(11.6-19.1)
Region 8	21.0	(16.2-26.8)	10.9	(8.1-14.4)	15.7	(12.2-19.9)

^a 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. (N = 7,367)
^b 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. (N = 11,007)
^c 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. (N = 11,034)

**Table 7: Medicaid and Medicare Coverage by EP Region
2011 Michigan BRFS**

	Medicaid Only ^a		Medicare Only ^b		Both Medicaid and Medicare ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	6.8	(6.1-7.7)	20.1	(19.2-21.1)	3.3	(2.9-3.8)
EP Region						
Region 1	4.9	(3.2-7.7)	19.3	(16.6-22.4)	2.7	(1.8-4.0)
Region 2N	4.2	(2.8-6.3)	20.5	(18.3-22.9)	2.8	(1.9-4.1)
Region 2S	9.0	(7.2-11.2)	18.1	(16.1-20.3)	4.2	(3.2-5.5)
Region 3	8.8	(6.6-11.7)	20.7	(17.9-23.9)	3.4	(2.3-4.8)
Region 5	7.2	(5.2-9.8)	19.1	(16.3-22.4)	4.1	(2.7-6.3)
Region 6	7.2	(5.3-9.8)	20.3	(17.7-23.2)	2.6	(1.8-3.9)
Region 7	6.6	(4.1-10.5)	25.4	(21.3-29.9)	3.2	(1.9-5.2)
Region 8	4.9	(3.0-7.8)	24.5	(21.2-28.2)	4.1	(2.6-6.5)

^a Among all adults, the proportion who reported that they currently have Medicaid insurance coverage, but not Medicare. (N = 10,833)

^b Among all adults, the proportion who reported that they currently have Medicare insurance coverage, but not Medicaid. (N = 10,833)

^c Among all adults, the proportion who reported that they currently have Medicaid and Medicare insurance coverage. (N = 10,833)

Table 8: No Leisure-Time Physical Activity by EP Region 2011 Michigan BRFSS		
	No Leisure-Time Physical Activity^a	
	%	95% Confidence Interval
Michigan Total	23.6	(22.4-24.8)
EP Region		
Region 1	24.3	(20.9-28.1)
Region 2N	20.8	(18.3-23.6)
Region 2S	24.3	(21.6-27.2)
Region 3	26.5	(22.9-30.3)
Region 5	25.0	(21.4-29.0)
Region 6	21.4	(18.7-24.3)
Region 7	24.4	(20.1-29.3)
Region 8	23.1	(19.2-27.6)
^a 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 during the past month. (N = 10,772)		

Table 9: Aerobic Physical Activity and Muscle Strengthening by EP Region 2011 Michigan BRFS				
	Adequate Aerobic Physical Activity (≥ 150 minutes / week)^a		Adequate Muscle Strengthening (≥ 2 days / week)^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	53.5	(52.1-55.0)	28.8	(27.5-30.1)
EP Region				
Region 1	57.6	(53.4-61.7)	31.4	(27.5-35.5)
Region 2N	53.7	(50.3-57.1)	31.9	(28.7-35.3)
Region 2S	49.1	(45.9-52.4)	29.6	(26.8-32.7)
Region 3	51.2	(46.9-55.4)	25.1	(21.6-28.8)
Region 5	54.6	(50.0-59.1)	25.1	(21.3-29.3)
Region 6	56.1	(52.3-59.9)	29.0	(25.6-32.7)
Region 7	57.7	(52.2-62.9)	25.2	(20.8-30.3)
Region 8	54.1	(49.1-59.0)	24.5	(20.4-29.0)

^a Among all adults, 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. (N = 10,446)

^b Among all adults, the proportion who reported that they do muscle strengthening activities on two or more days per week. (N = 10,670)

Table 10: Adequate Physical Activity by EP Region 2011 Michigan BRFSS		
	Adequate Physical Activity^a	
	%	95% Confidence Interval
Michigan Total	19.7	(18.6-20.9)
EP Region		
Region 1	23.6	(20.1-27.6)
Region 2N	21.0	(18.4-24.0)
Region 2S	19.5	(17.2-22.1)
Region 3	16.6	(13.8-20.0)
Region 5	17.8	(14.6-21.6)
Region 6	20.2	(17.3-23.5)
Region 7	18.4	(14.7-22.9)
Region 8	17.4	(14.0-21.5)
^a Among all adults, 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. (N = 10,375)		

Table 11: Median Fruit and Vegetable Intake Per Day by EP Region 2011 Michigan BRFSS		
	Median Fruit Intake (times/day)^a	Median Vegetable Intake (times/day)^b
	%	%
Michigan Total	1.1	1.6
EP Region		
Region 1	1.0	1.5
Region 2N	1.1	1.7
Region 2S	1.1	1.6
Region 3	1.1	1.4
Region 5	1.0	1.6
Region 6	1.0	1.6
Region 7	1.1	1.7
Region 8	1.2	1.5
^a Among all adults, the median number of times per day during the past 30 days in which 100% pure fruit juices or fresh, frozen, or canned fruit were consumed. (N = 10,842) ^b Among all adults, the median number of times per day during the past 30 days in which cooked or canned beans, dark green vegetables, orange-colored vegetables, or other vegetables were consumed. (N = 10,822)		

Table 12: Adequate Fruit and Vegetable Consumption by EP Region 2011 Michigan BRFSS		
	Fruits and Vegetables (≥ 5 times / day)^a	
	%	95% Confidence Interval
Michigan Total	17.8	(16.8-19.0)
EP Region		
Region 1	17.4	(14.3-21.0)
Region 2N	21.1	(18.5-23.9)
Region 2S	18.7	(16.3-21.3)
Region 3	17.9	(14.9-21.3)
Region 5	16.6	(13.4-20.3)
Region 6	15.1	(12.6-18.0)
Region 7	17.2	(13.4-21.8)
Region 8	13.3	(10.7-16.4)

^a Among all adults, the proportion whose total reported consumption of fruits (including juice) and vegetables was five or more times per day. (N = 10,813)

**Table 13: Cigarette Smoking by EP Region
2011 Michigan BRFSS**

	Current Smoking ^a		Former Smoking ^b		Never Smoked	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	23.3	(22.0-24.6)	25.7	(24.5-26.8)	51.0	(49.6-52.4)
EP Region						
Region 1	19.6	(16.4-23.2)	24.4	(21.3-27.9)	56.0	(51.9-60.0)
Region 2N	23.5	(20.5-26.9)	28.8	(26.1-31.6)	47.7	(44.3-51.0)
Region 2S	24.6	(21.8-27.7)	22.3	(20.0-24.8)	53.0	(49.8-56.2)
Region 3	26.1	(22.4-30.2)	24.4	(21.2-28.0)	49.5	(45.4-53.6)
Region 5	24.5	(20.6-29.0)	26.2	(22.7-30.1)	49.3	(44.8-53.7)
Region 6	21.7	(18.6-25.1)	25.4	(22.4-28.7)	52.9	(49.1-56.6)
Region 7	20.2	(15.9-25.4)	31.8	(27.1-36.9)	48.0	(42.6-53.3)
Region 8	23.0	(18.7-27.9)	28.1	(24.4-32.1)	49.0	(44.1-53.8)

^a 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. (N = 11,002)

^b Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (5 packs) in their life, but they do not smoke cigarettes now. (N = 11,002)

Table 14: Current Smokers Who Attempted to Quit by EP Region 2011 Michigan BRFSS		
	Tried to Quit Smoking One Day or Longer in Past Year^a	
	%	95% Confidence Interval
Michigan Total	62.4	(59.2-65.5)
EP Region		
Region 1	58.4	(48.4-67.9)
Region 2N	72.0	(64.7-78.2)
Region 2S	62.2	(55.0-68.9)
Region 3	65.2	(56.7-72.8)
Region 5	60.6	(50.3-70.0)
Region 6	53.1	(44.4-61.7)
Region 7	66.2	(53.1-77.3)
Region 8	56.3	(44.3-67.6)

^a Among current smokers, the proportion who reported that during the past 12 months, they had tried to quit smoking for one day or longer. (N = 1,996)

Table 15: Smokeless Tobacco Use by EP Region 2011 Michigan BRFSS		
	Current Smokeless Tobacco Use^a	
	%	95% Confidence Interval
Michigan Total	4.4	(3.8-5.1)
EP Region		
Region 1	4.5	(2.9-6.7)
Region 2N	3.1	(2.0-4.7)
Region 2S	3.3	(2.1-5.1)
Region 3	7.3	(5.3-10.1)
Region 5	4.4	(2.6-7.2)
Region 6	4.4	(3.0-6.3)
Region 7	5.9	(3.6-9.4)
Region 8	5.4	(3.2-8.9)

^a Among all adults, the proportion who reported that they currently use chewing tobacco, snuff or snus, either every day or on some days. (N = 11,042)

Table 16: Alcohol Consumption by EP Region 2011 Michigan BRFSS				
	Heavy Drinking^a		Binge Drinking^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	7.0	(6.3-7.9)	19.7	(18.5-20.9)
EP Region				
Region 1	6.9	(5.1-9.4)	19.7	(16.5-23.3)
Region 2N	8.2	(6.4-10.4)	20.8	(18.1-23.8)
Region 2S	5.6	(4.3-7.3)	17.4	(15.0-20.2)
Region 3	6.9	(5.1-9.3)	18.4	(15.3-21.8)
Region 5	5.4	(3.7-7.7)	20.1	(16.4-24.3)
Region 6	8.1	(5.9-11.1)	21.0	(17.9-24.6)
Region 7	8.7	(6.3-11.9)	19.0	(15.2-23.5)
Region 8	8.2	(5.9-11.1)	24.0	(19.9-28.8)
^a 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. (N = 10,584) ^b 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. (N = 10,587)				

Table 17: Mean Number of Binge Drinking Occasions during the Past Month among Binge Drinkers by EP Region 2011 Michigan BRFSS		
	Number of Binge Drinking Occasions^a	
	Mean	95% Confidence Interval
Michigan Total	4.5	(4.1-4.9)
EP Region		
Region 1	5.3	(4.0-6.7)
Region 2N	4.5	(3.6-5.4)
Region 2S	4.5	(3.5-5.5)
Region 3	4.2	(3.2-5.1)
Region 5	4.3	(2.9-5.7)
Region 6	3.9	(3.2-4.7)
Region 7	5.2	(3.6-6.8)
Region 8	4.3	(2.9-5.6)

^a Among adults who binge drank in the past month, the mean number of times during which five or more alcoholic beverages (for men) or four or more (for women) were consumed during the past month. (N = 1,636)

Table 18: Seatbelt Use by EP Region 2011 Michigan BRFSS		
	Always Uses a Seatbelt^a	
	%	95% Confidence Interval
Michigan Total	88.7	(87.7-89.7)
EP Region		
Region 1	90.4	(87.3-92.8)
Region 2N	88.7	(85.9-91.0)
Region 2S	89.7	(87.4-91.6)
Region 3	88.1	(85.0-90.7)
Region 5	86.8	(82.6-90.1)
Region 6	88.2	(85.3-90.6)
Region 7	89.4	(85.9-92.2)
Region 8	87.4	(83.6-90.4)

^a Among all adults, the proportion who reported always using a seatbelt when driving or riding in a car. (N = 10,701)

Table 19: Hypertension Awareness and Medication Use by EP Region 2011 Michigan BRFSS				
	Ever Told HBP^a		Taking BP Medication^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	34.2	(32.9-35.4)	76.5	(74.4-78.5)
EP Region				
Region 1	33.9	(30.2-37.7)	75.4	(69.1-80.7)
Region 2N	32.1	(29.3-35.0)	76.5	(71.4-80.9)
Region 2S	33.5	(30.8-36.4)	79.5	(75.0-83.4)
Region 3	40.9	(37.0-45.0)	73.8	(67.3-79.5)
Region 5	35.0	(31.0-39.3)	74.7	(67.0-81.1)
Region 6	32.0	(28.8-35.3)	75.5	(69.4-80.7)
Region 7	38.1	(33.2-43.2)	79.3	(72.0-85.1)
Region 8	32.2	(28.3-36.4)	83.1	(76.1-88.3)
^a 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. (N = 11,014) ^b Among adults who were ever told that they had HBP, the proportion that reported they were currently taking blood pressure (BP) medicines for their HBP. (N = 4,656)				

**Table 20: Cholesterol Screening and Awareness by EP Region
2011 Michigan BRFS**

	Cholesterol Ever Checked ^a		Checked Within Past Five Years ^b		Ever Told High Cholesterol ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	81.1	(79.7-82.4)	76.7	(75.3-78.1)	41.8	(40.4-43.3)
EP Region						
Region 1	80.5	(76.3-84.1)	76.1	(71.8-79.9)	44.3	(40.1-48.6)
Region 2N	85.5	(82.4-88.2)	81.3	(78.0-84.2)	45.0	(41.6-48.4)
Region 2S	78.6	(75.3-81.5)	75.1	(71.8-78.1)	38.9	(35.7-42.2)
Region 3	79.2	(75.2-82.7)	73.6	(69.4-77.4)	43.7	(39.3-48.1)
Region 5	81.6	(77.0-85.4)	76.7	(72.0-80.8)	38.1	(33.7-42.8)
Region 6	80.4	(76.6-83.7)	76.1	(72.2-79.7)	40.4	(36.8-44.2)
Region 7	83.0	(77.6-87.3)	78.8	(73.2-83.4)	42.3	(37.0-47.8)
Region 8	85.0	(80.3-88.7)	79.8	(74.9-83.9)	43.5	(38.7-48.4)

^a Among all adults, the proportion who reported ever having had their blood cholesterol checked. (N = 10,875)

^b Among all adults, the proportion who reported that they have had their blood cholesterol checked within the past five years. (N = 10,742)

^c Among adults 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. (N = 9,622)

Table 21: No Routine Checkup in Past Year by EP Region 2011 Michigan BRFSS		
	Had No Routine Checkup in Past Year^a	
	%	95% Confidence Interval
Michigan Total	33.5	(32.2-34.9)
EP Region		
Region 1	34.3	(30.4-38.5)
Region 2N	32.7	(29.5-36.0)
Region 2S	30.7	(27.7-33.8)
Region 3	37.2	(33.2-41.3)
Region 5	38.4	(34.1-43.0)
Region 6	33.4	(29.9-37.1)
Region 7	29.2	(24.5-34.4)
Region 8	28.6	(24.3-33.3)

^a Among all adults, the proportion who reported that they did not have a routine checkup in the past year. (N = 10,935)

**Table 22: Immunizations among Adults Aged 65 Years and Older by EP Region
2011 Michigan BRFS**

	Had Flu Vaccine in Past Year ^a		Ever Had Pneumonia Vaccine ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	58.0	(55.5-60.4)	67.1	(64.7-69.4)
EP Region				
Region 1	54.7	(46.6-62.5)	62.6	(54.3-70.2)
Region 2N	57.5	(51.9-62.9)	71.7	(66.4-76.5)
Region 2S	53.8	(48.2-59.3)	63.5	(58.0-68.8)
Region 3	58.6	(51.2-65.6)	59.4	(51.7-66.7)
Region 5	56.4	(48.4-64.1)	65.7	(57.8-72.9)
Region 6	60.8	(54.3-66.9)	70.8	(64.4-76.4)
Region 7	66.9	(58.4-74.5)	75.6	(67.5-82.2)
Region 8	62.3	(55.3-68.8)	69.4	(62.3-75.7)

^a Among adults aged 65 years and older, 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 12 months. (N = 3,449)

^b Among adults aged 65 years and older, the proportion who reported that they ever had a pneumococcal vaccine. (N = 3,357)

Table 23: HIV Testing among Adults Aged 18 - 64 Years by EP Region 2011 Michigan BRFSS		
	Ever Had an HIV Test^a	
	%	95% Confidence Interval
Michigan Total	41.3	(39.6-43.0)
EP Region		
Region 1	38.7	(34.1-43.5)
Region 2N	38.9	(35.1-42.9)
Region 2S	48.9	(45.1-52.7)
Region 3	41.8	(37.0-46.7)
Region 5	43.4	(38.1-48.8)
Region 6	37.1	(33.0-41.5)
Region 7	37.1	(30.9-43.8)
Region 8	34.8	(29.3-40.9)

^a 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. (N = 6,992)

Table 24: Asthma among Adults by EP Region 2011 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	14.8	(13.8-15.9)	9.9	(9.1-10.8)
EP Region				
Region 1	14.7	(12.0-17.9)	9.8	(7.5-12.6)
Region 2N	14.2	(12.0-16.7)	8.6	(6.9-10.7)
Region 2S	17.2	(14.8-19.9)	12.4	(10.4-14.8)
Region 3	13.6	(11.1-16.6)	9.0	(7.0-11.4)
Region 5	14.9	(11.9-18.6)	10.7	(8.1-14.0)
Region 6	12.8	(10.5-15.4)	7.7	(6.0-9.9)
Region 7	14.9	(11.3-19.5)	10.5	(7.4-14.7)
Region 8	16.9	(13.3-21.2)	10.7	(8.2-13.9)
^a 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. (N = 11,012) ^b Among all adults, the proportion who reported that they still had asthma. (N = 10,978)				

Table 25: Asthma among Children by EP Region 2011 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	14.5	(12.9-16.3)	10.0	(8.6-11.6)
EP Region				
Region 1	13.5	(9.3-19.4)	10.8	(7.0-16.4)
Region 2N	15.6	(11.8-20.4)	8.6	(5.8-12.6)
Region 2S	16.7	(12.9-21.3)	11.8	(8.6-16.0)
Region 3	17.5	(12.6-23.8)	13.3	(9.0-19.2)
Region 5	11.6	(7.2-18.0)	6.9	(3.6-12.7)
Region 6	13.0	(9.7-17.3)	9.5	(6.6-13.4)
Region 7	14.0	(8.8-21.7)	9.8	(5.3-17.5)
Region 8	11.1	(7.5-16.3)	8.5	(5.3-13.4)
^a Estimated proportion of Michigan children aged 0-17 years who were ever told by a doctor, nurse or other health professional that they had asthma, using proxy information from the adult respondent. (N = 2,594). ^b Estimated proportion of Michigan children aged 0-17 years who still have asthma, using proxy information from the adult respondent. (N = 2,589)				

Table 26: Chronic Obstructive Pulmonary Disease (COPD) by EP Region 2011 Michigan BRFSS		
	Ever Told COPD, Emphysema or Chronic Bronchitis^a	
	%	95% Confidence Interval
Michigan Total	8.0	(7.3-8.7)
EP Region		
Region 1	7.6	(5.9-9.8)
Region 2N	8.0	(6.3-10.1)
Region 2S	8.2	(6.7-9.9)
Region 3	9.8	(7.7-12.4)
Region 5	8.3	(6.2-10.9)
Region 6	6.8	(5.3-8.5)
Region 7	7.2	(4.7-10.7)
Region 8	9.2	(6.6-12.6)

^a 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. (N = 10,987)

Table 27: Arthritis by EP Region 2011 Michigan BRFSS		
	Ever Told Arthritis^a	
	%	95% Confidence Interval
Michigan Total	31.0	(29.8-32.2)
EP Region		
Region 1	32.5	(28.9-36.3)
Region 2N	31.0	(28.2-33.9)
Region 2S	27.7	(25.1-30.5)
Region 3	33.7	(30.1-37.6)
Region 5	34.5	(30.5-38.8)
Region 6	27.6	(24.7-30.8)
Region 7	34.3	(29.7-39.2)
Region 8	36.0	(31.7-40.5)

^a 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. (N = 10,974)

**Table 28: Cardiovascular Disease by EP Region
2011 Michigan BRFSS**

	Ever Told Heart Attack ^a		Had Told Angina or Coronary Heart Disease ^b		Ever Told Stroke ^c		Ever Told Any Cardiovascular Disease ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	5.3	(4.8-5.9)	5.0	(4.4-5.5)	3.3	(2.9-3.8)	9.5	(8.8-10.3)
EP Region								
Region 1	5.7	(4.2-7.8)	5.4	(3.9-7.5)	3.7	(2.5-5.4)	9.7	(7.7-12.2)
Region 2N	5.4	(4.1-6.9)	5.2	(4.0-6.7)	2.9	(2.0-4.2)	9.2	(7.6-11.1)
Region 2S	4.6	(3.6-6.0)	3.6	(2.7-4.7)	4.0	(2.9-5.4)	9.0	(7.5-10.8)
Region 3	5.8	(4.2-7.8)	6.1	(4.6-8.1)	3.0	(2.1-4.3)	10.2	(8.2-12.6)
Region 5	5.3	(3.6-7.7)	6.1	(4.3-8.6)	3.6	(2.3-5.7)	10.8	(8.4-13.9)
Region 6	5.0	(3.7-6.6)	4.4	(3.3-6.0)	2.4	(1.6-3.5)	8.4	(6.8-10.4)
Region 7	6.7	(4.6-9.5)	5.3	(3.7-7.6)	3.9	(2.5-6.1)	11.7	(9.0-15.1)
Region 8	5.7	(4.3-7.5)	5.4	(4.0-7.4)	2.8	(2.0-4.1)	10.3	(8.2-12.7)

Among all adults, the proportion who had ever been told by a doctor that...

^a they had a heart attack or myocardial infarction (N = 10,997);

^b they had angina or coronary heart disease (N = 10,963);

^c they had a stroke. (N = 11,018)

^d they had a heart attack, coronary heart disease or a stroke. (N = 10,947)

**Table 29: Cancer by EP Region
2011 Michigan BRFS**

	Ever Told Skin Cancer ^a		Ever Told Any Other Types of Cancer ^b		Ever Told Cancer ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	5.6	(5.1-6.1)	7.3	(6.7-7.9)	11.8	(11.1-12.6)
EP Region						
Region 1	5.4	(4.0-7.4)	8.5	(6.7-10.8)	12.6	(10.3-15.2)
Region 2N	5.9	(4.9-7.3)	6.2	(5.0-7.6)	11.2	(9.6-13.0)
Region 2S	3.8	(2.9-4.9)	6.6	(5.3-8.1)	9.8	(8.3-11.6)
Region 3	6.0	(4.5-8.0)	7.6	(5.8-9.8)	12.5	(10.2-15.2)
Region 5	7.9	(6.2-10.0)	8.4	(6.6-10.7)	14.8	(12.3-17.7)
Region 6	4.9	(3.9-6.3)	7.3	(5.8-9.2)	11.5	(9.6-13.6)
Region 7	9.2	(7.0-12.1)	8.9	(6.8-11.8)	16.2	(13.1-19.8)
Region 8	5.1	(3.7-7.1)	7.2	(5.7-9.1)	11.2	(9.0-13.7)

^a Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer. (N = 11,023)

^b Among all adults, the proportion who reported ever being told by a doctor that they had a form of cancer other than skin cancer. (N = 11,020)

^c Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer. (N = 11,008)

Table 30: Diabetes by EP Region 2011 Michigan BRFSS		
	Ever Told Diabetes^a	
	%	95% Confidence Interval
Michigan Total	10.0	(9.3-10.7)
EP Region		
Region 1	9.0	(7.2-11.3)
Region 2N	9.0	(7.5-10.7)
Region 2S	10.4	(8.8-12.2)
Region 3	11.0	(8.9-13.5)
Region 5	9.9	(7.7-12.6)
Region 6	9.6	(7.9-11.6)
Region 7	13.1	(10.1-16.9)
Region 8	10.0	(8.1-12.2)
^a 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. (N = 11,032)		

Table 31: Kidney Disease by EP Region 2011 Michigan BRFSS		
	Ever Told Kidney Disease^a	
	%	95% Confidence Interval
Michigan Total	3.0	(2.6-3.5)
EP Region		
Region 1	3.2	(2.1-4.8)
Region 2N	3.0	(2.0-4.4)
Region 2S	2.7	(2.0-3.6)
Region 3	3.6	(2.5-5.2)
Region 5	2.8	(1.9-4.2)
Region 6	2.2	(1.5-3.2)
Region 7	3.9	(2.4-6.3)
Region 8	4.8	(2.8-8.0)

^a Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease. (N = 11,003)

Table 32: Depression by EP Region 2011 Michigan BRFSS		
	Ever Told Depression^a	
	%	95% Confidence Interval
Michigan Total	20.6	(19.5-21.8)
EP Region		
Region 1	20.7	(17.5-24.3)
Region 2N	19.7	(17.0-22.6)
Region 2S	18.7	(16.2-21.5)
Region 3	20.7	(17.5-24.3)
Region 5	21.4	(17.9-25.3)
Region 6	23.9	(20.9-27.1)
Region 7	21.4	(17.5-26.1)
Region 8	22.3	(18.3-26.9)

^a 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. (N = 10,989)

Table 33: Visual Impairment by EP Region 2011 Michigan BRFS		
	Ever Told Non-Correctable Visual Impairment^a	
	%	95% Confidence Interval
Michigan Total	19.2	(18.2-20.3)
EP Region		
Region 1	18.7	(15.9-21.8)
Region 2N	20.4	(17.9-23.0)
Region 2S	18.2	(16.1-20.5)
Region 3	18.9	(16.0-22.1)
Region 5	18.9	(15.6-22.7)
Region 6	17.3	(14.8-20.0)
Region 7	22.4	(18.5-27.0)
Region 8	24.3	(20.3-28.7)

^a 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. (N = 10,880)