

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

State of Michigan

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

2012

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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.

In 2012, the total sample size of completed interviews for the core survey was 10,499 (land line = 8,414; cell phone = 2,085). 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 10,499. 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 2012 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 2012 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.

Iterative proportional fitting or raking was the weighting methodology used to make the 2012 Michigan BRFS data representative of the current Michigan adult population. Estimates based on this 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 2013, Michigan BRFS data from the 2012 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.

Due to the BRFS methodology changes that took place in 2011, the estimates provided within the following tables should only be compared to Michigan BRFS estimates from 2011 and not to Michigan BRFS estimates from years prior to 2011.

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 2012 Michigan BRFSS		
	General Health, Fair or Poor^a	
	%	95% Confidence Interval
Michigan Total	17.1	(16.1-18.1)
EP Region		
Region 1	14.7	(12.3-17.4)
Region 2N	13.1	(11.3-15.2)
Region 2S	20.6	(18.2-23.3)
Region 3	20.7	(17.9-23.8)
Region 5	17.9	(14.7-21.6)
Region 6	15.5	(13.1-18.3)
Region 7	22.4	(17.6-28.2)
Region 8	14.8	(10.9-19.8)

^a Among all adults, the proportion who reported that their health, in general, was either fair or poor. (N = 10,485)

Table 2: Health Status on at Least 14 Days in the Past Month by EP Region 2012 Michigan BRFS						
	Poor Physical Health^a		Poor Mental Health^b		Activity Limitation^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	13.5	(12.6-14.4)	13.0	(12.1-14.0)	9.0	(8.3-9.8)
EP Region						
Region 1	12.9	(10.6-15.5)	12.1	(9.8-15.0)	7.3	(5.7-9.2)
Region 2N	10.0	(8.3-11.8)	13.2	(11.1-15.6)	7.0	(5.5-8.8)
Region 2S	14.4	(12.4-16.5)	14.6	(12.5-16.9)	11.0	(9.2-13.0)
Region 3	16.1	(13.5-19.1)	12.8	(10.5-15.6)	10.1	(8.0-12.6)
Region 5	13.7	(10.9-17.1)	13.8	(10.9-17.2)	10.4	(7.9-13.5)
Region 6	14.1	(11.8-16.8)	11.5	(9.3-14.1)	8.0	(6.4-10.0)
Region 7	19.4	(15.1-24.5)	16.2	(12.3-21.0)	14.0	(10.2-19.0)
Region 8	12.7	(9.5-16.7)	5.6	(3.7-8.3)	7.8	(5.1-11.7)

^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 = 10,344)

^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 = 10,378)

^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 = 10,419)

**Table 3: Mean Number of Days of Poor Physical Health, Poor Mental Health, and Activity Limitations by EP Region
2012 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	4.2	(4.0-4.4)	4.1	(3.9-4.4)	2.8	(2.6-2.9)
EP Region						
Region 1	4.2	(3.6-4.8)	3.9	(3.3-4.6)	2.3	(1.9-2.8)
Region 2N	3.4	(2.9-3.8)	4.0	(3.5-4.6)	2.3	(1.9-2.8)
Region 2S	4.5	(4.0-5.0)	4.7	(4.2-5.3)	3.2	(2.7-3.6)
Region 3	5.0	(4.3-5.7)	3.9	(3.3-4.5)	3.0	(2.4-3.6)
Region 5	4.0	(3.3-4.7)	4.3	(3.5-5.1)	3.0	(2.4-3.7)
Region 6	4.3	(3.7-4.9)	3.8	(3.2-4.3)	2.5	(2.0-3.0)
Region 7	5.8	(4.6-7.1)	4.9	(3.9-6.0)	3.9	(3.0-4.9)
Region 8	3.7	(2.8-4.6)	2.4	(1.8-3.0)	2.4	(1.5-3.3)

^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 = 10,344)

^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 = 10,378)

^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 = 10,419)

Table 4: Disability by EP Region 2012 Michigan BRFSS						
	Total Disability^a		Any Activity Limitation^b		Used Special Equipment^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	24.6	(23.5-25.7)	22.3	(21.3-23.4)	8.7	(8.1-9.4)
EP Region						
Region 1	23.6	(20.7-26.8)	21.5	(18.7-24.5)	7.4	(5.9-9.3)
Region 2N	22.1	(19.9-24.6)	20.0	(17.8-22.3)	7.7	(6.4-9.3)
Region 2S	26.6	(24.1-29.3)	23.9	(21.5-26.6)	10.2	(8.8-11.8)
Region 3	27.4	(24.2-30.8)	25.1	(22.0-28.4)	9.6	(7.8-11.7)
Region 5	25.0	(21.6-28.6)	22.6	(19.5-26.1)	8.9	(6.7-11.8)
Region 6	24.5	(21.8-27.5)	22.5	(19.8-25.4)	8.1	(6.6-10.0)
Region 7	29.0	(24.1-34.5)	27.5	(22.7-32.9)	11.1	(7.8-15.5)
Region 8	22.4	(17.5-28.2)	19.6	(15.2-24.9)	8.7	(5.8-13.0)

^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 = 10,382)

^b Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems. (N = 10,390)

^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 = 10,395)

Table 5: Weight Status by EP Region 2012 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	31.1	(29.8-32.3)	34.6	(33.3-35.8)	32.8	(31.5-34.1)	1.6	(1.3-2.0)
EP Region								
Region 1	31.8	(28.4-35.5)	33.5	(29.9-37.3)	31.9	(28.3-35.7)	2.8	(1.6-5.0)
Region 2N	29.6	(26.9-32.5)	34.2	(31.4-37.1)	35.0	(32.1-38.0)	1.2	(0.7-1.9)
Region 2S	33.9	(31.0-36.8)	31.8	(29.1-34.5)	33.2	(30.3-36.1)	1.2	(0.7-2.0)
Region 3	34.6	(31.1-38.3)	35.8	(32.2-39.5)	28.1	(24.7-31.9)	1.5	(0.8-2.7)
Region 5	32.6	(28.8-36.6)	36.6	(32.6-40.8)	28.7	(25.1-32.6)	2.1	(1.1-4.0)
Region 6	27.1	(24.1-30.3)	36.8	(33.6-40.2)	34.7	(31.4-38.1)	1.4	(0.8-2.7)
Region 7	30.1	(24.8-36.1)	35.9	(30.8-41.4)	32.8	(27.3-38.8)	1.2	(0.5-2.8)
Region 8	27.3	(21.9-33.4)	36.2	(30.0-43.0)	33.3	(26.8-40.5)	3.2	(1.0-10.2)
<p>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 = 10,052)</p> <p>^a Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.</p> <p>^b Among all adults, the proportion of respondents whose BMI was greater than or equal to 25.0, but less than 30.0.</p> <p>^c Among all adults, the proportion of respondents whose BMI was greater than or equal to 18.5, but less than 25.0.</p> <p>^d Among all adults, the proportion of respondents whose BMI was less than 18.5.</p>								

Table 6: Health Care Access by EP Region 2012 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	16.6	(15.4-17.8)	15.8	(14.8-16.9)	15.1	(14.1-16.1)
EP Region						
Region 1	13.4	(10.2-17.5)	13.9	(11.4-17.0)	14.5	(11.7-17.9)
Region 2N	14.4	(12.0-17.3)	14.8	(12.7-17.2)	15.3	(13.1-17.8)
Region 2S	19.5	(16.8-22.6)	16.6	(14.3-19.3)	15.8	(13.6-18.3)
Region 3	18.3	(14.8-22.3)	14.7	(11.9-18.1)	15.5	(12.9-18.4)
Region 5	17.5	(14.0-21.7)	15.5	(12.4-19.2)	14.0	(11.3-17.2)
Region 6	13.2	(10.8-16.1)	12.6	(10.3-15.3)	14.1	(11.9-16.6)
Region 7	21.8	(16.3-28.5)	18.4	(13.6-24.5)	17.6	(13.0-23.4)
Region 8	12.0	(7.0-19.9)	16.9	(11.4-24.4)	11.7	(7.5-17.9)

^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 = 6,820)

^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 = 10,453)

^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 = 10,477)

Table 7: No Leisure-Time Physical Activity by EP Region 2012 Michigan BRFSS		
	No Leisure-Time Physical Activity^a	
	%	95% Confidence Interval
Michigan Total	23.3	(22.2-24.5)
EP Region		
Region 1	19.8	(16.9-23.0)
Region 2N	20.6	(18.4-23.1)
Region 2S	26.2	(23.5-29.1)
Region 3	26.4	(23.2-29.8)
Region 5	26.9	(23.2-31.0)
Region 6	21.4	(18.8-24.4)
Region 7	23.5	(18.6-29.1)
Region 8	20.0	(15.2-25.8)

^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 = 10,490)

**Table 8: Cigarette Smoking by EP Region
2012 Michigan BRFSS**

	Current Smoking ^a		Former Smoking ^b		Never Smoked	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	23.3	(22.1-24.6)	25.8	(24.7-26.9)	50.9	(49.6-52.2)
EP Region						
Region 1	19.3	(16.1-22.9)	30.5	(27.1-34.1)	50.3	(46.4-54.1)
Region 2N	24.4	(21.7-27.3)	25.1	(22.8-27.5)	50.6	(47.6-53.5)
Region 2S	22.3	(19.7-25.2)	21.3	(19.2-23.6)	56.3	(53.4-59.3)
Region 3	25.6	(22.3-29.2)	27.5	(24.4-30.7)	46.9	(43.2-50.7)
Region 5	25.6	(21.7-30.0)	26.8	(23.6-30.2)	47.6	(43.6-51.7)
Region 6	21.8	(18.9-25.1)	26.5	(23.7-29.6)	51.6	(48.2-55.0)
Region 7	26.8	(21.3-33.3)	31.2	(26.6-36.3)	41.9	(36.4-47.6)
Region 8	21.7	(15.9-28.8)	30.5	(25.0-36.6)	47.8	(41.0-54.7)

^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 = 10,361)

^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 = 10,361)

Table 9: Current Smokers Who Attempted to Quit by EP Region 2012 Michigan BRFSS		
	Tried to Quit Smoking One Day or Longer in Past Year^a	
	%	95% Confidence Interval
Michigan Total	64.3	(61.2-67.3)
EP Region		
Region 1	67.3	(56.4-76.5)
Region 2N	59.9	(53.0-66.5)
Region 2S	67.8	(61.0-73.9)
Region 3	69.1	(61.2-75.9)
Region 5	55.4	(45.5-64.8)
Region 6	60.7	(52.2-68.6)
Region 7	70.4	(57.9-80.5)
Region 8	64.4	(48.0-78.0)

^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 = 1,830)

Table 10: Smokeless Tobacco Use by EP Region 2012 Michigan BRFSS		
	Current Smokeless Tobacco Use^a	
	%	95% Confidence Interval
Michigan Total	3.9	(3.3-4.5)
EP Region		
Region 1	4.6	(3.1-6.9)
Region 2N	3.3	(2.3-4.7)
Region 2S	2.7	(1.9-3.9)
Region 3	4.0	(2.6-6.2)
Region 5	3.7	(2.2-6.3)
Region 6	4.0	(2.8-5.7)
Region 7	3.2	(1.7-6.0)
Region 8	10.5	(6.0-17.8)

^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 = 10,380)

Table 11: Alcohol Consumption by EP Region 2012 Michigan BRFSS				
	Heavy Drinking^a		Binge Drinking^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	6.1	(5.4-6.8)	19.2	(18.1-20.3)
EP Region				
Region 1	6.3	(4.6-8.6)	22.1	(18.9-25.8)
Region 2N	5.6	(4.4-7.2)	19.7	(17.3-22.4)
Region 2S	5.8	(4.6-7.3)	19.0	(16.6-21.7)
Region 3	6.2	(4.6-8.3)	18.2	(15.3-21.6)
Region 5	5.6	(4.0-7.8)	17.0	(13.9-20.5)
Region 6	6.3	(4.4-8.9)	19.3	(16.5-22.6)
Region 7	7.2	(4.3-11.7)	15.4	(11.5-20.3)
Region 8	8.7	(5.5-13.6)	21.5	(15.9-28.5)
^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 = 10,215)				
^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 = 10,223)				

Table 12: Mean Number of Binge Drinking Occasions during the Past Month among Binge Drinkers by EP Region 2012 Michigan BRFSS		
	Number of Binge Drinking Occasions^a	
	Mean	95% Confidence Interval
Michigan Total	4.3	(3.9-4.7)
EP Region		
Region 1	3.8	(2.9-4.7)
Region 2N	4.2	(3.2-5.2)
Region 2S	4.7	(3.5-5.8)
Region 3	4.7	(3.5-5.9)
Region 5	3.6	(2.8-4.4)
Region 6	4.5	(3.3-5.6)
Region 7	4.4	(2.6-6.2)
Region 8	3.7	(2.8-4.5)
^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 = 1,422)		

Table 13: Drove Motor Vehicle After Drinking by EP Region 2012 Michigan BRFSS		
	Drove Motor Vehicle After Drinking^a	
	%	95% Confidence Interval
Michigan Total	1.9	(1.6-2.3)
EP Region		
Region 1	2.4	(1.4-4.1)
Region 2N	1.7	(1.1-2.6)
Region 2S	1.4	(0.9-2.1)
Region 3	3.2	(1.9-5.1)
Region 5	1.5	(0.8-2.9)
Region 6	1.7	(1.0-3.0)
Region 7	1.3	(0.6-2.8)
Region 8	2.5	(1.0-5.9)

^a Among all adults, the proportion who reported that they had driven when they'd had too much to drink at least once in the previous month. (N = 10,306)

Table 14: Seatbelt Use by EP Region 2012 Michigan BRFS		
	Always Uses a Seatbelt^a	
	%	95% Confidence Interval
Michigan Total	88.4	(87.4-89.3)
EP Region		
Region 1	88.2	(85.3-90.6)
Region 2N	89.7	(87.5-91.6)
Region 2S	89.3	(87.0-91.2)
Region 3	87.7	(84.9-90.1)
Region 5	87.5	(83.9-90.4)
Region 6	88.0	(85.5-90.0)
Region 7	90.0	(86.4-92.8)
Region 8	84.7	(78.7-89.2)

^a Among all adults, the proportion who reported always using a seatbelt when driving or riding in a car. (N = 10,302)

Table 15: No Routine Checkup in Past Year by EP Region 2012 Michigan BRFS		
	Had No Routine Checkup in Past Year^a	
	%	95% Confidence Interval
Michigan Total	33.5	(32.2-34.8)
EP Region		
Region 1	34.9	(31.1-38.9)
Region 2N	32.7	(29.9-35.6)
Region 2S	30.7	(28.0-33.6)
Region 3	34.2	(30.6-38.0)
Region 5	37.1	(33.1-41.2)
Region 6	34.4	(31.2-37.8)
Region 7	30.9	(25.5-36.9)
Region 8	35.9	(29.4-43.1)

^a Among all adults, the proportion who reported that they did not have a routine checkup in the past year. (N = 10,400)

**Table 16: Clinical Breast Exam Indicators Among Women Aged 20 Years and Older by EP Region
2012 Michigan BRFSS**

	Ever Had Clinical Breast Exam ^a		Had Appropriately Timed Clinical Breast Exam ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	91.4	(90.2-92.5)	66.7	(65.1-68.3)
EP Region				
Region 1	93.8	(90.7-96.0)	71.6	(67.1-75.7)
Region 2N	92.8	(90.1-94.9)	67.1	(63.3-70.6)
Region 2S	90.3	(87.8-92.4)	66.3	(62.8-69.7)
Region 3	89.5	(85.4-92.6)	61.5	(56.8-66.0)
Region 5	88.8	(83.9-92.3)	62.4	(56.9-67.5)
Region 6	94.1	(91.2-96.1)	73.7	(69.8-77.3)
Region 7	92.8	(88.4-95.6)	64.6	(57.9-70.8)
Region 8	93.2	(88.3-96.1)	63.2	(55.0-70.7)

^a Among women aged 20 years and older, the proportion who reported ever having a clinical breast exam. (N = 6,022)

^b Among women aged 20 years and older, the proportion whose last clinical breast exam was within the previous three years for women age 20-39 years and within the previous year for women aged 40 years and older. (N = 5,954)

**Table 17: Mammography Indicators Among Women Aged 40 Years and Older by EP Region
2012 Michigan BRFSS**

	Ever Had Mammogram ^a		Had Mammogram in Past Year ^b		Had Mammogram in Past Two Years ^c		Had Clinical Breast Exam and Mammogram in Past Year ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	94.5	(93.6-95.3)	59.2	(57.5-61.0)	76.6	(75.0-78.1)	50.4	(48.6-52.2)
EP Region								
Region 1	95.6	(93.0-97.3)	63.0	(57.8-67.8)	77.3	(72.7-81.3)	55.7	(50.5-60.8)
Region 2N	94.7	(92.4-96.3)	60.2	(56.1-64.3)	77.6	(73.9-80.9)	52.0	(47.8-56.2)
Region 2S	94.2	(91.9-95.8)	59.0	(55.2-62.8)	76.5	(73.1-79.7)	49.0	(45.1-52.9)
Region 3	96.8	(94.4-98.2)	60.2	(55.3-64.8)	78.5	(74.2-82.3)	51.4	(46.5-56.2)
Region 5	90.9	(86.8-93.8)	50.7	(44.8-56.5)	67.9	(61.9-73.4)	41.2	(35.7-47.0)
Region 6	95.3	(92.7-97.0)	63.1	(58.5-67.5)	79.4	(75.4-82.9)	55.8	(51.2-60.3)
Region 7	94.4	(90.0-96.9)	56.4	(49.2-63.3)	80.7	(74.6-85.7)	46.5	(39.5-53.7)
Region 8	92.8	(87.3-96.1)	55.3	(47.0-63.3)	72.2	(64.1-79.0)	45.9	(37.9-54.0)

Note: Data included diagnostic tests.

^a Among women aged 40 years and older, the proportion who reported ever having a mammogram. (N = 5,053)

^b Among women aged 40 years and older, the proportion who reported ever having a mammogram in the past year. (N = 5,008)

^c Among women aged 40 years and older, the proportion who reported having a mammogram in the past two years. (N = 5,008)

^d Among women aged 40 years and older, the proportion who reported having a clinical breast exam and a mammogram in the past year. (N = 4,994)

Table 18: Cervical Cancer Screening by EP Region 2012 Michigan BRFSS				
	Ever Had Pap Test^a		Had Appropriately Timed Pap Test^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	92.1	(90.6-93.4)	79.4	(77.6-81.1)
EP Region				
Region 1	94.3	(90.0-96.8)	81.8	(76.9-85.9)
Region 2N	89.3	(84.6-92.6)	79.1	(74.5-83.1)
Region 2S	93.2	(90.1-95.4)	82.7	(79.2-85.7)
Region 3	91.8	(86.5-95.1)	75.2	(69.6-80.1)
Region 5	93.2	(88.3-96.1)	72.5	(66.0-78.1)
Region 6	93.6	(89.9-96.1)	82.7	(78.3-86.4)
Region 7	93.9	(87.2-97.2)	79.5	(71.9-85.5)
Region 8	89.5	(75.9-95.8)	72.7	(61.6-81.7)

Note: Data included diagnostic tests.
^a Among women aged 18 years and older, the proportion who reported ever having a Pap test. (N = 4,262)
^b Among women aged 18 years and older, the proportion who reported having a Pap test within the previous three years. (N = 4,153)

**Table 19: Prostate Cancer Screening Among Men Aged 50 Years and Older by EP Region
2012 Michigan BRFSS**

	Ever Discussed Advantages of PSA Test With Doctor ^a		Doctor Ever Recommended PSA Test ^b		Ever Had PSA Test ^c		Had PSA Test in Past Year ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	73.0	(70.6-75.4)	67.3	(64.7-69.7)	72.2	(69.6-74.6)	46.9	(44.4-49.5)
EP Region								
Region 1	76.3	(69.7-81.8)	69.1	(62.3-75.3)	75.4	(68.8-81.0)	45.1	(38.3-52.0)
Region 2N	78.3	(73.3-82.6)	73.3	(67.9-78.2)	77.1	(71.7-81.7)	57.4	(51.8-62.8)
Region 2S	72.1	(65.2-78.1)	67.1	(60.1-73.4)	69.9	(62.5-76.4)	41.4	(35.3-47.9)
Region 3	70.8	(63.5-77.1)	70.1	(63.3-76.1)	75.6	(69.1-81.0)	48.6	(41.7-55.6)
Region 5	67.1	(58.9-74.3)	63.6	(55.5-71.0)	63.7	(55.2-71.3)	40.4	(33.0-48.2)
Region 6	70.6	(64.1-76.3)	62.2	(55.6-68.5)	66.6	(59.9-72.6)	42.9	(36.7-49.3)
Region 7	74.8	(65.7-82.2)	64.3	(54.9-72.7)	77.7	(68.8-84.6)	50.4	(41.3-59.5)
Region 8	69.7	(58.8-78.7)	59.9	(48.6-70.2)	72.8	(62.2-81.3)	45.1	(34.7-55.9)

Among men aged 50 years and older (N = 2,579), the proportion who reported...

^a ever discussing the advantages of a Prostate-Specific Antigen (PSA) test with a doctor, nurse, or other health professional.

^b ever receiving a recommendation from a doctor, nurse, or other health professional to get a PSA test.

^c ever having a PSA test.

^d having a PSA test within the past year.

**Table 20: Colorectal Cancer Screening (Blood Stool Test) Among Adults Aged 50 Years and Older by EP Region
2012 Michigan BRFSS**

	Ever Had Blood Stool Test ^a		Had Blood Stool Test in Past Two Years ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	40.6	(39.1-42.1)	15.8	(14.7-16.9)
EP Region				
Region 1	48.9	(44.5-53.3)	21.0	(17.7-24.7)
Region 2N	38.6	(35.3-42.0)	15.6	(13.2-18.4)
Region 2S	35.7	(32.4-39.2)	11.7	(9.8-13.9)
Region 3	42.7	(38.7-46.9)	18.7	(15.7-22.0)
Region 5	37.9	(33.2-42.9)	15.9	(12.4-20.0)
Region 6	41.3	(37.6-45.2)	13.0	(10.7-15.7)
Region 7	40.9	(35.4-46.6)	16.5	(12.7-21.2)
Region 8	43.7	(37.3-50.4)	17.4	(13.0-22.9)

^a Among adults aged 50 years and older, the proportion who reported ever having a blood stool test using a home kit. (N = 6,754)

^b Among adults aged 50 years and older, the proportion whose reported having a blood stool test within the past two years using a home kit. (N = 6,666)

Table 21: Colorectal Cancer Screening (Sigmoidoscopy/Colonoscopy) Among Adults Aged 50 Years and Older by EP Region
2012 Michigan BRFSS

	Ever Had a Sigmoidoscopy or Colonoscopy ^a		Had a Sigmoidoscopy or Colonoscopy in Past 5 Years ^b		Had a Sigmoidoscopy in Past 5 Years or Colonoscopy in Past 10 Years ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	72.7	(71.2-74.1)	55.4	(53.8-57.0)	67.3	(65.8-68.9)
EP Region						
Region 1	76.5	(72.4-80.2)	59.5	(55.0-63.8)	70.9	(66.6-74.9)
Region 2N	73.0	(69.6-76.2)	57.2	(53.7-60.7)	69.1	(65.5-72.4)
Region 2S	68.8	(64.8-72.5)	52.6	(48.8-56.4)	64.6	(60.6-68.4)
Region 3	71.3	(67.2-75.1)	54.5	(50.3-58.7)	65.9	(61.6-69.9)
Region 5	68.8	(63.5-73.5)	50.8	(45.7-55.8)	61.0	(55.6-66.1)
Region 6	77.4	(73.7-80.7)	59.2	(55.2-63.0)	72.2	(68.4-75.7)
Region 7	75.3	(69.8-80.0)	52.3	(46.5-58.0)	69.3	(63.7-74.4)
Region 8	71.9	(65.4-77.6)	56.3	(49.4-62.9)	65.7	(58.9-71.9)

^a Among adults aged 50 years and older, the proportion who reported ever having a sigmoidoscopy or colonoscopy. (N = 6,763)
^b Among adults aged 50 years and older, the proportion who reported having a sigmoidoscopy or colonoscopy in the past five years. (N = 6,687)
^c Among adults aged 50 years and older, the proportion who reported having a sigmoidoscopy in the past five years or a colonoscopy in the past ten years. (N = 6,578)

**Table 22: Oral Health by EP Region
2012 Michigan BRFSS**

	No Dental Visit in Past Year ^a		6+ Teeth Missing ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	32.0	(30.7-33.3)	15.8	(14.9-16.7)
EP Region				
Region 1	29.2	(25.7-33.1)	14.1	(11.8-16.7)
Region 2N	25.9	(23.3-28.7)	11.6	(10.0-13.3)
Region 2S	37.1	(34.1-40.1)	17.2	(15.1-19.5)
Region 3	32.4	(28.8-36.1)	20.3	(17.6-23.3)
Region 5	33.9	(30.0-38.1)	17.7	(14.9-20.9)
Region 6	31.0	(27.8-34.3)	16.3	(14.1-18.7)
Region 7	36.5	(31.0-42.3)	16.7	(12.8-21.6)
Region 8	33.8	(27.6-40.5)	14.9	(11.1-19.5)

^a Among all adults, the proportion who reported that they had not visited a dentist or dental clinic for any reason in the previous year. (N = 10,401)
^b Among all adults, the proportion who reported that they were missing 6+ teeth due to tooth decay or gum disease. This excludes teeth lost for other reasons, such as injury or orthodontics. (N = 10,220)

**Table 23: Immunizations among Adults Aged 65 Years and Older by EP Region
2012 Michigan BRFSS**

	Had Flu Vaccine in Past Year ^a		Ever Had Pneumonia Vaccine ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	55.4	(53.3-57.5)	66.8	(64.6-68.8)
EP Region				
Region 1	54.5	(48.4-60.5)	63.5	(57.2-69.3)
Region 2N	58.3	(53.5-62.8)	66.5	(61.9-70.9)
Region 2S	51.0	(46.1-55.9)	61.8	(56.4-66.9)
Region 3	51.0	(45.4-56.5)	67.3	(61.9-72.3)
Region 5	59.2	(52.2-65.9)	72.5	(65.5-78.6)
Region 6	57.0	(51.5-62.3)	70.6	(65.2-75.4)
Region 7	61.6	(53.8-68.7)	73.0	(64.8-79.8)
Region 8	56.0	(46.4-65.1)	59.3	(49.7-68.2)

^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 = 3,481)

^b Among adults aged 65 years and older, the proportion who reported that they ever had a pneumococcal vaccine. (N = 3,383)

Table 24: HIV Testing among Adults Aged 18 - 64 Years by EP Region 2012 Michigan BRFSS		
	Ever Had an HIV Test^a	
	%	95% Confidence Interval
Michigan Total	40.4	(38.9-42.0)
EP Region		
Region 1	39.6	(35.0-44.4)
Region 2N	41.8	(38.3-45.3)
Region 2S	49.2	(45.7-52.8)
Region 3	34.3	(30.1-38.8)
Region 5	41.1	(36.3-46.0)
Region 6	34.8	(31.0-38.8)
Region 7	38.3	(31.1-46.1)
Region 8	29.2	(22.0-37.6)

^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 = 6,534)

Table 25: Asthma among Adults by EP Region 2012 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	15.5	(14.6-16.6)	10.5	(9.7-11.4)
EP Region				
Region 1	15.3	(12.7-18.3)	11.9	(9.6-14.7)
Region 2N	15.2	(13.1-17.7)	9.1	(7.5-11.0)
Region 2S	17.6	(15.4-20.0)	12.4	(10.5-14.7)
Region 3	13.9	(11.4-16.8)	8.9	(7.0-11.3)
Region 5	14.4	(11.7-17.5)	9.4	(7.3-12.1)
Region 6	15.6	(13.2-18.4)	10.9	(8.8-13.4)
Region 7	11.5	(8.6-15.3)	9.1	(6.6-12.5)
Region 8	16.1	(11.2-22.5)	9.9	(6.4-14.9)
^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 = 10,465)				
^b Among all adults, the proportion who reported that they still had asthma. (N = 10,421)				

Table 26: Asthma among Children by EP Region 2012 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	14.4	(12.8-16.2)	9.5	(8.2-10.9)
EP Region				
Region 1	17.0	(11.9-23.6)	13.5	(8.9-19.9)
Region 2N	13.2	(10.1-17.0)	9.2	(6.7-12.6)
Region 2S	15.8	(12.5-19.9)	8.5	(6.4-11.1)
Region 3	15.9	(11.6-21.3)	12.3	(8.5-17.5)
Region 5	10.9	(7.3-15.9)	6.8	(4.0-11.2)
Region 6	13.7	(10.1-18.2)	7.8	(5.2-11.4)
Region 7	17.0	(9.5-28.6)	14.1	(7.2-25.6)
Region 8	7.6	(3.3-16.8)	5.2	(2.2-11.4)
^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 = 2,403). ^b Estimated proportion of Michigan children aged 0-17 years who still have asthma, using proxy information from the adult respondent. (N = 2,394)				

Table 27: Chronic Obstructive Pulmonary Disease (COPD) by EP Region 2012 Michigan BRFSS		
	Ever Told COPD, Emphysema or Chronic Bronchitis^a	
	%	95% Confidence Interval
Michigan Total	7.4	(6.8-8.1)
EP Region		
Region 1	6.3	(4.9-8.0)
Region 2N	7.3	(5.9-9.0)
Region 2S	7.6	(6.2-9.2)
Region 3	9.1	(7.2-11.4)
Region 5	6.6	(4.9-8.8)
Region 6	7.6	(5.9-9.8)
Region 7	8.0	(5.5-11.5)
Region 8	7.7	(5.4-10.7)

^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 = 10,445)

Table 28: Arthritis by EP Region 2012 Michigan BRFSS		
	Ever Told Arthritis^a	
	%	95% Confidence Interval
Michigan Total	31.8	(30.7-33.0)
EP Region		
Region 1	33.6	(30.3-37.1)
Region 2N	27.9	(25.5-30.4)
Region 2S	31.6	(29.1-34.2)
Region 3	40.3	(36.7-43.9)
Region 5	29.6	(26.3-33.2)
Region 6	31.4	(28.5-34.3)
Region 7	37.1	(31.9-42.6)
Region 8	34.3	(28.5-40.6)

^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 = 10,453)

**Table 29: Cardiovascular Disease by EP Region
2012 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	5.2	(4.7-5.8)	5.1	(4.6-5.6)	3.5	(3.1-3.9)	9.9	(9.2-10.6)
EP Region								
Region 1	5.0	(3.8-6.7)	4.4	(3.3-5.9)	3.9	(2.7-5.5)	9.3	(7.6-11.4)
Region 2N	3.8	(3.1-4.8)	4.3	(3.5-5.2)	3.7	(2.7-4.9)	8.6	(7.3-10.2)
Region 2S	5.5	(4.3-7.0)	4.2	(3.5-5.2)	3.8	(3.0-4.9)	10.3	(8.8-12.1)
Region 3	7.4	(5.6-9.6)	8.3	(6.4-10.7)	3.5	(2.4-5.1)	12.5	(10.3-15.1)
Region 5	5.3	(3.9-7.3)	5.2	(3.7-7.1)	3.8	(2.6-5.6)	10.3	(8.2-12.8)
Region 6	5.2	(4.0-6.6)	4.6	(3.6-5.9)	3.0	(2.2-4.1)	9.5	(7.9-11.3)
Region 7	5.9	(3.9-9.0)	7.1	(4.9-10.2)	2.6	(1.6-4.1)	11.2	(8.4-14.7)
Region 8	6.3	(4.2-9.3)	6.0	(4.1-8.8)	2.3	(1.2-4.4)	10.2	(7.5-13.7)

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

^a they had a heart attack or myocardial infarction (N = 10,458);

^b they had angina or coronary heart disease (N = 10,416);

^c they had a stroke. (N = 10,458)

^d they had a heart attack, coronary heart disease or a stroke. (N = 10,401)

**Table 30: Cancer by EP Region
2012 Michigan BRFSS**

	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	5.7	(5.3-6.2)	7.9	(7.3-8.5)	12.3	(11.6-13.0)
EP Region						
Region 1	5.6	(4.4-7.1)	6.9	(5.4-8.8)	11.6	(9.7-13.8)
Region 2N	5.9	(4.9-7.0)	7.4	(6.3-8.7)	11.9	(10.5-13.6)
Region 2S	4.4	(3.6-5.4)	7.2	(6.0-8.6)	10.4	(9.0-11.9)
Region 3	5.9	(4.6-7.5)	9.9	(7.9-12.2)	14.6	(12.3-17.2)
Region 5	6.9	(5.3-9.0)	7.7	(5.8-10.1)	12.4	(10.2-15.1)
Region 6	7.3	(5.9-8.9)	9.7	(7.9-11.8)	15.4	(13.2-17.8)
Region 7	7.3	(5.5-9.7)	8.2	(6.1-11.1)	13.9	(11.1-17.2)
Region 8	3.4	(2.2-5.3)	8.5	(6.1-11.7)	11.1	(8.4-14.6)

^a Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer. (N = 10,473)

^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 = 10,468)

^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 = 10,454)

Table 31: Diabetes by EP Region 2012 Michigan BRFSS		
	Ever Told Diabetes^a	
	%	95% Confidence Interval
Michigan Total	10.5	(9.7-11.2)
EP Region		
Region 1	9.0	(7.3-11.0)
Region 2N	8.1	(6.8-9.7)
Region 2S	11.6	(9.8-13.7)
Region 3	11.9	(9.9-14.2)
Region 5	12.1	(9.9-14.8)
Region 6	10.1	(8.5-12.0)
Region 7	13.3	(9.7-18.0)
Region 8	12.6	(9.2-17.0)
^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 = 10,484)		

Table 32: Kidney Disease by EP Region 2012 Michigan BRFSS		
	Ever Told Kidney Disease^a	
	%	95% Confidence Interval
Michigan Total	3.4	(2.9-3.9)
EP Region		
Region 1	2.7	(1.8-3.8)
Region 2N	2.4	(1.8-3.2)
Region 2S	4.0	(2.9-5.5)
Region 3	4.4	(3.1-6.2)
Region 5	2.8	(1.7-4.6)
Region 6	3.6	(2.7-4.8)
Region 7	5.0	(2.9-8.7)
Region 8	2.6	(1.4-4.7)

^a Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease. (N = 10,471)

Table 33: Depression by EP Region 2012 Michigan BRFSS		
	Ever Told Depression^a	
	%	95% Confidence Interval
Michigan Total	20.6	(19.5-21.7)
EP Region		
Region 1	23.2	(20.2-26.6)
Region 2N	16.2	(14.1-18.5)
Region 2S	21.0	(18.6-23.6)
Region 3	22.7	(19.7-26.0)
Region 5	22.4	(19.1-26.0)
Region 6	20.6	(18.0-23.6)
Region 7	25.4	(20.7-30.8)
Region 8	15.5	(11.0-21.5)

^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 = 10,464)

Table 34: Visual Impairment by EP Region 2012 Michigan BRFS		
	Ever Told Non-Correctable Visual Impairment^a	
	%	95% Confidence Interval
Michigan Total	17.1	(16.2-18.1)
EP Region		
Region 1	16.0	(13.4-19.0)
Region 2N	15.6	(13.6-17.9)
Region 2S	20.6	(18.3-23.1)
Region 3	18.9	(16.2-21.9)
Region 5	16.0	(13.3-19.0)
Region 6	15.4	(13.2-17.9)
Region 7	17.4	(13.4-22.4)
Region 8	13.8	(9.7-19.2)

^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 = 10,444)

	Fell During the Past 12 Months^a		Injured From a Fall During the Past 12 Months^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	17.4	(16.3-18.6)	6.1	(5.4-7.0)
EP Region				
Region 1	17.3	(14.5-20.7)	4.9	(3.4-7.0)
Region 2N	17.3	(15.0-20.0)	5.4	(4.2-7.1)
Region 2S	19.9	(17.0-23.2)	7.6	(5.5-10.5)
Region 3	17.8	(14.8-21.1)	7.5	(5.5-10.2)
Region 5	15.5	(12.3-19.4)	6.0	(3.8-9.2)
Region 6	15.0	(12.4-18.0)	4.8	(3.5-6.6)
Region 7	20.0	(15.7-25.0)	7.1	(4.8-10.4)
Region 8	15.8	(11.8-20.9)	5.5	(3.3-9.0)

^a Among adults aged 45 years and older, the proportion who reported to have unintentionally come to rest on the ground or another lower level during the past 12 months. (N = 7,705)

^b Among adults aged 45 years and older, the proportion who reported to have been injured due to a fall during the past 12 months. (N = 7,698)