

**Estimates for Selected Risk Factors and Health Indicators
by Michigan Economic Development Collaborative Region**

State of Michigan

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

Chronic Disease Epidemiology Unit
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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 Behavioral Surveillance Branch (BSB) of the Centers for Disease Control and Prevention, the Michigan State University Institute for Public Policy and Social Research (IPPSR), and the Michigan Department of Community Health. Michigan BRFSS data contribute to the national [Behavioral Risk Factor Surveillance System](#) that is managed by BSB.

Michigan BRFSS data are collected on a quarterly basis by IPPSR. The telephone number samples that are utilized for data collection are 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 are directory listed. In addition, census tracts with a high density of African Americans in the population are oversampled.

In 2012, Michigan BRFSS data from the 2010 survey year were analyzed by Michigan Economic Development Collaborative (MEDC) region. A map identifying each of Michigan's ten economic development collaborative regions is included on the following page. Population-based estimates were calculated for selected indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among adults within each of the ten economic development collaborative regions. These estimates were weighted to adjust for the probabilities of selection and a post-stratification weighting factor that adjusted for the distribution of Michigan adults by age, sex, and race/ethnicity. All analyses were performed in SAS-Callable SUDAAN®, a statistical computing program that is designed for complex sample surveys.



Table 1: Health Status by MEDC Region 2010 Michigan BRFSS		
	General Health, Fair or Poor^a	
	%	95% Confidence Interval
Michigan Total	14.2	(13.3-15.2)
MEDC Region		
Upper Peninsula	16.0	(11.2-22.2)
Northwest	12.8	(9.2-17.5)
Northeast	17.1	(11.8-24.3)
West Central	13.5	(11.4-15.9)
Bay	14.2	(11.3-17.7)
Southwest	15.5	(12.1-19.6)
Central	13.8	(9.9-18.9)
East Central	16.0	(12.5-20.1)
South Central	10.8	(8.3-13.9)
Southeast	14.8	(13.1-16.6)

^a Among all adults, the proportion who reported that their health, in general, was either fair or poor. (N = 8,848)

**Table 2: Health Status on at Least 14 Days in the Past Month by MEDC Region
2010 Michigan BRFSS**

	Poor Physical Health ^a		Poor Mental Health ^b		Activity Limitation ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	10.8	(9.9-11.7)	10.7	(9.8-11.7)	7.4	(6.7-8.2)
MEDC Region						
Upper Peninsula	11.5	(7.5-17.3)	6.6	(3.9-10.7)	8.3	(4.9-13.5)
Northwest	7.9	(5.0-12.3)	10.5	(6.7-16.0)	5.1	(3.1-8.3)
Northeast	14.9	(10.5-20.6)	7.0	(4.4-11.0)	10.8	(7.2-15.8)
West Central	10.0	(8.1-12.3)	9.7	(7.8-12.1)	6.6	(5.1-8.5)
Bay	11.5	(8.9-14.9)	12.5	(9.1-17.1)	8.0	(5.7-11.1)
Southwest	12.0	(9.3-14.9)	9.7	(7.1-13.2)	7.4	(5.5-9.8)
Central	7.9	(5.3-11.5)	8.6	(5.4-13.4)	7.5	(4.6-11.9)
East Central	12.3	(9.6-15.7)	15.5	(11.5-20.7)	8.9	(6.1-12.7)
South Central	11.4	(8.4-15.2)	12.1	(8.7-16.7)	6.5	(4.1-10.0)
Southeast	10.6	(9.1-12.2)	10.6	(9.1-12.4)	7.5	(6.2-9.1)

^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 = 8,711)

^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 = 8,756)

^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 = 8,795)

**Table 3: Mean Number of Days of Poor Physical Health, Poor Mental Health, and Activity Limitations by MEDC Region
2010 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	3.6	(3.4-3.8)	3.7	(3.4-3.9)	2.3	(2.1-2.5)
MEDC Region						
Upper Peninsula	4.0	(2.6-5.3)	2.3	(1.5-3.1)	2.6	(1.5-3.7)
Northwest	3.2	(2.1-4.2)	3.6	(2.6-4.7)	1.8	(1.2-2.4)
Northeast	4.4	(3.1-5.6)	2.6	(1.7-3.4)	2.6	(1.7-3.5)
West Central	3.3	(2.8-3.8)	3.5	(3.0-4.1)	2.2	(1.8-2.6)
Bay	4.0	(3.1-4.8)	4.2	(3.3-5.2)	2.4	(1.7-3.1)
Southwest	3.9	(3.2-4.7)	3.7	(2.9-4.4)	2.2	(1.7-2.8)
Central	3.0	(2.1-3.8)	3.3	(2.3-4.4)	2.1	(1.3-2.8)
East Central	3.8	(3.1-4.5)	4.6	(3.6-5.6)	2.6	(1.8-3.5)
South Central	3.8	(2.9-4.7)	3.8	(2.9-4.7)	2.1	(1.3-2.9)
Southeast	3.5	(3.1-3.9)	3.6	(3.2-4.0)	2.3	(2.0-2.6)

^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 = 8,711)

^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 = 8,756)

^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 = 8,795)

Table 4: Life Satisfaction by MEDC Region 2010 Michigan BRFSS		
	Dissatisfied or Very Dissatisfied With Life^a	
	%	95% Confidence Interval
Michigan Total	6.1	(5.3-7.0)
MEDC Region		
Upper Peninsula	3.5	(1.5-7.9)
Northwest	1.9	(0.8-4.6)
Northeast	4.9	(2.5-9.3)
West Central	5.8	(3.9-8.5)
Bay	5.8	(3.7-9.0)
Southwest	5.5	(3.5-8.6)
Central	9.9	(5.7-16.6)
East Central	8.7	(6.1-12.2)
South Central	6.4	(3.9-10.3)
Southeast	6.0	(4.8-7.6)

^a Among all adults, the proportion who reported either "Dissatisfied" or "Very Dissatisfied" to the following question: "In general, how satisfied are you with life?" (N = 8,639)

Table 5: Social and Emotional Support by MEDC Region 2010 Michigan BRFSS		
	Rarely or Never Receive the Social and Emotional Support that is Needed ^a	
	%	95% Confidence Interval
Michigan Total	6.5	(5.8-7.2)
MEDC Region		
Upper Peninsula	9.9	(6.0-16.0)
Northwest	4.4	(2.4-7.9)
Northeast	8.8	(4.9-15.3)
West Central	4.5	(3.4-5.9)
Bay	6.9	(4.9-9.6)
Southwest	5.0	(3.3-7.6)
Central	3.2	(1.5-6.7)
East Central	6.7	(4.3-10.1)
South Central	6.8	(5.0-9.2)
Southeast	7.8	(6.4-9.4)
^a Among all adults, the proportion who reported either "Rarely" or "Never" to the following question: "How often do you get the social and emotional support you need?" (N = 8,571)		

**Table 6: Disability by MEDC Region
2010 Michigan BRFS**

	Total Disability ^a		Any Activity Limitation ^b		Used Special Equipment ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	24.5	(23.3-25.7)	22.6	(21.5-23.8)	8.0	(7.4-8.6)
MEDC Region						
Upper Peninsula	29.2	(22.9-36.5)	27.0	(20.9-34.1)	8.0	(5.3-12.0)
Northwest	28.1	(22.6-34.3)	24.4	(19.4-30.2)	8.3	(5.3-12.6)
Northeast	27.5	(21.4-34.6)	26.1	(20.1-33.1)	9.4	(6.1-14.1)
West Central	22.6	(20.1-25.4)	21.4	(18.9-24.1)	7.4	(6.1-9.0)
Bay	24.3	(20.4-28.7)	22.7	(18.9-27.1)	7.6	(5.8-9.8)
Southwest	22.9	(19.2-27.0)	20.9	(17.4-24.9)	7.7	(5.8-10.2)
Central	22.6	(17.9-28.1)	20.9	(16.4-26.2)	8.7	(5.9-12.5)
East Central	25.5	(21.4-30.2)	24.5	(20.4-29.2)	7.0	(5.3-9.3)
South Central	27.0	(23.0-31.4)	24.4	(20.5-28.7)	7.3	(5.5-9.6)
Southeast	23.9	(21.9-26.1)	22.0	(20.0-24.1)	8.6	(7.6-9.8)

^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 = 8,845)

^b Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems. (N = 8,840)

^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 = 8,859)

**Table 7: Weight Status by MEDC Region
2010 Michigan BRFSS**

	Obese ^a		Overweight ^b		Not Overweight or Obese ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	31.7	(30.3-33.1)	35.1	(33.7-36.6)	33.2	(31.7-34.7)
MEDC Region						
Upper Peninsula	26.7	(19.1-36.1)	45.3	(37.2-53.6)	28.0	(20.9-36.3)
Northwest	26.5	(20.8-33.2)	36.3	(29.7-43.5)	37.2	(29.8-45.2)
Northeast	37.3	(28.4-47.0)	40.7	(32.4-49.6)	22.0	(16.2-29.3)
West Central	30.8	(27.7-34.2)	37.8	(34.2-41.5)	31.4	(28.1-34.9)
Bay	38.7	(33.7-44.0)	29.0	(24.8-33.5)	32.3	(27.6-37.4)
Southwest	27.8	(23.5-32.6)	38.2	(33.0-43.7)	34.0	(29.0-39.4)
Central	41.1	(34.0-48.5)	24.9	(19.7-31.0)	34.0	(27.6-41.0)
East Central	34.5	(29.6-39.9)	35.3	(30.1-41.0)	30.1	(25.4-35.4)
South Central	29.6	(25.2-34.4)	36.3	(31.9-41.0)	34.1	(29.6-38.8)
Southeast	30.6	(28.3-33.1)	33.8	(31.4-36.3)	35.6	(32.9-38.3)

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 = 8,559)

^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 less than 25.0.

**Table 8: Health Care Access by MEDC Region
2010 Michigan BRFSS**

	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	(15.1-18.1)	12.5	(11.4-13.7)	14.1	(13.0-15.3)
MEDC Region						
Upper Peninsula	17.6	(11.2-26.8)	18.3	(11.9-27.0)	13.5	(9.0-19.8)
Northwest	18.8	(12.7-26.8)	7.3	(3.6-14.3)	15.4	(11.0-21.1)
Northeast	20.9	(11.1-35.8)	11.1	(6.5-18.4)	11.8	(7.2-18.7)
West Central	14.4	(11.6-17.8)	8.6	(6.5-11.2)	13.6	(11.2-16.3)
Bay	18.6	(14.0-24.4)	13.6	(10.1-18.0)	13.6	(10.5-17.4)
Southwest	18.4	(13.8-24.0)	14.4	(10.9-18.8)	16.1	(12.3-20.8)
Central	16.6	(10.5-25.3)	14.0	(9.1-21.1)	12.7	(8.0-19.5)
East Central	18.4	(13.2-25.0)	14.1	(9.7-19.9)	15.8	(11.7-21.0)
South Central	10.9	(7.7-15.3)	13.0	(9.8-17.2)	12.5	(9.2-16.7)
Southeast	17.4	(14.9-20.3)	13.1	(11.2-15.3)	14.4	(12.4-16.6)

^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 = 5,565)

^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 = 8,844)

^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 = 8,847)

Table 9: No Leisure-Time Physical Activity by MEDC Region 2010 Michigan BRFSS		
	No Leisure-Time Physical Activity^a	
	%	95% Confidence Interval
Michigan Total	23.6	(22.4-24.9)
MEDC Region		
Upper Peninsula	23.3	(17.0-31.1)
Northwest	15.6	(11.6-20.6)
Northeast	26.7	(19.8-34.9)
West Central	22.4	(19.7-25.3)
Bay	26.4	(22.3-31.0)
Southwest	27.7	(22.9-33.0)
Central	24.6	(18.7-31.5)
East Central	24.8	(20.6-29.6)
South Central	20.5	(17.1-24.2)
Southeast	23.8	(21.6-26.0)

^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 = 8,859)

**Table 10: Cigarette Smoking by MEDC Region
2010 Michigan BRFSS**

	Current Smoking ^a		Former Smoking ^b		Never Smoked	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	18.9	(17.7-20.2)	25.3	(24.2-26.5)	55.7	(54.3-57.2)
MEDC Region						
Upper Peninsula	16.2	(11.6-22.2)	34.6	(26.9-43.2)	49.2	(40.8-57.6)
Northwest	13.2	(9.0-19.1)	32.3	(26.4-38.9)	54.4	(47.2-61.5)
Northeast	18.6	(12.8-26.3)	31.6	(25.1-39.0)	49.7	(41.0-58.5)
West Central	20.9	(17.9-24.3)	26.8	(24.0-29.8)	52.3	(48.7-55.9)
Bay	21.0	(16.9-25.8)	26.4	(22.6-30.6)	52.5	(47.5-57.6)
Southwest	20.1	(16.1-24.8)	22.4	(19.0-26.2)	57.5	(52.3-62.5)
Central	24.9	(18.4-32.8)	22.3	(17.7-27.7)	52.8	(45.6-59.8)
East Central	22.6	(18.0-27.9)	26.6	(22.3-31.3)	50.9	(45.4-56.3)
South Central	17.8	(14.5-21.6)	24.3	(20.7-28.2)	58.0	(53.2-62.5)
Southeast	16.6	(14.8-18.7)	23.2	(21.3-25.1)	60.2	(57.7-62.6)

^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 = 8,840)

^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 = 8,840)

Table 11: Smokeless Tobacco Use by MEDC Region 2010 Michigan BRFSS		
	Current Smokeless Tobacco Use^a	
	%	95% Confidence Interval
Michigan Total	2.6	(2.1-3.2)
MEDC Region		
Upper Peninsula	3.7	(1.5-8.7)
Northwest	3.0	(1.0-8.7)
Northeast	2.2	(0.8-5.7)
West Central	3.6	(2.4-5.4)
Bay	4.5	(2.7-7.4)
Southwest	3.2	(1.7-5.8)
Central	2.6	(0.9-7.3)
East Central	1.0	(0.5-2.1)
South Central	3.2	(1.7-5.9)
Southeast	1.5	(1.0-2.4)

^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 = 8,859)

Table 12: Alcohol Consumption by MEDC Region 2010 Michigan BRFSS				
	Heavy Drinking^a		Binge Drinking^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	5.4	(4.7-6.2)	15.0	(13.9-16.2)
MEDC Region				
Upper Peninsula	8.3	(4.5-14.8)	15.4	(10.1-22.7)
Northwest	4.4	(2.5-7.6)	18.2	(12.6-25.7)
Northeast	6.6	(3.9-11.1)	13.0	(8.5-19.4)
West Central	5.3	(4.0-7.0)	14.3	(11.9-17.1)
Bay	3.6	(2.0-6.2)	15.5	(11.9-20.1)
Southwest	4.6	(2.8-7.4)	14.9	(11.5-19.2)
Central	4.9	(2.8-8.3)	10.1	(6.3-15.8)
East Central	5.5	(3.4-8.8)	18.7	(14.2-24.3)
South Central	6.4	(4.5-9.1)	17.3	(13.6-21.8)
Southeast	5.6	(4.3-7.2)	14.2	(12.4-16.2)

^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 = 8,707)

^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 = 8,762)

Table 13: Drove Motor Vehicle After Drinking by MEDC Region 2010 Michigan BRFSS		
	Drove Motor Vehicle After Drinking^a	
	%	95% Confidence Interval
Michigan Total	2.3	(1.9-2.9)
MEDC Region		
Upper Peninsula	3.5	(1.5-8.0)
Northwest	0.4	(0.1-1.6)
Northeast	2.2	(0.7-6.4)
West Central	1.5	(0.9-2.6)
Bay	2.9	(1.3-5.9)
Southwest	1.9	(0.8-4.0)
Central	2.7	(0.8-8.2)
East Central	4.1	(2.1-8.0)
South Central	2.9	(1.6-5.2)
Southeast	2.1	(1.5-3.0)

^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 = 8,774)

Table 14: Seatbelt Use by MEDC Region 2010 Michigan BRFSS		
	Always Uses a Seatbelt^a	
	%	95% Confidence Interval
Michigan Total	90.0	(88.9-90.9)
MEDC Region		
Upper Peninsula	80.1	(71.2-86.7)
Northwest	81.9	(74.1-87.8)
Northeast	90.3	(77.3-96.2)
West Central	90.0	(87.4-92.1)
Bay	88.3	(83.6-91.7)
Southwest	91.9	(88.5-94.4)
Central	93.2	(88.1-96.2)
East Central	88.2	(84.2-91.3)
South Central	93.7	(90.8-95.7)
Southeast	90.6	(88.8-92.2)

^a Among all adults, the proportion who reported always using a seatbelt when driving or riding in a car. (N = 8,755)

Table 15: No Routine Checkup in Past Year by MEDC Region 2010 Michigan BRFS		
	Had No Routine Checkup in Past Year^a	
	%	95% Confidence Interval
Michigan Total	34.1	(32.6-35.7)
MEDC Region		
Upper Peninsula	42.8	(34.5-51.6)
Northwest	27.2	(21.1-34.4)
Northeast	34.9	(26.9-43.9)
West Central	35.8	(32.2-39.6)
Bay	36.6	(31.7-41.8)
Southwest	36.9	(31.6-42.5)
Central	36.6	(29.9-43.9)
East Central	32.9	(27.7-38.5)
South Central	35.7	(31.0-40.8)
Southeast	31.2	(28.6-33.8)

^a Among all adults, the proportion who reported that they did not have a routine checkup in the past year. (N = 8,796)

Table 16: Clinical Breast Exam Indicators Among Women Aged 20 Years and Older by MEDC Region 2010 Michigan BRFSS				
	Ever Had Clinical Breast Exam^a		Had Appropriately Timed Clinical Breast Exam^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	93.7	(92.4-94.9)	69.9	(68.2-71.7)
MEDC Region				
Upper Peninsula	96.5	(93.3-98.2)	69.8	(61.9-76.7)
Northwest	96.3	(90.7-98.6)	71.1	(62.6-78.3)
Northeast	96.7	(92.7-98.6)	68.8	(59.0-77.2)
West Central	95.1	(92.2-97.0)	72.3	(68.1-76.2)
Bay	93.2	(87.7-96.4)	65.1	(58.9-70.9)
Southwest	95.2	(91.8-97.2)	71.8	(65.5-77.3)
Central	95.7	(84.6-98.9)	78.7	(70.8-84.9)
East Central	92.5	(87.2-95.7)	69.5	(63.3-75.1)
South Central	96.1	(93.1-97.8)	69.6	(64.1-74.6)
Southeast	91.2	(88.0-93.6)	68.2	(64.9-71.3)

^a Among women aged 20 years and older, the proportion who reported ever having a clinical breast exam. (N = 5,280)
^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 = 5,214)

**Table 17: Mammography Indicators Among Women Aged 40 Years and Older
by MEDC Region
2010 Michigan BRFSS**

	Ever Had Mammogram ^a		Had Mammogram in Past Year ^b		Had Clinical Breast Exam and Mammogram in Past Year ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	94.2	(93.1-95.2)	61.4	(59.6-63.2)	53.0	(51.1-54.8)
MEDC Region						
Upper Peninsula	91.5	(83.7-95.7)	58.2	(49.0-66.8)	52.9	(43.8-61.9)
Northwest	97.0	(90.2-99.1)	67.6	(59.1-75.1)	58.4	(49.6-66.6)
Northeast	95.8	(89.3-98.4)	66.2	(55.6-75.3)	56.8	(46.7-66.5)
West Central	94.6	(91.4-96.7)	64.8	(60.2-69.2)	55.0	(50.3-59.6)
Bay	95.3	(91.8-97.4)	55.3	(48.9-61.5)	45.6	(39.4-51.9)
Southwest	95.2	(91.6-97.3)	67.3	(61.2-72.9)	56.3	(49.7-62.7)
Central	92.4	(84.5-96.4)	64.2	(55.6-71.9)	59.1	(50.5-67.2)
East Central	92.9	(87.1-96.1)	59.1	(52.5-65.4)	48.9	(42.4-55.5)
South Central	94.2	(90.1-96.6)	58.2	(52.2-63.9)	51.6	(45.7-57.5)
Southeast	94.0	(91.8-95.6)	60.4	(57.2-63.5)	52.6	(49.4-55.7)

Note: Data included diagnostic tests.

^a Among women aged 40 years and older, the proportion who reported ever having a mammogram. (4,632)

^b Among women aged 40 years and older, the proportion who reported ever having a mammogram in the past year. (4,599)

^c Among women aged 40 years and older, the proportion who reported ever having a clinical breast exam and a mammogram in the past year. (4,586)

Table 18: Cervical Cancer Screening by MEDC Region 2010 Michigan BRFSS				
	Ever Had Pap Test^a		Had Appropriately Timed Pap Test^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	93.6	(92.0-95.0)	77.7	(75.9-79.3)
MEDC Region				
Upper Peninsula	96.3	(89.0-98.8)	74.2	(66.0-81.0)
Northwest	91.5	(75.6-97.4)	76.1	(65.1-84.5)
Northeast	95.1	(76.5-99.1)	74.3	(63.4-82.8)
West Central	93.4	(88.7-96.3)	78.1	(73.7-81.9)
Bay	92.4	(85.8-96.1)	71.4	(65.2-76.9)
Southwest	96.2	(89.3-98.7)	75.5	(69.0-81.1)
Central	97.9	(88.1-99.7)	85.4	(79.1-90.0)
East Central	97.5	(93.9-99.0)	82.2	(77.5-86.0)
South Central	92.0	(84.5-96.1)	75.3	(69.0-80.7)
Southeast	92.1	(88.7-94.6)	78.8	(75.6-81.7)

Note: Data included diagnostic tests.
^a Among women aged 18 years and older, the proportion who reported ever having a Pap test. (N = 5,394)
^b Among women aged 18 years and older, the proportion who reported having a Pap test within the previous three years. (N = 5,394)

**Table 19: Prostate Cancer Screening Among Men Aged 50 Years and Older
by MEDC Region
2010 Michigan BRFSS**

	Ever Had DRE ^a		Had DRE in Past Year ^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	89.2	(87.3-90.8)	52.0	(49.5-54.5)	83.1	(81.0-85.1)	56.5	(53.9-59.0)
MEDC Region								
Upper Peninsula	77.3	(64.3-86.6)	46.3	(35.3-57.7)	70.0	(57.3-80.2)	56.5	(53.9-59.0)
Northwest	93.5	(85.2-97.3)	56.8	(45.6-67.3)	89.5	(80.9-94.5)	48.5	(37.4-59.7)
Northeast	90.2	(81.7-95.0)	62.5	(50.4-73.2)	85.0	(74.9-91.5)	65.7	(54.3-75.4)
West Central	90.8	(86.3-94.0)	60.5	(54.3-66.3)	84.1	(79.2-88.1)	59.5	(47.3-70.6)
Bay	85.9	(77.6-91.4)	46.4	(38.2-54.8)	81.8	(73.4-88.0)	57.2	(50.9-63.3)
Southwest	83.2	(75.2-89.0)	51.0	(42.5-59.5)	82.0	(74.3-87.8)	51.1	(42.6-59.6)
Central	95.5	(82.4-99.0)	45.8	(34.5-57.5)	84.1	(71.4-91.8)	49.0	(40.4-57.6)
East Central	87.5	(80.4-92.3)	52.8	(43.8-61.6)	80.8	(71.9-87.4)	53.2	(40.8-65.1)
South Central	92.3	(86.9-95.6)	49.1	(41.3-57.0)	80.0	(72.1-86.0)	50.9	(41.8-59.9)
Southeast	89.9	(86.1-92.8)	49.4	(44.9-53.9)	85.3	(81.1-88.7)	55.1	(46.8-63.1)

Note: Men who had been diagnosed with prostate cancer were excluded. The prevalence of ever having been diagnosed with prostate cancer among men aged 50 years and older was 4.4% (3.7 - 5.2).

Among men aged 50 years and older (n = 2,275), the proportion who reported...

^a ever having a digital rectal exam.

^b having a digital rectal exam in the past year.

^c ever having a prostate-specific antigen (PSA) test.

^d having a PSA test in the past year.

^e The denominator in this subgroup was less than 50.

Table 20: Colorectal Cancer Screening (Blood Stool Test) Among Adults Aged 50 Years and Older by MEDC Region 2010 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	44.5	(43.0-46.1)	19.0	(17.8-20.2)
MEDC Region				
Upper Peninsula	42.8	(35.9-50.0)	18.1	(13.4-24.0)
Northwest	46.4	(39.5-53.4)	14.4	(10.3-19.8)
Northeast	50.9	(43.1-58.7)	21.2	(15.5-28.2)
West Central	45.6	(41.9-49.5)	17.8	(14.8-20.8)
Bay	50.4	(45.2-55.5)	24.1	(20.1-28.8)
Southwest	43.4	(38.3-48.7)	21.5	(17.6-26.0)
Central	54.9	(47.5-62.1)	23.5	(18.3-29.8)
East Central	40.4	(35.2-45.7)	19.2	(15.4-23.7)
South Central	41.2	(36.6-46.0)	14.7	(11.6-18.4)
Southeast	42.6	(40.0-45.3)	19.0	(17.0-21.3)

^a Among adults aged 50 years and older, the proportion who reported ever having a blood stool test using a home kit. (N = 6,093)
^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 = 6,093)

**Table 21: Colorectal Cancer Screening (Sigmoidoscopy/Colonoscopy)
Among Adults Aged 50 Years and Older by MEDC Region
2010 Michigan BRFS**

	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	70.9	(69.4-72.4)	57.4	(55.9-59.0)	66.4	(64.9-67.9)
MEDC Region						
Upper Peninsula	68.7	(61.0-75.4)	53.5	(46.1-60.7)	62.7	(55.1-69.8)
Northwest	77.1	(70.3-82.7)	60.4	(53.3-67.0)	71.2	(64.3-77.3)
Northeast	76.3	(69.0-82.4)	62.2	(54.3-69.6)	71.7	(64.1-78.2)
West Central	73.6	(69.9-76.9)	59.0	(55.1-62.8)	68.5	(64.7-72.1)
Bay	63.7	(58.3-68.7)	52.0	(46.8-57.2)	58.2	(52.8-63.4)
Southwest	67.1	(61.9-72.0)	56.3	(50.9-61.5)	62.6	(57.3-67.7)
Central	73.5	(66.3-79.6)	59.2	(51.9-66.2)	72.2	(65.0-78.4)
East Central	70.1	(64.6-75.0)	56.6	(51.0-62.0)	66.5	(60.8-71.7)
South Central	72.0	(67.1-76.3)	58.3	(53.4-63.1)	68.6	(63.7-73.1)
Southeast	70.7	(68.0-73.2)	57.5	(54.8-60.2)	66.0	(63.3-68.7)

^a Among adults aged 50 years and older, the proportion who reported ever having a sigmoidoscopy or colonoscopy. (6,091)

^b Among adults aged 50 years and older, the proportion who reported having a sigmoidoscopy or colonoscopy in the past five years. (6,037)

^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. (5,948)

	No Dental Visit in Past Year ^a		No Teeth Cleaning in Past Year ^b		6+ Teeth Missing	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	27.5	(26.2-28.9)	29.2	(27.7-30.7)	13.8	(13.0-14.6)
MEDC Region						
Upper Peninsula	32.4	(25.3-40.3)	33.4	(26.0-41.7)	14.9	(10.8-20.2)
Northwest	24.4	(18.8-30.9)	24.4	(18.6-31.4)	15.1	(11.2-20.2)
Northeast	38.2	(29.5-47.8)	38.2	(28.8-48.5)	21.5	(16.6-27.4)
West Central	28.8	(25.6-32.2)	29.6	(26.2-33.1)	12.0	(10.4-13.9)
Bay	25.3	(21.0-30.3)	28.9	(24.2-34.2)	18.6	(15.3-22.3)
Southwest	28.7	(24.2-33.7)	29.3	(24.4-34.6)	14.1	(11.6-17.1)
Central	27.7	(21.3-35.2)	34.2	(27.1-42.1)	7.4	(5.3-10.2)
East Central	30.7	(25.7-36.1)	32.7	(27.5-38.5)	17.1	(13.7-21.2)
South Central	26.4	(22.1-31.1)	28.0	(23.5-32.9)	11.2	(8.5-14.8)
Southeast	25.6	(23.4-28.0)	27.1	(24.8-29.7)	13.5	(12.3-14.9)

^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 = 8,839)

^b Among all adults, the proportion who reported that they did not have their teeth cleaned by a dentist or dental hygienist in the previous year. (N = 8,169)

^c 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 = 8,706)

**Table 23: Immunizations among Adults Aged 65 Years and Older by MEDC Region
2010 Michigan BRFSS**

	Had Flu Vaccine in Past Year ^a		Ever Had Pneumonia Vaccine ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	67.5	(65.6-69.3)	67.8	(65.8-69.6)
MEDC Region				
Upper Peninsula	71.2	(62.3-78.7)	65.6	(56.3-73.9)
Northwest	78.7	(70.3-85.2)	73.1	(64.0-80.7)
Northeast	68.3	(58.3-76.8)	65.8	(55.8-74.5)
West Central	71.0	(66.2-75.3)	69.6	(64.6-74.2)
Bay	60.4	(53.7-66.6)	64.5	(57.9-70.6)
Southwest	66.5	(59.5-72.9)	66.9	(59.8-73.2)
Central	66.2	(56.6-74.7)	73.7	(63.8-81.7)
East Central	59.1	(51.9-65.9)	68.4	(61.4-74.7)
South Central	74.3	(67.8-79.9)	68.7	(61.8-74.8)
Southeast	65.8	(62.5-68.9)	66.5	(63.1-69.6)

^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 = 3,139)

^b Among adults aged 65 years and older, the proportion who reported that they ever had a pneumococcal vaccine. (N = 3,058)

^c The denominator in this subgroup was less than 50.

Table 24: HIV Testing among Adults Aged 18 - 64 Years by MEDC Region 2010 Michigan BRFSS		
	Ever Had an HIV Test^a	
	%	95% Confidence Interval
Michigan Total	38.0	(36.3-39.8)
MEDC Region		
Upper Peninsula	26.3	(19.4-34.6)
Northwest	33.4	(25.1-42.6)
Northeast	32.1	(22.6-43.4)
West Central	34.3	(30.4-38.5)
Bay	33.5	(27.7-39.8)
Southwest	42.4	(36.3-48.8)
Central	46.3	(38.0-54.7)
East Central	37.2	(31.1-43.6)
South Central	40.6	(35.0-46.4)
Southeast	40.2	(37.2-43.3)

^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 = 5,406)

Table 25: Asthma among Adults by MEDC Region 2010 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	15.8	(14.6-16.9)	10.5	(9.6-11.4)
MEDC Region				
Upper Peninsula	19.1	(13.6-26.2)	13.5	(9.2-19.6)
Northwest	17.3	(11.7-24.8)	11.4	(7.8-16.4)
Northeast	17.5	(11.8-25.4)	11.6	(7.3-17.7)
West Central	12.0	(9.8-14.5)	8.0	(6.2-10.3)
Bay	13.8	(10.4-18.2)	10.2	(7.3-14.1)
Southwest	17.4	(13.7-21.8)	12.4	(9.3-16.4)
Central	17.3	(12.4-23.6)	11.7	(7.9-16.8)
East Central	17.3	(13.5-22.0)	11.8	(8.6-15.9)
South Central	14.2	(10.4-18.5)	9.6	(7.0-13.1)
Southeast	16.9	(15.0-19.1)	10.5	(9.0-12.2)
^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 = 8,846) ^b Among all adults, the proportion who reported that they still had asthma. (N = 8,821)				

Table 26: Asthma among Children by MEDC Region 2010 Michigan BRFSS				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	14.4	(12.4-16.6)	11.1	(9.3-13.1)
MEDC Region				
Upper Peninsula	4.2	(1.5-10.7)	3.5	(1.1-10.0)
Northwest	14.3	(6.9-27.3)	9.2	(3.7-20.8)
Northeast	6.6	(2.3-17.2)	4.0	(1.0-15.1)
West Central	14.0	(6.9-27.3)	9.3	(6.1-14.0)
Bay	16.4	(9.4-27.2)	14.3	(7.7-25.1)
Southwest	16.7	(10.0-26.5)	14.5	(8.1-24.7)
Central	10.8	(5.1-21.1)	9.2	(4.0-20.0)
East Central	14.2	(8.9-22.0)	12.1	(7.2-19.6)
South Central	19.4	(13.1-27.7)	15.2	(10.0-22.6)
Southeast	14.2	(11.0-18.2)	10.7	(7.9-14.4)

^a Estimated proportion of Michigan children aged 0-17 years ever diagnosed with asthma, using proxy information from respondent. (N = 2,015).

^b Estimated proportion of Michigan children aged 0-17 years with current asthma. (N = 2,009)

Table 27: Arthritis by MEDC Region 2010 Michigan BRFSS		
	Ever Told Arthritis^a	
	%	95% Confidence Interval
Michigan Total	32.3	(30.8-33.9)
MEDC Region		
Upper Peninsula	33.4	(25.9-41.9)
Northwest	30.1	(23.3-37.8)
Northeast	39.8	(31.0-49.3)
West Central	31.8	(28.3-35.5)
Bay	32.3	(27.1-37.9)
Southwest	33.5	(28.5-39.0)
Central	29.7	(23.6-36.7)
East Central	34.5	(28.9-40.6)
South Central	34.1	(29.1-39.4)
Southeast	31.1	(28.5-33.8)

^a Among all adults, the proportion who reported ever being told by a health care professional that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia. (N = 5,820)

**Table 28: Cardiovascular Disease by MEDC Region
2010 Michigan BRFS**

	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	4.9	(4.4-5.4)	5.3	(4.8-5.8)	2.9	(2.6-3.3)	9.6	(9.0-10.3)
MEDC Region								
Upper Peninsula	4.7	(2.9-7.6)	8.1	(5.3-12.3)	4.3	(2.1-8.3)	12.3	(8.4-17.5)
Northwest	6.1	(4.0-9.3)	5.6	(3.5-8.8)	3.4	(2.0-5.7)	11.1	(8.1-15.2)
Northeast	7.3	(4.7-11.2)	10.8	(7.5-15.3)	4.5	(2.5-8.0)	14.9	(10.8-20.1)
West Central	3.6	(2.8-4.7)	3.7	(2.8-4.8)	2.4	(1.6-3.4)	7.1	(5.8-8.7)
Bay	4.8	(3.6-6.3)	6.0	(4.6-7.9)	2.3	(1.5-3.5)	9.4	(7.6-11.7)
Southwest	5.7	(4.0-8.0)	5.1	(3.8-6.9)	2.9	(1.9-4.3)	10.3	(8.1-13.0)
Central	5.5	(3.3-8.9)	4.1	(2.6-6.3)	3.6	(1.8-7.0)	10.0	(6.9-14.2)
East Central	4.6	(3.4-6.3)	5.2	(3.6-7.4)	3.1	(2.2-4.3)	9.9	(7.8-12.4)
South Central	4.9	(3.7-6.4)	4.5	(3.4-6.0)	3.2	(2.3-4.4)	9.0	(7.3-11.0)
Southeast	5.0	(4.2-5.9)	5.7	(4.8-6.8)	2.8	(2.2-3.4)	9.9	(8.8-11.2)

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

^a they had a heart attack or myocardial infarction (N = 8,804);

^b they had angina or coronary heart disease (N = 8,748);

^c they had a stroke. (N = 8,832)

^d they had a heart attack, coronary heart disease or a stroke. (N = 8,832)

Table 29: Diabetes by MEDC Region 2010 Michigan BRFSS		
	Ever Told Diabetes^a	
	%	95% Confidence Interval
Michigan Total	10.1	(9.4-10.9)
MEDC Region		
Upper Peninsula	9.8	(6.5-14.4)
Northwest	8.4	(5.6-12.4)
Northeast	11.5	(8.2-16.1)
West Central	10.0	(8.3-11.9)
Bay	10.0	(7.8-12.7)
Southwest	9.4	(7.2-12.3)
Central	9.4	(6.3-13.8)
East Central	9.0	(6.8-11.9)
South Central	8.8	(6.8-11.4)
Southeast	11.3	(9.9-12.9)

^a Among all adults, the proportion who reported that they were ever told by a doctor that they have diabetes. Adults who had been told they have prediabetes and women who had diabetes only during pregnancy were classified as not having been diagnosed. (N = 8,856)

Table 30: Major Depression by MEDC Region 2010 Michigan BRFSS		
	Current Major Depression^a	
	%	95% Confidence Interval
Michigan Total	9.4	(8.3-10.6)
MEDC Region		
Upper Peninsula	10.0	(5.2-18.3)
Northwest	6.7	(3.5-12.6)
Northeast	6.0	(3.1-11.4)
West Central	9.7	(7.2-12.8)
Bay	9.2	(6.2-13.4)
Southwest	8.6	(5.9-12.4)
Central	6.8	(4.0-11.4)
East Central	13.4	(9.5-18.6)
South Central	6.1	(4.1-9.1)
Southeast	10.5	(8.3-13.1)

^a Calculated from responses to Q.1-8 of the CDC BRFSS Anxiety and Depression optional module. Responses in number of days were converted to points (0-1 days = 0 points, 2-6 days = 1 point, 7-11 days = 2 points, 12-14 days = 3 points). Points were summed across the eight questions and a total of 10 points or greater was classified as major depression. (N = 5,353)

Table 31: Falls Among Adults Aged 45 Years and Older by MEDC Region 2010 Michigan BRFSS				
	Fell During the Past Three Months^a		Injured From a Fall During the Past Three Months^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	16.9	(15.9-18.1)	5.4	(4.8-6.1)
MEDC Region				
Upper Peninsula	14.8	(10.7-20.0)	3.3	(1.7-6.4)
Northwest	15.4	(11.2-20.8)	4.5	(2.4-8.2)
Northeast	22.3	(16.8-28.9)	7.3	(4.1-12.5)
West Central	18.5	(15.9-21.5)	6.5	(4.9-8.6)
Bay	17.9	(14.5-21.8)	6.3	(4.4-9.1)
Southwest	17.7	(14.0-22.2)	5.7	(3.7-8.5)
Central	18.5	(13.5-24.8)	4.3	(2.5-7.2)
East Central	17.4	(13.9-21.6)	6.4	(4.3-9.4)
South Central	17.0	(14.0-20.6)	5.7	(4.0-8.1)
Southeast	15.3	(13.6-17.2)	4.7	(3.7-5.8)
^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 three months. (N = 6,970) ^b Among adults aged 45 years and older, the proportion who reported to have been injured due to a fall during the past three months. (N = 6,967)				