



Health Risk Behaviors

1999

*Michigan Department
of Community Health*



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TABLE OF CONTENTS

Introduction	1
Health Status	2
Health Care Access	3
Smoking	4
Diabetes	5
Weight Status	6
Physical Activity	7
Breast Cancer Screening	8
Cervical Cancer Screening	9
HIV/AIDS	10
High Blood Pressure	11
High Cholesterol	12
Alcohol Use	13
Selected Risk Factors	14
Methods	15
References	16

BEHAVIORAL RISK FACTOR SURVEY SUMMARY MICHIGAN 1999



This report presents estimates from the 1999 Michigan Behavioral Risk Factor Survey (BRFS). The BRFS is a statewide telephone survey of Michigan residents, aged 18 and older. This survey is the only source of state-specific, population-based estimates of the prevalence of various behaviors, medical conditions, and preventive health care practices among Michigan adults.

All results from the 1999 Michigan BRFS presented in this summary have been weighted as described in the methods section and can be interpreted as estimates of risk and healthful behavior prevalence among the general adult population of Michigan.

Selected Risk Factors	State Estimates	National Estimates		
		Michigan (%)	Median (%) ¹	Range (%) ²
General Health Fair or Poor	11.7	13.0	8.4-24.0	42nd*
No Health Care Coverage	8.1	12.4	5.8-23.3	44th*
Current Cigarette Smoking	25.7	22.9	14.0-31.5	11th*
Overweight ⁴	36.8	33.7	22.9-41.8	9th
Ever Told Have Diabetes	5.6	5.6	3.5-7.9	26th*
Binge Drinking	19.1	15.0	7.7-27.0	7th
Ever Told High Blood Pressure	25.5	23.9	14.2-33.5	17th*
Ever Told High Cholesterol ⁵	32.1	30.1	21.2-37.1	6th

¹ The median value among all state-level prevalence estimates.

² The lowest prevalence and the highest prevalence among all states.

³ Compared with 49 other states. Rank=1 indicates the highest prevalence of a risk factor or behavior. National rankings were taken from the CDC 1999 BRFSS Summary Prevalence Report.

⁴ BMI >27.8 for men; BMI >27.3 for women.

⁵ Among those tested.

*Tied with one other state.

PERCEIVED HEALTH STATUS

GENERAL HEALTH FAIR OR POOR—

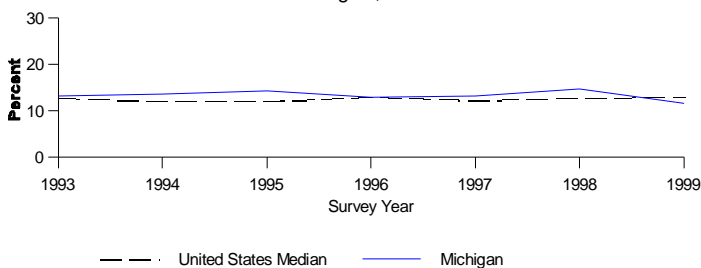
Proportion of respondents who reported that their health, in general, was fair or poor.

Poor self-reported health status is a good predictor of subsequent illness, use of health care services, and premature death.¹ Twelve percent (11.7 percent) of Michigan respondents reported that in general their health was fair or poor. Perception of fair or poor health status increased dramatically with age and was inversely related to education and household income level. Those with a higher education level were less likely to perceive their health status as fair or poor. Nearly 14 percent (13.7 percent) of females perceived their health status as fair or poor compared to approximately 10 percent (9.5 percent) of males. For the first time since 1993, the proportion of respondents who perceived their health as fair or poor was below the national median.

Demographic Characteristics	General Health Fair or Poor
TOTAL	11.7 ± 1.3
AGE	
18-24 Years	6.7 ± 3.3
25-34 Years	5.6 ± 2.1
35-44 Years	7.0 ± 2.4
45-54 Years	13.5 ± 3.2
55-64 Years	18.0 ± 4.7
65-74 Years	19.3 ± 5.1
75+ Years	27.0 ± 6.5
GENDER	
Male	9.5 ± 1.8
Female	13.7 ± 1.9
RACE	
White	9.9 ± 1.3
Black	21.2 ± 5.2
EDUCATION	
Less than High School	30.5 ± 6.4
High School Graduate	13.8 ± 2.5
Some College	9.7 ± 2.2
College Graduate	4.0 ± 1.5
HOUSEHOLD INCOME	
<\$20,000	24.4 ± 4.4
\$20,000-34,999	13.7 ± 3.1
\$35,000-49,999	9.9 ± 3.3
\$50,000-74,999	4.5 ± 2.1
≥\$75,000	2.3 ± 1.7

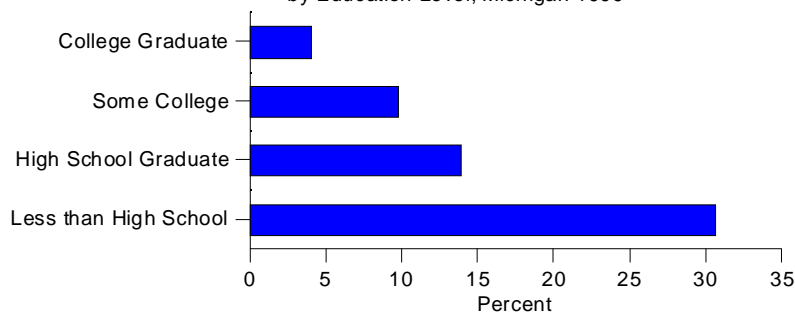
General Health Fair or Poor

U.S. vs. Michigan, 1993-1999



General Health Fair or Poor

by Education Level, Michigan 1999



HEALTH CARE ACCESS

HEALTH CARE ACCESS—

Proportion of respondents who reported they had any kind of health care coverage.

Among all ages an estimated 44.3 million people in the United States, or 16.3 percent of the population, had no health insurance in 1998.² Lack of health care coverage and the resources to pay medical bills leads many Americans to delay making needed visits to physicians, and therefore to receive fewer life-saving screening tests and fewer immunizations.³ The uninsured have more severe illnesses and are more likely to die prematurely than the insured.³

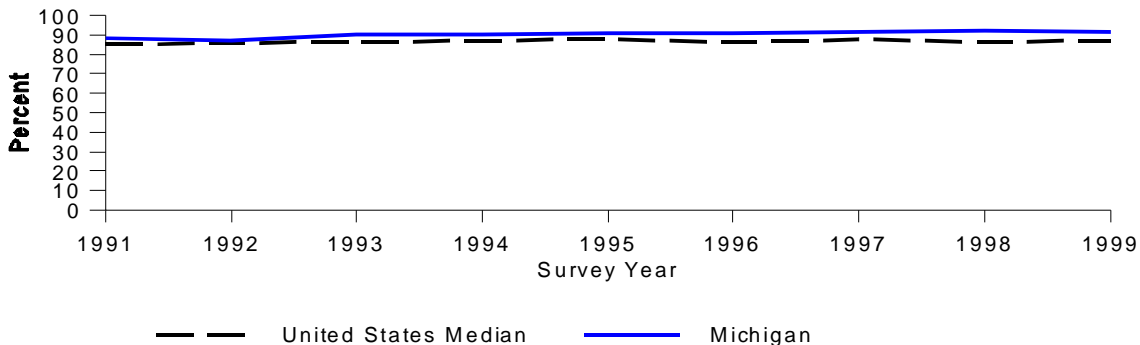
Ninety-two percent of Michigan adults reported that they had some kind of health care coverage. The proportion of adults with health care coverage increased with both education and household income levels. Medicare most likely accounted for coverage of those respondents aged 65 years and older.

Since 1991, Michigan has consistently remained at or above the national median for respondents reporting that they had health care coverage.

Demographic Characteristics	Had Health Care Coverage Ages 18+	
TOTAL	91.9	± 1.2
AGE		
18-24 Years	83.9	± 4.9
25-34 Years	88.7	± 3.1
35-44 Years	89.7	± 2.8
45-54 Years	96.3	± 1.9
55-64 Years	94.3	± 3.0
65-74 Years	100.0	± 0.0
75+ Years	97.7	± 1.3
GENDER		
Male	91.7	± 1.9
Female	92.2	± 1.5
RACE		
White	93.1	± 1.2
Black	86.2	± 4.5
EDUCATION		
Less than High School	85.0	± 5.3
High School Graduate	89.9	± 2.4
Some College	91.3	± 2.2
College Graduate	98.0	± 1.0
HOUSEHOLD INCOME		
<\$20,000	83.9	± 4.0
\$20,000-34,999	88.9	± 3.0
\$35,000-49,999	92.8	± 2.9
\$50,000-74,999	97.6	± 1.7
≥\$75,000	98.8	± 1.1

Had Health Care Coverage

U.S. vs. Michigan (Ages 18+), 1991-1999



SMOKING

CURRENT CIGARETTE SMOKING—

Proportion of respondents who reported that they had ever smoked at least 100 cigarettes in their life and they currently smoke cigarettes.

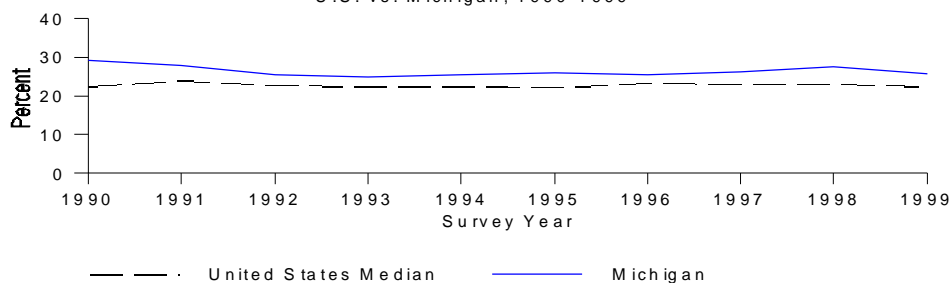
Smoking is the most preventable causes of death.⁴ One in five deaths results from smoking, claiming more than 400,000 lives in the United States each year.⁴ It has been well documented that smoking is a major contributor to deaths from heart disease, lung disease, and cancer. Nearly one-third of all cancer deaths are related to smoking.⁵

In 1999, an estimated 26 (CDC estimates 25.1) percent of Michigan adults were current smokers. Respondents with less than a high school education were more likely to report being a current cigarette smoker than those respondents who graduated from college (36.8 percent vs. 13.1 percent). The proportion of current cigarette smokers was also inversely proportional to household income level.

Demographic Characteristics	Current Cigarette Smoker
TOTAL	25.7 ± 1.9
AGE	
18-24 Years	33.4 ± 6.4
25-34 Years	28.9 ± 4.4
35-44 Years	34.1 ± 4.3
45-54 Years	25.2 ± 4.3
55-64 Years	19.1 ± 4.9
65-74 Years	13.0 ± 4.5
75+ Years	5.6 ± 3.8
GENDER	
Male	27.5 ± 3.0
Female	23.9 ± 2.4
RACE	
White	25.3 ± 2.0
Black	28.5 ± 5.8
EDUCATION	
Less than High School	36.8 ± 6.9
High School Graduate	30.5 ± 3.5
Some College	28.0 ± 3.5
College Graduate	13.1 ± 2.7
HOUSEHOLD INCOME	
<\$20,000	30.9 ± 4.9
\$20,000-34,999	28.7 ± 4.1
\$35,000-49,999	29.5 ± 5.0
\$50,000-74,999	23.4 ± 4.5
≥\$75,000	16.0 ± 4.3

Current Cigarette Smoking

U.S. vs. Michigan, 1990-1999



DIABETES

DIABETES—

Proportion of respondents reporting that they had ever been told by a physician that they have diabetes (excluding gestational diabetes).

Diabetes causes the body to either not produce or not properly use insulin, a hormone secreted by the pancreas. Diabetes is the seventh leading cause of death in the United States and in Michigan.⁶

Approximately 16 million Americans have diabetes, but nearly one-third are undiagnosed.⁷ Diabetes is both a disease and a risk factor for other diseases.

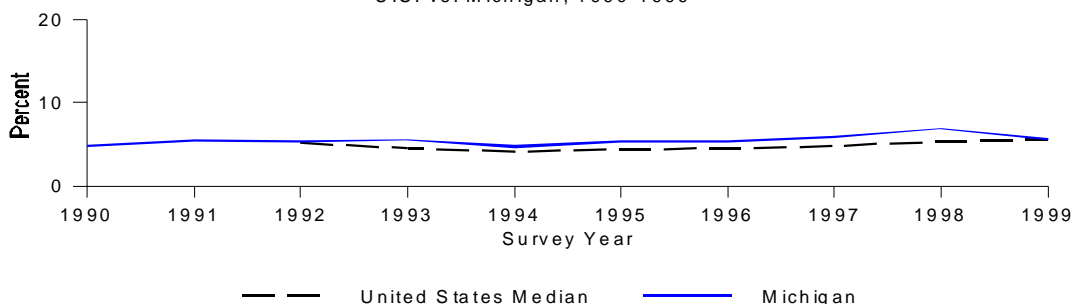
People diagnosed with diabetes are from two to four times more likely to have a heart attack or stroke compared with people without diabetes.⁷ It is the leading cause of new cases of blindness, end-stage renal disease, and lower extremity amputations.⁸

An estimated 5.6 percent of Michigan adults had ever been told by a physician that they have diabetes. The proportion increased with age. Respondents with less than a high school education were more likely to have been told that they have diabetes than any other educational category.

Demographic Characteristics	Ever Told Have Diabetes
TOTAL	5.6 ± 0.9
AGE	
18-34 Years	0.9 ± 0.6
35-54 Years	4.0 ± 1.3
55+ Years	13.1 ± 2.6
GENDER	
Male	6.3 ± 1.5
Female	4.9 ± 1.2
RACE	
White	4.7 ± 1.0
Black	9.1 ± 3.5
EDUCATION	
Less than High School	13.9 ± 4.8
High School Graduate	5.1 ± 1.6
Some College	3.7 ± 1.4
College Graduate	4.6 ± 1.7
HOUSEHOLD INCOME	
<\$20,000	9.3 ± 3.2
\$20,000-34,999	7.0 ± 2.2
\$35,000-49,999	3.2 ± 1.7
\$50,000-74,999	3.6 ± 1.9
≥\$75,000	3.7 ± 2.2

Ever Told Have Diabetes

U.S. vs. Michigan, 1990-1999



**U.S. data not available for 90-91.

WEIGHT STATUS

OVERWEIGHT STATUS–

Proportion of respondents by body mass index ≥ 27.8 for men and ≥ 27.3 for women (pregnant women were excluded from this analysis).

Excess body weight is a growing epidemic that is threatening the lives of millions of Americans.

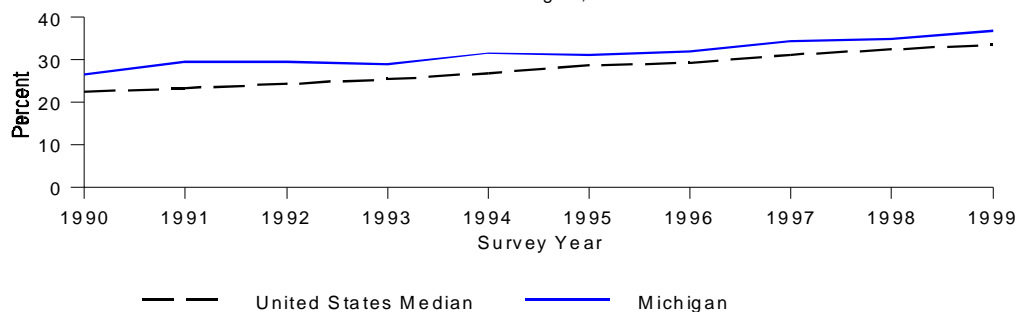
Being overweight increases the risk of many chronic diseases such as heart disease, stroke, diabetes, and certain types of cancer.⁹ Thirty to 40 percent of coronary heart disease deaths may be attributed to excess weight and high cholesterol.¹⁰

It is estimated that nearly 37 percent of Michigan's adult population was overweight in 1999. This percentage of overweight Michigan adults has generally been increasing, mirroring a similar national trend. The proportion of Michigan adults who were overweight increased with age up until 64 years and then decreased. Respondents with less than a high school education were more likely to be overweight than those who had graduated from college.

Demographic Characteristics	Overweight
TOTAL	36.8 ± 2.1
AGE	
18-24 Years	17.7 ± 5.5
25-34 Years	32.7 ± 4.8
35-44 Years	36.4 ± 4.4
45-54 Years	46.5 ± 5.2
55-64 Years	52.3 ± 6.3
65-74 Years	44.5 ± 6.6
75+ Years	25.8 ± 6.7
GENDER	
Male	38.9 ± 3.2
Female	34.9 ± 2.7
RACE	
White	35.5 ± 2.3
Black	48.8 ± 6.5
EDUCATION	
Less than High School	42.3 ± 7.0
High School Graduate	39.6 ± 3.8
Some College	36.1 ± 3.8
College Graduate	32.2 ± 3.9
HOUSEHOLD INCOME	
<\$20,000	40.2 ± 5.4
\$20,000-34,999	40.0 ± 4.4
\$35,000-49,999	37.5 ± 5.2
\$50,000-74,999	35.2 ± 5.2
\geq \$75,000	34.3 ± 2.6

Overweight

United States vs. Michigan, 1990-1999



PHYSICAL ACTIVITY

NO LEISURE-TIME PHYSICAL ACTIVITY—
Proportion of respondents who reported they did not participate in any physical activities, recreation, or exercises in their leisure time (such as running, golfing, or walking for exercise) within the past month.

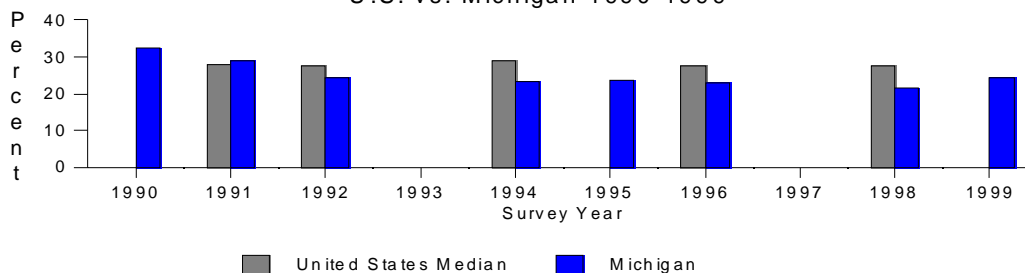
A lifestyle characterized by physical inactivity and poor dietary habits is a leading cause of premature death in the United States, second only to tobacco use.¹¹ People who are usually inactive can improve their health and reduce their risk of developing or dying from heart disease, diabetes, high blood pressure, and colon cancer by becoming even moderately active on a regular basis.¹² By including regular physical activity in their daily routines, people of all ages can obtain health benefits.

Nearly 25 percent of Michigan adults reported that they did not participate in any physical activity during their leisure time in the past month. Female respondents were more likely than male respondents to report no leisure-time physical activity (26.5 percent vs. 22.0 percent). An inactive lifestyle was most prevalent among respondents with less than a high school education and those with an annual household income of less than \$20,000.

Demographic Characteristics	No Leisure-Time Physical Activity		
TOTAL	24.4	±	1.8
AGE			
18-24 Years	20.6	±	5.4
25-34 Years	18.8	±	3.6
35-44 Years	22.5	±	3.8
45-54 Years	24.0	±	4.3
55-64 Years	31.1	±	5.8
65-74 Years	28.9	±	6.1
75+ Years	36.6	±	7.3
GENDER			
Male	22.0	±	2.7
Female	26.5	±	2.5
RACE			
White	22.9	±	1.9
Black	34.4	±	6.0
EDUCATION			
Less than High School	33.6	±	6.6
High School Graduate	30.3	±	3.4
Some College	24.6	±	3.3
College Graduate	13.5	±	2.8
HOUSEHOLD INCOME			
<\$20,000	36.4	±	5.1
\$20,000-34,999	26.9	±	3.9
\$35,000-49,999	21.7	±	4.5
\$50,000-74,999	18.7	±	4.1
≥\$75,000	13.1	±	2.9

No Leisure-Time Physical Activity

U.S. vs. Michigan 1990-1999



** Michigan data not collected in 1993 or 1997.
 U.S. medians not available in 1990, 1993, 1995, 1997, or 1999.

BREAST CANCER SCREENING

APPROPRIATELY-TIMED BREAST SCREENING—
Proportion of female respondents aged 40 and older who had both a clinical breast exam and screening mammogram within the past year.

Excluding skin cancer, breast cancer is the most common cancer among American women. In most cases, the earlier breast cancer is detected, the better the survival rate.¹³ Mammography can detect breast cancer an average of 1.7 years before the woman can feel the lump.¹³

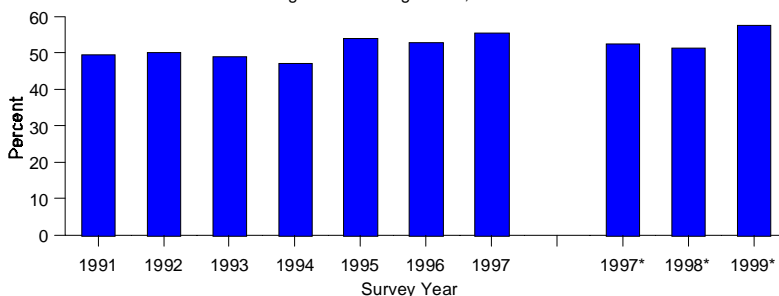
The American Cancer Society and the National Cancer Institute recommend that all women aged 20-39 have a clinical breast examination every three years. After age 40, every woman should have an annual screening mammogram and clinical breast exam by a health professional.

In 1999, only 60 percent of female respondents in Michigan aged 40 and older reported that they had both a mammogram and clinical breast exam within the past year. The proportion who had appropriately-timed breast screening was highest among those in the age group 50-64 years old. Women with at least some college education were more likely to have had appropriately-timed breast screening compared with women who graduated from high school or had less than a high school education.

Demographic Characteristics	Appropriately-Timed Breast Screening
TOTAL	57.6 ± 3.7
AGE	
40-49 Years	57.6 ± 5.4
50-64 Years	67.5 ± 7.9
65+ Years	52.1 ± 6.6
RACE	
White	57.7 ± 4.0
Black	58.0 ± 11.4
EDUCATION	
Less than High School	43.4 ± 11.0
High School Graduate	52.0 ± 6.3
Some College	61.3 ± 7.1
College Graduate	70.4 ± 6.9
HOUSEHOLD INCOME	
<\$20,000	44.4 ± 8.3
\$20,000-34,999	57.6 ± 7.8
\$35,000-49,999	57.8 ± 10.0
\$50,000-74,999	51.1 ± 11.5
≥\$75,000	76.9 ± 8.7

Appropriately-Timed Breast Screening

Michigan Women Aged 40+, 1991-1999



*The recommended time frame for mammography screening changed in 1997 to annual for all women over 39 years of age. For previous years, the recommendation was biennial screening for women aged 40-49 and annual screening for women aged 50+. As appropriate breast screening is a combination of appropriate clinical breast examination and appropriate mammography, this indicator changes as well.

National data are not included in this graph due to differences in definitions used by MDCH and the Centers for Disease Control and Prevention.

CERVICAL CANCER SCREENING

APPROPRIATELY-TIMED PAP SCREENING—

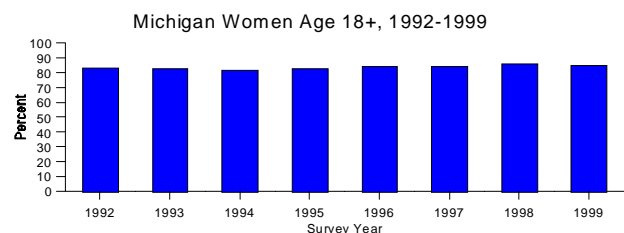
Proportion of all female respondents aged 18 and older who had a Pap test within the previous three years. (Respondents whose last Pap test was done because of a problem were not included in this analysis.)

The incidence of invasive cervical cancer has decreased significantly over the last 40 years, in large part due to early detection methods.¹³ The Papanicolaou test, or Pap smear, is the recommended method for screening for potential cancer of the cervix. The American Cancer Society recommends that all women begin yearly Pap tests at age 18 or when they become sexually active, whichever occurs earlier. If a woman has had three negative annual Pap tests in a row, this test may be done less often at the judgement of a woman's health care provider but should not be done less than every three years. There are several factors that increase a woman's risk of developing cervical cancer: having first intercourse at an early age, having multiple sex partners, developing a genital infection with human papillomavirus, and smoking.¹³ Cervical cancer in its earliest stage has almost a 100 percent survival rate with timely and appropriate treatment and follow-up.¹³ The Pap test provides the means to prevent nearly all deaths from cervical cancer.

An estimated 84 percent of Michigan women aged 18 years and older had had a screening Pap test within the previous three years. The proportion who had a Pap test within the previous three years was lowest among the youngest and oldest age groups. Women who had a college education were more likely to have had appropriately-timed Pap tests than any other education category. There appears to be no change in the prevalence rates from having had appropriately-timed screening Pap test across survey years in Michigan.

Demographic Characteristics	Appropriately-Timed Pap Screening Test
TOTAL	84.4 ± 2.2
AGE	
18-29 Years	79.4 ± 6.0
30-39 Years	91.0 ± 3.5
40-49 Years	93.1 ± 3.3
50-59 Years	85.5 ± 5.5
60-69 Years	79.9 ± 6.6
70+ Years	70.4 ± 7.1
RACE	
White	84.5 ± 2.3
Black	85.7 ± 6.0
EDUCATION	
Less than High School	73.7 ± 8.3
High School Graduate	81.3 ± 3.9
Some College	83.4 ± 4.0
College Graduate	94.2 ± 2.5
HOUSEHOLD INCOME	
<\$20,000	75.3 ± 5.7
\$20,000-34,999	87.9 ± 3.9
\$35,000-49,999	84.5 ± 5.8
\$50,000-74,999	87.1 ± 5.3
≥\$75,000	96.1 ± 3.6

Appropriately-Timed Pap Screening



National data is not represented in this graph due to differences in definitions used by MDCH and the Centers for Disease Control.

HIV/AIDS

PERCEIVED HIV RISK HIGH OR MEDIUM—

Proportion of respondents who reported that they thought their risk of HIV infection was high or medium (Respondents aged 18-64; were included; “don’t know” was considered a valid response).

HIV, the virus that causes AIDS, can be found in blood, semen, and vaginal secretions of an infected person. The virus is mainly spread by unprotected sexual intercourse and sharing needles with an HIV-infected person. Babies born to HIV-infected women may also become infected.

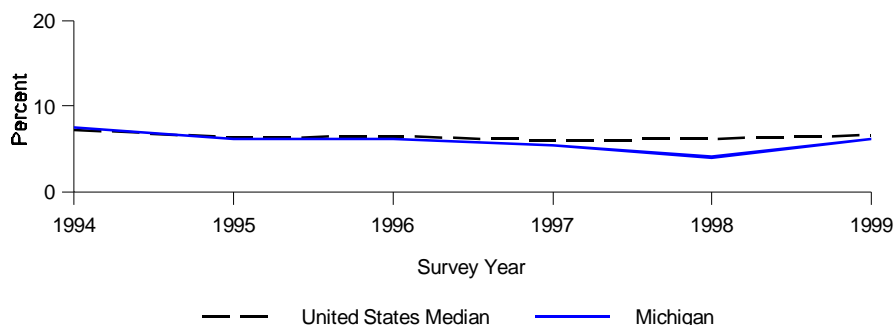
The majority of cases of HIV can be prevented by avoiding unprotected sex and the use of illegal injection drugs. Condom use, limiting the number of sexual partners, and not sharing needles can lower the risk of infection.

Respondents were asked what they thought their chances were of becoming infected with HIV. Six percent of respondents reported that they perceived their risk of becoming infected with HIV to be high or medium. Respondents aged 18-24 years old were more likely to perceive their risk of HIV infection as high or medium than any other age category. Respondents with less than a high school education were more likely to perceive their risk for HIV infection as high or medium compared with those who had graduated from college, as were those with annual incomes of less than \$20,000 compared with those with incomes of \$50,000 or greater.

Demographic Characteristics	Chance of Getting HIV High or Medium	
TOTAL	6.2	± 1.2
AGE		
18-24 Years	11.2	± 4.1
25-34 Years	5.2	± 2.1
35-44 Years	6.0	± 2.2
45-54 Years	5.6	± 2.2
55-64 Years	4.1	± 2.6
GENDER		
Male	7.0	± 1.9
Female	5.6	± 1.4
RACE		
White	5.5	± 1.2
Black	9.0	± 4.1
EDUCATION		
Less than High School	13.8	± 6.8
High School Graduate	5.6	± 1.9
Some College	7.4	± 2.2
College Graduate	3.8	± 1.5
HOUSEHOLD INCOME		
<\$20,000	10.4	± 4.4
\$20,000-34,999	5.2	± 2.2
\$35,000-49,999	7.3	± 2.9
\$50,000-74,999	4.5	± 2.2
≥\$75,000	3.8	± 2.3

Perceived Risk of HIV High or Medium

U.S. vs. Michigan, 1994-1999



HIGH BLOOD PRESSURE

HIGH BLOOD PRESSURE—

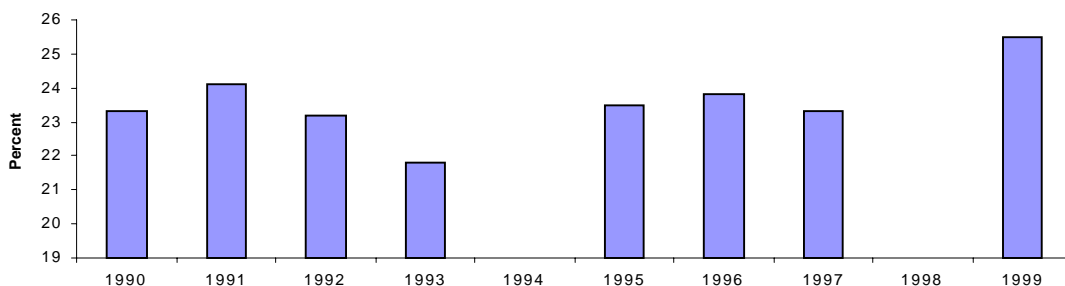
Among all respondents, the proportion who reported that they had ever been told by a health professional that their blood pressure was high.

High blood pressure, or hypertension, has been called the silent killer because it often causes no symptoms, but can lead to stroke, heart attack, or kidney failure. High blood pressure may be controlled by regular exercise, not smoking, maintaining a healthy weight, medication, and lowering sodium and alcohol intake.

Nearly 26 percent of Michigan adults reported that they had been told by a health professional that their blood pressure was high. Respondents aged 55 and older were more likely to have been told that they had high blood pressure than younger respondents. Adults with only a high school degree or less were more likely to have been told that their blood pressure was high compared with adults with at least some college education.

Demographic Characteristics	Ever Told High Blood Pressure		
TOTAL	25.5	±	1.8
AGE			
18-24 Years	7.1	±	3.5
25-34 Years	11.2	±	2.9
35-44 Years	12.6	±	3.0
45-54 Years	30.1	±	4.7
55-64 Years	47.1	±	6.2
65-74 Years	53.6	±	6.5
75+ Years	49.5	±	7.5
GENDER			
Male	24.0	±	2.8
Female	26.3	±	2.4
RACE			
White	24.0	±	2.0
Black	34.5	±	6.0
EDUCATION			
Less than High School	36.4	±	6.7
High School Graduate	29.1	±	3.4
Some College	21.1	±	3.1
College Graduate	20.8	±	3.3
HOUSEHOLD INCOME			
<\$20,000	28.5	±	4.7
\$20,000-34,999	29.5	±	4.0
\$35,000-49,999	22.5	±	4.4
\$50,000-74,999	17.1	±	4.0
≥\$75,000	23.0	±	5.0

Ever Told High Blood Pressure Michigan Adults, 1990-1999



*Data not collected in 1994 and 1998

HIGH CHOLESTEROL

HIGH CHOLESTEROL—

Of those respondents who had ever had their cholesterol checked, the proportion who had been told by a health professional that their cholesterol was high.

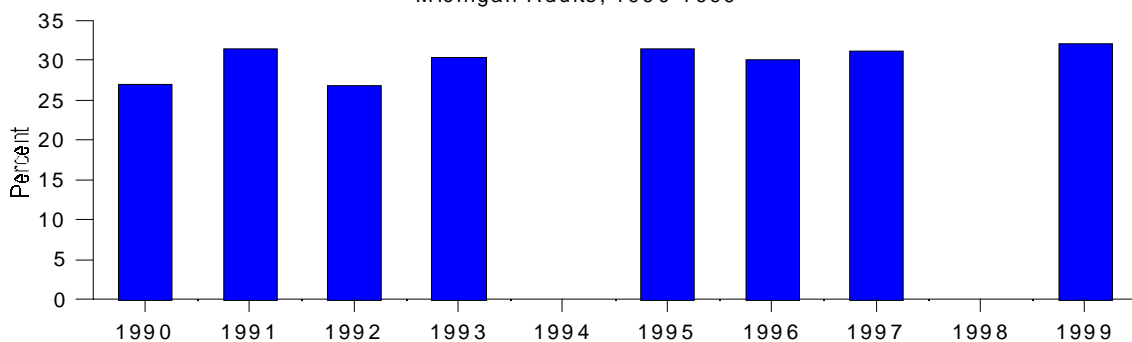
Blood cholesterol is an important risk factor for coronary heart disease. The higher your blood cholesterol level, the greater your risk. About a half million people die each year from heart attacks caused by coronary heart disease.¹⁴

Thirty-two percent of Michigan adults had ever been told by a health professional that their blood cholesterol was high. Respondents aged 35 and older were more likely to have been told that they have high cholesterol compared with younger respondents, as were those with less than a high school education.

Demographic Characteristics	Ever Told High Cholesterol
TOTAL	32.1 ± 2.3
AGE	
18-24 Years	8.7 ± 5.9
25-34 Years	14.9 ± 4.3
35-44 Years	23.3 ± 4.4
45-54 Years	40.3 ± 5.3
55-64 Years	47.3 ± 6.4
65-74 Years	47.3 ± 6.8
75+ Years	38.6 ± 7.6
GENDER	
Male	31.6 ± 3.5
Female	32.5 ± 2.9
RACE	
White	32.9 ± 2.5
Black	27.1 ± 6.6
EDUCATION	
Less than High School	43.4 ± 8.3
High School Graduate	34.4 ± 4.2
Some College	30.4 ± 4.1
College Graduate	28.6 ± 4.0
HOUSEHOLD INCOME	
<\$20,000	38.2 ± 6.1
\$20,000-34,999	34.0 ± 4.8
\$35,000-49,999	31.1 ± 5.7
\$50,000-74,999	25.6 ± 5.2
≥\$75,000	29.5 ± 5.6

Ever Told High Cholesterol

Michigan Adults, 1990-1999



**Data not collected in 1994 or 1998.

ALCOHOL USE

BINGE DRINKING—

Proportion of respondents who reported that they had five or more alcoholic beverages per occasion at least once in the past month.

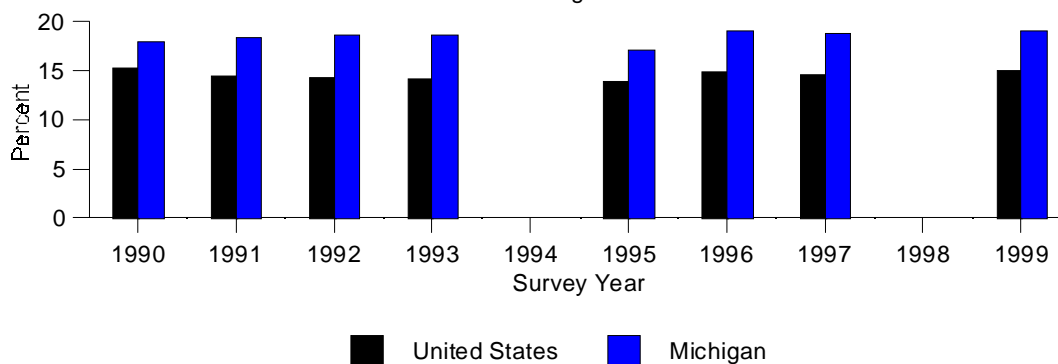
Binge drinking increases the risk of alcohol-related injury, especially when alcohol is combined with other potentially high risk activities such as driving a car. Sexual encounters with their inherent risks of pregnancy, sexually transmitted diseases, and HIV exposure, as well as date rape and other violence, can and do occur more frequently while people are consuming large amounts of alcohol.

Nineteen percent of Michigan adults were estimated to have participated in binge drinking at least once in the past month. An estimated 32 percent of respondents in the age group 18-34 reported binge drinking in the past month. Males were more likely to binge drink than females.

Demographic Characteristics	Binge Drinking		
TOTAL	19.1	±	1.8
AGE			
18-34 Years	31.5	±	3.8
35-54 Years	17.1	±	2.6
55+ Years	7.6	±	2.1
GENDER			
Male	29.3	±	3.1
Female	9.9	±	1.7
RACE			
White	20.2	±	2.0
Black	15.0	±	4.9
EDUCATION			
Less than High School	14.4	±	5.2
High School Graduate	20.8	±	3.2
Some College	19.6	±	3.3
College Graduate	18.5	±	3.3
HOUSEHOLD INCOME			
<\$20,000	17.2	±	4.3
\$20,000-34,999	20.4	±	3.8
\$35,000-49,999	19.6	±	4.4
\$50,000-74,999	20.2	±	4.4
≥\$75,000	22.4	±	5.0

Binge Drinking

United States vs. Michigan 1990-1999



**Data not collected in 1994 or 1998.

Selected Risk Factors and Health Indicators

Risk Factor/Health Indicator	Prevalence	Risk Factor/Health Indicator	Prevalence
No Health Care Coverage (Ages 18-64)	9.5 ± 1.4	No Leisure-Time Physical Activity	24.4 ± 1.8
No Routine Checkup in Last Year	27.9 ± 1.9	Sedentary Lifestyle (<20 min., 3x/week)	54.3 ± 2.2
Cost Prevented Doctor Visit	7.8 ± 1.1	No Regular and Sustained Activity (<30 min., 5x/week)	76.8 ± 1.8
Current Smoker	25.7 ± 1.9	Never Had a Blood Stool Test (Age 50+)*	50.2 ± 3.4
Average Number of Cigarettes Smoked per Day	16.1 ± 0.8	Never Had a Proctoscopic Exam (Age 50+)*	50.3 ± 3.5
Had Flu Shot in Past Year (Ages 65+)	69.9 ± 4.6	No Dental Care in Past Year	23.0 ± 1.8
Ever Had Pneumonia Vaccination (Ages 65+)	57.4 ± 5.0	Ever Tested for HIV (Ages 18-64)	42.8 ± 2.3
General Health Fair or Poor	11.7 ± 1.3	Encourage Condom Use Among Teens (Ages 18-64)	88.5 ± 1.5
Physical Health Poor (mean days in past 30 days)	3.4 ± 0.4	Mean Grade to begin Aids Education (Ages 18-64)	4.8 ± 0.2
Mental Health Poor (mean days in past 30 days)	3.4 ± 0.4	Drinking and Driving	3.3 ± 0.8

*State added questions.

METHODS

The Behavioral Risk Factor Surveillance System (BRFSS) consists of annual surveys coordinated through a cooperative agreement with the Centers for Disease Control and Prevention. The annual Michigan surveys follow the overall CDC telephone survey protocol for BRFSS.¹⁵ The 1999 Michigan BRFS data were collected quarterly by the Institute for Public Policy and Social Research at Michigan State University. The sample of telephone numbers was selected using a list-assisted, random-digit-dialing methodology with disproportionate stratification based on phone bank density.

The 1999 BRFS data were weighted to adjust for the probabilities of selection (based on the probability of telephone number selection, the number of adults in the household, and the number of residential phone lines) and a poststratification weighting factor that adjusted estimates (using 1998 Michigan intercensal population distributions) by age, sex, and race. Calculations of the prevalence estimates and confidence interval limits were performed using SUDAAN, a statistical computing program that was designed for analyzing data from multistage sample surveys.¹⁶

Unless otherwise specified, respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.

SAMPLE RESULTS

A total of 17,949 telephone numbers were used for the 1999 Michigan BRFS. The final call dispositions for the sample numbers fell into the following categories: 2,522 completed interviews, 2,234 refusals, 7,340 non-working numbers, 1,522 ring-no-answers, 3,263 businesses, 177 households reached but no members eligible, 571 eligible respondents selected but not interviewed, 64 informants or eligible respondents with language barriers, 91 busy numbers, 46 interviews terminated, and 119 informants or eligible respondents unable to participate. The CASRO (Council of American Survey Organizations) response rate, which includes a portion of the dispositions with unknown eligibility in the denominator of the rate, was 42.7 percent. Forty-five percent (45.4 percent) of all household contacts resulted in a completed interview; 40.2 percent of all household contacts refused to participate.

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