



Steps to a Healthier Anishinaabe

2008 BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM REPORT



Table of Contents

Foreward	4
2006 MITC Steps BRFs At-A-Glance	7
General Health Status.....	8
Weight Status	12
Limited Health Care Coverage	14
No Health Care Coverage	18
No Leisure-Time Physical Activity	20
Cigarette Smoking.....	24
Alcohol Consumption	26
Breast Cancer Screening.....	30
Cervical Cancer Screening	32
Colorectal Cancer Screening.....	36
Oral Health	38
HIV Testing	42
Asthma	44
Diabetes	48
BRFS Methodology.....	50
Bibliography	54
Terminology.....	56
Acknowledgements.....	59



Forward

This report presents results from the 2006 Michigan Inter-Tribal Council Behavioral Risk Factor Survey (BRFS) conducted by the Michigan Inter-Tribal Council (MITC) for the Steps to a Healthier Anishinaabe (Steps) program. The Steps to a Healthier Anishinaabe program is one of many Steps to a Healthier US grantees under Cooperative Agreement #U58/CCU523338 with the Centers for Disease Control and Prevention (CDC). The MITC BRFS data belongs to the Michigan Inter-Tribal Council and the participating tribes in Michigan. The MITC BRFS was a telephone survey of Native Americans who were enrolled members of one of the eight tribes participating in the Steps to a Healthier Anishinaabe program and represented in the MITC consortium. Survey respondents were adults age 18 years and older. The purpose of this survey was to identify behavioral risk factors among Native American adults in the state of Michigan. This survey data is intended to be used by the MITC and the tribes to assist in planning and evaluating programs, establishing program priorities, developing specific interventions and policies, and assessing trends and disparities. The data may also be used to leverage funding to support health promotion and disease prevention programs.

There is very limited data available on the health and wellbeing of Native people. Native Americans are drastically underrepresented in federal and state health surveys because these types of surveys typically use traditional sampling methods that are not effective in reaching Native American populations. What data is available usually cannot be examined by state, region, or locality due to small sample sizes. When the number of Native American respondents is not large enough for reporting, the Native specific data gets combined into the "Other" race category.

These survey practices prevent public health practitioners, researchers, and health care providers who serve Native people from getting the data that is needed to measure risk behaviors, study health disparities and health outcomes, and improve health promotion and disease prevention programs.

At the time of this printing, the MITC BRFS is the only source of Native-specific data depicting the prevalence of various health risk behaviors, medical conditions, and preventive health care practices among select Native American tribes in Michigan. Even though the Native American sample size in the MITC BRFS is as large or larger than some national health surveys, it is too small to report detailed breakdowns of the data for certain subpopulations and demographic categories. Please see the Methodology section for a more detailed explanation of how respondents were selected for the survey.

The Native American specific data gained from this BRFS report will be very useful for program planning and evaluation. Tribes may use this combined BRFS data to better understand the prevalence of health risk behaviors, analyze and advance health promotion and disease prevention programs, and utilize data for funding and grant writing rationales.

Note: In the following report, we have included some of the actual 2006 BRFS questions that were read to each respondent. While there were many questions asked for each topic, we are only presenting the questions in this report which correspond to the data in the table. For a complete list of the questions asked in the Survey, please contact the Michigan Inter-Tribal Council.

IMPORTANT NOTE ABOUT ESTIMATES: Survey sampling is a complex, scientific process that is designed to collect information from a select group of people (sample) and use their answers to estimate the true value of something in the total population being studied. Weighting the data means that statistical formulas are applied to the data to create more accurate estimates. Determining how accurate that estimate is compared to the true value in the population is quite important.

A confidence interval addresses this issue because it provides a range of estimates which is likely to contain the true value in the population. Confidence intervals are calculated at a specific confidence level. For example, a confidence level of 95% means that if the same population is sampled numerous times then the confidence interval would capture the true population value about 95% of the time. Confidence intervals are wider if the estimate is calculated from limited data (a small sample size) because there is more uncertainty in the estimate. In general, the wider the confidence interval, the less accurate the estimate may be. The MITC data presented in this report is weighted to represent all Steps tribes. Confidence intervals calculated with a 95% confidence level are presented. For each estimate (percentage) presented, the reader should be aware that the estimate does not equal the true value. Rather, the reader should assume that it is highly likely that the true value falls somewhere within the confidence interval.

2006 BRFS AT-A-GLANCE SUMMARY		
	(%)	(%)
Selected Risk Factors	All Steps Tribes	State of Michigan
Health status fair or poor	23.3	15.2
Overweight (BMI 25.0 - 29.9)	31.4	36.1
Obese (BMI ≥ 30.0)	38.3	28.7
No personal health care provider	19.0	14.1
No health care access during past year due to cost	13.3	12.0
No health care coverage	20.7	--
No leisure-time physical activity in past 30 days	29.5	22.8
Current smokers	35.7	22.1
Heavy drinkers	8.6	4.9
Binge drinkers	22.8	17.5
Had mammogram in past 2 years (women over 40)	87.3	--
Had Pap test in past 3 years (women over 18)	90.2	82.6
Blood stool test in past 2 years (over 50)	37.0	27.5
Ever had sigmoidoscopy or colonoscopy (over 50)	58.9	66.3
No dental visit in past year	27.0	25.4
Ever had HIV test (18-64 year olds)	45.0	35.4
Ever diagnosed with asthma	15.2	14.0
Currently have asthma	11.0	9.5
Ever told diabetes	19.7	9.0

-- Data not available in specified parameters



General Health Status

General health status is a reliable self-rated estimation of one’s perceived health.¹ Self-rated general health status is useful in determining unmet health needs, recognizing disparities among subpopulations, and showing the burden of chronic diseases within a population. The rate of self-rated “fair” or “poor” health status has been found to be elevated within older age groups, females, and minorities, and has also been associated with lower socioeconomic categories in the presence or absence of disease.² The way that chronic disease sufferers perceive their health status provides insight into how well they understand the effects of their disease on their overall health. Often there is a variance between self-perceived and actual health status. Providers can use this information to conduct appropriate education and outreach and develop effective disease management programs.

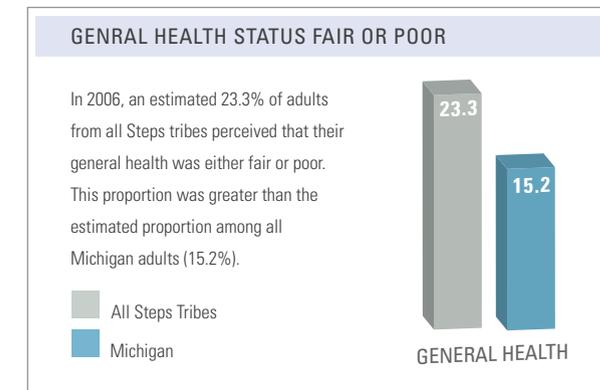
BRFS Question(s) asked:

1.1. Would you say that in general your health is:

- 1. Excellent
- 2. Very Good
- 3. Good
- 4. Fair
- 5. Poor

In 2006, an estimated 23.3% of adults from all Steps tribes perceived that their general health was either fair or poor. This proportion was greater than the estimated proportion among all Michigan adults (15.2%).

Males and females are almost equally as likely to perceive their health status as fair or poor (24.4% vs 22.4%). The proportion who reported fair or poor health decreased with increasing education and income levels. High school graduates reported having fair or poor health more often than adults who had some post-high school education (23.6% vs. 16.5%). Likewise, the proportion of adults with a yearly income of \$25,000-34,999 that reported having fair or poor health was more than double the proportion of adults with a yearly income above \$75,000 (23.9% vs. 9.6%).



GENERAL HEALTH STATUS ^a		
Demographic Characteristics	(%)	95% Confidence Interval
All Steps Tribes	23.3	18.1-28.5
Male	24.4	15.8-33.1
Female	22.4	16.1-28.8
Less than High School Education	*	
High School or G.E.D.	23.6	14.5-32.7
Some post-High School	16.5	10.2-22.8
College graduate	*	
Household Income		
Less than \$15,000 annual income	*	
\$15,000-24,999 annual income	*	
\$25,000-34,999 annual income	23.9	9.4-38.5
\$30,000-49,999 annual income	*	
\$50,000-74,999 annual income	*	
\$75,000+ annual income	9.6	2.0-17.3

^a The proportion who reported that their health, in general, was either fair or poor.
 * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)



In order to survey tribal members, permission to contact tribal members by telephone using tribal membership lists was requested from the tribal councils of the eight participating communities. For the 2006 Michigan Inter-Tribal Council BRFSS, permission was granted by six of the eight tribal communities. In order to draw a sample for the remaining two communities it was necessary to construct a convenience sample utilizing lists of individuals who volunteered to participate in the survey. This was a unique but acceptable method to sample this community and resulted in a usable data set to share with each of the participating tribes.

Weight Status

Overweight and obese adults are at a greater risk for developing chronic conditions, such as high blood pressure, diabetes, gallbladder disease, osteoarthritis, cancer, and high cholesterol, than adults who are at a healthy weight.³ The problem of obesity among Native Americans is a relatively new phenomenon. Obesity has become a problem that developed in the last forty to fifty years and has been caused by a sharp decrease in traditional lifestyle activities such as farming, hunting, gathering, fishing, a decrease in the consumption of traditional dietary foods, and a dependence on government commodity food.⁴ During the European colonization of North America, Native people became malnourished due in part to the disruption of traditional hunting and gathering systems. Massive government feeding programs addressed the problem of malnutrition only to replace it with the problem of obesity.⁵

BRFS Question(s) asked:

13.10. About how much do you weigh without shoes?

13.11. About how tall are you without shoes?

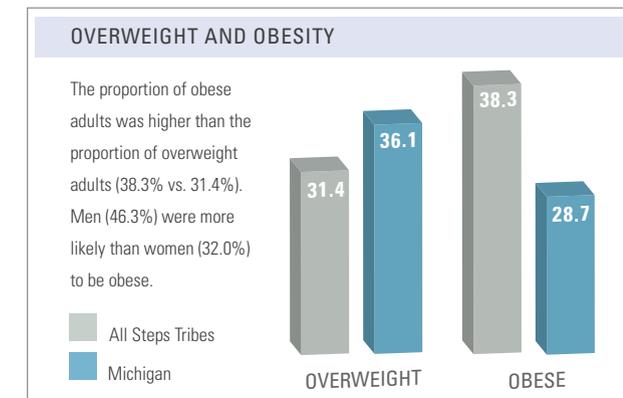
Overweight is defined as having a body mass index (BMI) between 25.0 and 29.9; an obese weight status is a BMI greater than or equal to 30.0. BMI is defined as weight in kilograms divided by height in meters squared (w/h²) and was calculated from the self-reported height and weight measurements of adults (excluding pregnant women) participating in the 2006 BRFSS.

Adults from all Steps tribes had higher rates of obesity than all adults in Michigan (38.3% vs. 28.7%).

The proportion of obese adults from all Steps tribes was greater than the proportion of overweight adults (38.3% vs. 31.4%). Men (46.3%) were more likely than women (32.0%) to be obese.

WEIGHT STATUS				
Demographic Characteristics	Overweight ^a		Obese ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
All Steps Tribes	31.4	26.1-26.7	38.3	32.5-44.1
Male	30.2	2.0-38.4	46.2	36.6-55.7
Female	32.4	25.4-39.4	32.0	25.1-38.9
Less than High School	*		*	
High School or G.E.D.	27.1	18.2-35.9	*	
Some post-High School	37.9	28.5-47.2	28.4	20.4-36.3
College graduate	*		*	

*Note: don't know/missing responses excluded. Adults whose BMI was between 25.0 and 29.9. ^b Adults whose BMI was greater than or equal to 30.0. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*



Limited Health Care Coverage

Many Michigan Native Americans do not receive the healthcare and preventive services that they need to maintain good health and wellness. Numerous rural as well as urban-based Indians do not have access to a full array of healthcare services or prevention programs. In addition, it is likely that a significant proportion of tribal respondents who reported having health care coverage have access to services only through federally recognized tribal health facilities. The proportion of tribal respondents who reported their only health care coverage was provided through tribal programs is unknown. Health services available through federally recognized tribal facilities do not constitute health insurance. Generally, through such facilities, only primary health care services may be obtained. Specialty care and hospital services outside of tribal clinics are sometimes covered dependant on availability of tribal funds or Indian Health Service (I.H.S.) Contract Health Service (CHS).

BRFS Question(s) asked:

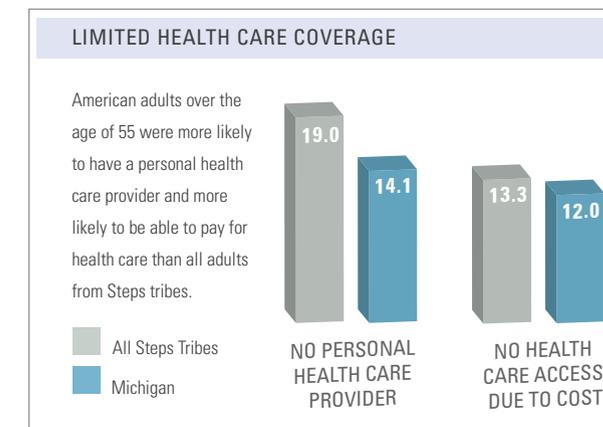
3.2. Do you have one person you think of as your personal doctor or health care provider?

3.3. Was there a time in the past 12 months when you needed to see a doctor, but could not because of the cost?

An estimated 19.0% of adults from all Steps tribes did not have a personal health care provider compared to an estimated 14.1% of all Michigan adults. The proportion of adults that did not see a doctor in the past year due to cost was 12.0% among all Michigan adults versus 13.3% among all Steps tribes. Males were three times more likely than females to not have a personal health care provider (30.8% vs. 10.0%).

The proportion of adults over 55 without a personal health care provider was less than the proportion among all Steps

adults; likewise, the proportion of adults over 55 without health care access due to cost was less than the proportion among all Steps adults. In other words, Native American adults over the age of 55 were more likely to have a personal health care provider and more likely to be able to pay for health care than all adults from Steps tribes.



Note: don't know/missing responses excluded. ^a The proportion who reported they did not have anyone that they thought of as their personal doctor or health care provider. ^b The proportion who reported that in the past 12 months, they could not see a doctor when they needed to due to the cost. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)

LIMITED HEALTH CARE COVERAGE				
Demographic Characteristics	No Care Provider ^a		Access Due to Cost ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
All Steps Tribes	19.0	14.2-23.9	13.3	8.7-17.9
Male	30.8	21.6-40.0	10.8	4.0-17.6
Female	10.0	6.1-13.9	15.2	9.1-21.3
18-24	*		*	
25-34	*		*	
35-44	*		*	
45-54	*		6.0	1.1-11.0
55-64	9.9	3.1-16.7	10.0	2.9-17.0
65+	6.5	0.2-12.9	4.4	0.0-9.6
Less than High School	*		*	
High School or G.E.D.	20.0	12.2-27.7	12.8	5.2-20.3
Some post-High School	16.8	9.4-24.1	15.0	8.1-21.9
College graduate	*		4.3	0.0-9.2
Under \$15,000	*		*	
\$15,000-24,999 annual income	*		20.0	10.6-29.4
\$25,000-34,999 annual income	14.0*	5.7-22.4	*	
\$35,000-49,999 annual income	12.0	3.9-20.1	*	
\$50,000-74,999 annual income	*		1.9*	0.0-5.7
\$75,000+ annual income	*		1.9	0.0-4.6





Providing community-based culturally congruent healthcare is a complicated dance. The Michigan Inter-Tribal Council's approach is succeeding.

No Health Care Coverage

Adults without health care coverage are less likely to access health care services. This includes preventive care, primary care, and tertiary care. Lack of health care coverage also delays entry into medical treatment.^{6,7} Utilization of such preventive health care measures, such as mammography, Pap tests, prostate exams, appropriate vaccinations, and cholesterol tests, could reduce the prevalence and severity of chronic diseases in the United States.^{8,9}

BRFS Question(s) asked:

3.1. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

3.1a. What type of health care coverage do you use to pay for most of your medical care? Is it coverage through ...

1. Your employer
2. Someone else's employer
3. A plan that you or someone else buys on your own
4. Medicare
5. Medicaid or Medical Assistance
6. The military, CHAMPUS, TriCare, or the VA (or CHAMP-VA)
7. The Indian Health Service, Contract Health Service, or your Tribal Health Care Facility, or
8. Some other source
88. None / Out of pocket

An estimated one-fifth (20.7%) of adults from all Steps tribes do not have health care coverage, including health insurance, prepaid plans or government plans.

Males and females were almost equally as likely to not have health care coverage (21.8% vs. 19.9%).

Adults with a high school diploma were two-times more likely to not have health coverage than college graduates (25.8% vs. 10.5%).

Adults living in households with an annual income greater than \$35,000 were much less likely to be without health care coverage.

*Note: don't know/missing responses excluded. ^a The proportion who reported they did not have any health care coverage including health insurance, prepaid plans or government plans. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*

NO HEALTH CARE COVERAGE ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	20.7	15.0-26.4
Male	21.8	13.7-29.9
Female	19.9	12.0-27.7
18-24	*	
25-34	*	
35-44	*	
45-54	*	
55-64	13.5	4.2-22.7
65+	2.3	0.0-6.8
Less than High School	*	
High School or G.E.D.	25.8	16.0-35.5
Some post-High School	16.5	7.5-25.4
College graduate	10.5	1.8-19.1
Under \$15,000 annual income	*	
\$15,000-24,999 annual income	*	
\$25,000-34,999 annual income	*	
\$35,000-49,999 annual income	8.8	1.7-15.9
\$50,000-74,999 annual income	6.0	0.4-11.7
\$75,000+ annual income	7.8	0.6-14.9



No Leisure-Time Physical Activity

Regular physical activity has been shown to reduce the risk of premature mortality and a number of chronic diseases, such as colon cancer, hypertension, cardiovascular disease, and diabetes. Keeping physically active not only helps maintain a healthy body weight and normal muscle strength, bone mass, and joint function, but it also can relieve symptoms of depression.

Basic recommendations from the American College of Sports Medicine and the American Heart Association are to do moderately intense cardiovascular activity 30 minutes a day, five days a week, or do vigorously intense cardiovascular activity 20 minutes a day, 3 days a week and do eight to 10 strength-training exercises, eight to 12 repetitions of each exercise twice a week.

Moderate-intensity physical activity means working hard enough to raise your heart rate and break a sweat, yet still being able to carry on a conversation. It should be noted that to lose weight or maintain weight loss, 60 to 90 minutes of physical activity may be necessary. The 30-minute recommendation is for the average healthy adult to maintain health and reduce the risk for chronic disease.

BRFS Question(s) asked:

4.1. During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

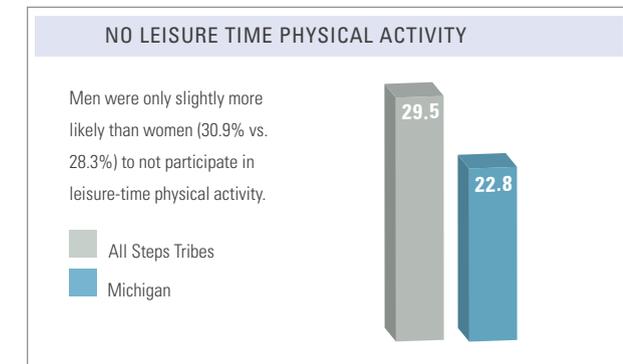
In 2006, an estimated 29.5% of adults from the Steps tribes did not participate in any leisure-time physical activity; this proportion was higher than the proportion among all Michigan adults (22.8%).

Men were only slightly more likely than women (30.9% vs. 28.3%) to not participate in leisure-time physical activity.

The proportion of adults with a high school diploma that did not participate in leisure-time physical activity was substantially higher than the proportion among all Steps adults (38.8% vs. 29.5%); Adults with some post-high school education were more likely than those with a high school diploma to have participated in leisure-time physical activity.

NO LEISURE TIME PHYSICAL ACTIVITY ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	29.5	24.0-35.0
Male	30.9	21.6-40.3
Female	28.3	21.8-34.8
Less than High School	*	
High School or G.E.D.	38.8	29.0-48.6
Some post-High School	13.5	8.2-18.8
College graduate	*	

Note: don't know/missing responses excluded. ^a 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. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)





The Michigan Inter-Tribal Council BRFs is different from most Behavioral Risk Factor Surveys conducted across the US due to the unique composition of the population of interest. Most Behavioral Risk Factor Surveys rely on random digit dial telephone interviewing methods to select participants from a specific geographic region. This method produces a random sample of adults selected from the population of interest. For the Michigan Inter-Tribal Council BRFs, the population of interest is limited to only adults who are Native American and members of one of eight participating Steps tribes. Sampling these communities cannot be accomplished with simple random digit dial methods due to varying geographic characteristics of the tribal communities. The Michigan Inter-Tribal Council tribes are dispersed throughout the state of Michigan, in rural and semi-urban areas. For some tribes the majority of the membership lives on a reservation, but for others they do not.

Cigarette Smoking

Current smoking status was defined in the survey as ever having smoked 100 cigarettes (five packs) in their life and smoking cigarettes now, either every day or on some days. Former smoking status was defined as having smoked at least 100 cigarettes in one’s lifetime, but not currently smoking.

Smoking is the number one cause of preventable death in the United States and produces considerable health-related costs to society.^{11,12} Smoking commercial tobacco and being exposed to secondhand tobacco smoke are of particular concern among the Native American population. This group has the highest prevalence of tobacco use among all major racial/ethnic groups in the U.S.¹³ Traditional tobacco (sometimes referred to as sema, cansasa, or kinnikinnick), not to be confused with commercial tobacco, has a sacred purpose. It is used for spiritual, emotional, mental and physical guidance by many Native Americans. It is understood that if used in positive ways it has the power to heal and protect; but if abused, it also has the power to harm and hurt. When commercial tobacco is abused it swiftly becomes a serious risk factor for heart disease, stroke, and cancer which are all leading causes of death among the Native American population.¹⁴ Secondhand smoke is the second leading cause of preventable death in the United States. Exposure to secondhand smoke is directly related to asthma, sudden unexplained infant death (sometimes called SIDS), premature birth, respiratory illnesses and cancer. There is no safe level of exposure to commercial tobacco smoke. The U.S. Environmental Protection Agency classifies second-hand smoke as a Class A Carcinogen.

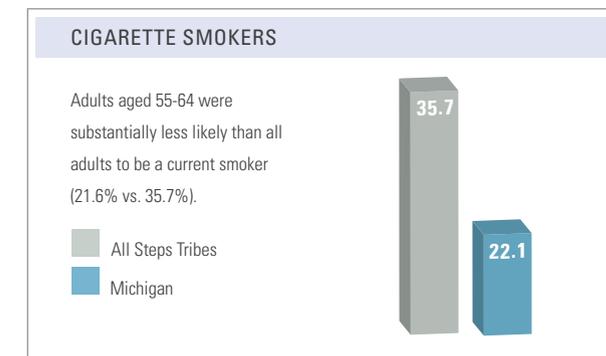
BRFS Question(s) asked:

7.1. Have you smoked at least 100 cigarettes in your entire life?

7.2. Do you now smoke cigarettes every day, some days, or not at all?

The Michigan Inter-Tribal Council recommends that if you don’t smoke, don’t start. If you do smoke, stop! The proportion of adults from all Steps tribes that indicated they currently smoked cigarettes (35.7%) was substantially greater than the proportion among all Michigan adults (22.1%). Males (38.9%) were more likely than females (33.2%) to report being current smokers.

Adults aged 55-64 were substantially less likely than all adults to be a current smoker (21.6% vs. 35.7%).



CURRENT SMOKING STATUS ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	35.7	29.9-41.5
Male	38.9	29.6-48.3
Female	33.2	25.8-40.5
18-24	*	
25-34	*	
35-44	*	
45-54	*	
55-64	21.6	12.6-30.5
65+	*	
Less than High School	*	
High School or G.E.D.	*	
Some post-High School	34.3	25.2-43.5
College graduate	*	

*Note: don't know/missing responses excluded. ^a 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 some days. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*

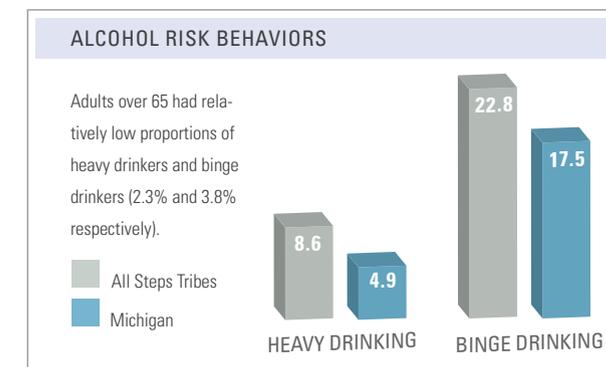
Alcohol Consumption

The role of alcohol in Native American communities has long received much attention. Alcohol abuse has been linked to serious health problems, such as high blood pressure, stroke, cirrhosis of the liver and some types of cancer. Alcohol abuse can also raise the risk for motor vehicle accidents, injuries, violence, and suicide.¹⁵ Data from the National Household Survey on Drug Abuse (2005) reveal that Native American people still experience disproportionately high rates of substance abuse and related problems. The 2005 Michigan Tribal BRFs data indicates that although Native American adults are actually less likely than their counterparts to have consumed alcohol in the past month, they are more likely to have engaged in binge or heavy drinking in the past month. As defined by the CDC, heavy drinking is consuming more than two drinks per day for men or more than one drink per day for women. Binge drinking is consuming more than five drinks on one occasion for men and four or more drinks on one occasion for women. One drink equals one 12-ounce beer, or one five-ounce glass of wine, or one 1.5 ounce of hard liquor or spirits.

BRFS Question(s) asked:

- 8.1. A drink of alcohol is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?
- 8.2. On the days when you drank, about how many drinks did you drink on the average?
- 8.3. Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks on an occasion?

The proportion of adults among all Steps tribes that reported drinking heavily (8.6%) was greater than the proportion of all Michigan adults (4.9%). Additionally, the proportion of adults from all Steps tribes that reported binge drinking (22.8%) was also greater than the proportion of all Michigan adults (17.5%). Males were much more likely than females to drink heavily (14.1% vs. 4.4%) and to binge drink (33.5% vs. 14.6%). Adults over 65 had relatively low proportions of heavy drinkers and binge drinkers (2.3% and 3.8% respectively).



ALCOHOL RISK BEHAVIORS				
Demographic Characteristics	Heavy Drinker ^a		Binge Drinker ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
All Steps Tribes	8.6	4.8-12.4	22.8	17.4-28.2
Male	14.1	6.7-21.6	33.5	24.3-42.8
Female	4.4	1.2-7.5	14.6	8.4-20.9
18-24	*		*	
25-34	*		*	
35-44	12.2	3.6-20.9	*	
45-54	*		*	
55-64	3.7	0.0-7.7	*	
65+	2.3	0.0-6.8	3.8	0.0-8.6
Less than High School	2.0	0.0-4.1	9.1	2.2-16.1
High School or G.E.D.	12.6	4.6-20.5	*	
Some post-High School	8.6	3.0-14.2	19.6	11.4-27.8
College graduate	4.3	0.0-10.2	*	
Under \$15,000 annual income	*		*	
\$15,000-24,999 annual income	9.7	1.3-18.1	*	
\$25,000-34,999 annual income	2.9	0.0-7.5	17.4	7.6-27.2
\$35,000-49,999 annual income	*		*	
\$50,000-74,999 annual income	*		*	
\$75,000+ annual income	*		*	

Note: don't know/missing responses excluded. ^a The proportion who reported consuming more than two drinks per day (for men) or more than one drink per day (for women) in the previous month. ^b The proportion who reported consuming five or more drinks per occasion (for men) or four or more drinks per occasion (for women). * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)



..... everything on the earth has a purpose, every disease an herb to cure it, and every person a mission. This is the Indian theory of existence.

Mourning Dove Salish

Breast Cancer Screening

Native American women have the poorest five-year relative survival rate from breast cancer in comparison to all other racial groups in the U.S. Native American and Alaska Native communities have considerably worse cancer rates along with poorer access to cancer control interventions than do non-Native populations.¹⁷ Among women in the United States, breast cancer is the second leading cause of cancer deaths. Screening tests are encouraged to catch cancer early, when it is easily treatable. Screening tools include mammography, clinical breast exams, and monthly breast self exams. The American Cancer Society recommends that women aged 20 to 39 years should have a clinical or physical breast exam by a health professional every three years, and women aged 40 years and older should have both a clinical breast exam (CBE) and mammogram annually.^{18,19}

BRFS Question(s) asked:

15.1.A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?

15.2.How long has it been since you had your last mammogram?

An estimated 87.3% of women aged 40 years and older have had a mammogram in the past 2 years. Screening rates among women ages 55 to 64 were very high, at 96.7%.

Women over 65 had the lowest proportion of mammograms in the past 2 years among all age groups (84.2%), lower than the overall proportion among all Steps women over 40 (87.3%).

HAD MAMMOGRAM ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	87.3	82.5-92.1
35-44	*	
45-54	90.2	82.3-98.1
55-64	96.7	91.7-100.0
65+	84.2	72.6-95.8
Less than High School	*	
High School or G.E.D.	90.9	85.0-96.7
Some post-High School	85.9	76.2-95.7
College graduate	*	

*Note: don't know/missing responses excluded. ^a Among women aged 40 years and older, the proportion who had a mammogram in the past 2 years. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*



Cervical Cancer Screening

According to the American Cancer Society, cervical cancer was once one of the most common causes of cancer death for women in America. Between 1955 and 1992, the number of cervical cancer deaths in the United States decreased by 74%. A major reason for this change is the increased use of the Pap test, a screening procedure that permits diagnosis of pre-invasive and early invasive cancer. The death rate continues to decrease by about 2% a year.

Current guidelines for cervical cancer screening recommend that Pap testing should begin by 21 years of age or within three years after the onset of sexual intercourse. Once three or more annual tests have been normal, Pap tests can be performed less frequently, at the discretion of the physician.²⁰ Healthy People 2010 objectives recommend increasing to 90% the prevalence of women aged 18 years and older who received a Pap test within the preceding three years.²¹

BRFS Question(s) asked:

15.5 A Pap test is a test for cancer of the cervix. Have you ever had a Pap test?

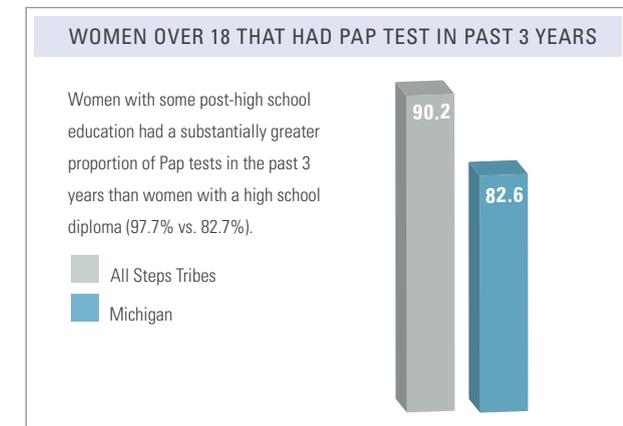
15.6 How long has it been since you had your last Pap test?

The proportion of women over 18 that have had a Pap test within the past three years was 90.2% among adult women from all Steps tribes which is greater than the estimated proportion among adult women from the State of Michigan (82.6%).

Women with some post-high school education had a substantially greater proportion of Pap tests in the past 3 years than women with a high school diploma (97.7% vs. 82.7%).

HAD PAP TEST IN LAST 3 YEARS ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	90.2	85.4-95.0
Less than High School	*	
High School or G.E.D.	82.7	71.5-93.8
Some post-High School	97.7	95.1-100.0
College graduate	*	

*Note: don't know/missing responses excluded. ^a Among women aged 18 years and older, the proportion who had a Pap test within the previous three years. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*





The Circle has healing power. In the Circle, we are all equal. When in the Circle, no one is in front of you. No one is behind you. No one is above you. No one is below you. The Sacred Circle is designed to create unity. The Hoop of Life is also a circle. On this hoop there is a place for every species, every race, every tree and every plant. It is this completeness of Life that must be respected in order to bring about health on this planet.”

Dave Chief, Oglala Lakota

Colorectal Cancer Screening

In 2003, colorectal cancer was the second leading cause of death in the United States and third cause of cancer-related deaths in Michigan.²² Screening procedures which are performed to identify colorectal cancer in the early stages include fecal occult blood tests, sigmoidoscopy, and colonoscopy. The United States Preventive Services Task Force review of research literature shows that periodic fecal occult blood testing and sigmoidoscopy does reduce mortality from colorectal cancer; however, colonoscopy screening has not been studied sufficiently.²³ Fear of colorectal cancer screening procedures has been voiced by Michigan Native Americans as a large reason for not obtaining early screening (Michigan Inter-Tribal Council Focus Group Report 2006). Healthy People 2010 objectives recommend increasing to 33% the proportion of adults aged 50 years and older who have received a fecal occult blood test within the preceding two years.

BRFS Question(s) asked:

17.1. A blood stool test is a test that may use a special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit?

17.2. How long has it been since you had your last blood stool test using a home kit?

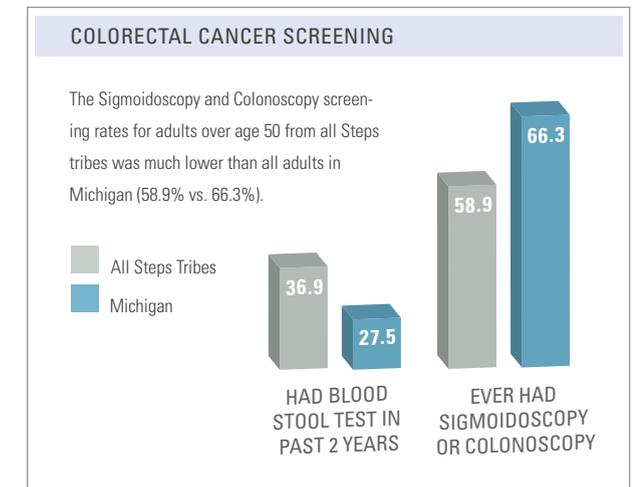
17.3. Sigmoidoscopy and colonoscopy are exams in which a tube is inserted in the rectum to view the colon for signs of cancer or other health problems. Have you ever had either of these exams?

17.4 How long has it been since you had your last sigmoidoscopy or colonoscopy?

An estimated 37.0% of adults over age 50 from all of the Steps tribes have had a blood stool test in the past two years, compared with an estimated 27.5% of all adults in Michigan over age 50. However, the Sigmoidoscopy and Colonoscopy screening rates for adults over age 50 from all Steps tribes was much lower than all adults in Michigan (58.9% vs. 66.3%).

COLORECTAL CANCER SCREENING				
Demographic Characteristics	Had Blood Stool Test in Past 2 Years ^a		Ever Had Sigmoidoscopy or Colonoscopy ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
All Steps Tribes	37.0	28.8-45.3	58.9	50.2-67.7

Note: don't know/missing responses excluded. ^a Among those aged 50 years and older, the proportion who had a blood stool test within the past two years using a home kit. ^b Among those aged 50 years and older, the proportion who have ever had a sigmoidoscopy or colonoscopy.



Oral Health

Oral health is a significant part of one’s general health and quality of life. Customary dental care includes preventive dental services such as teeth cleaning, and allows for an early diagnosis and treatment of tooth decay and periodontal diseases.²⁴ Low income adults have been estimated to be three times more likely to have at least one untreated decayed tooth compared with higher income adults (33% vs. 11%).²⁵

Periodontal disease is also connected with certain chronic conditions such as diabetes, cardiovascular disease, and stroke.²⁶ Healthy People 2010 objectives recommend increasing the percentage of persons with diabetes who have had at least one yearly dental examination.

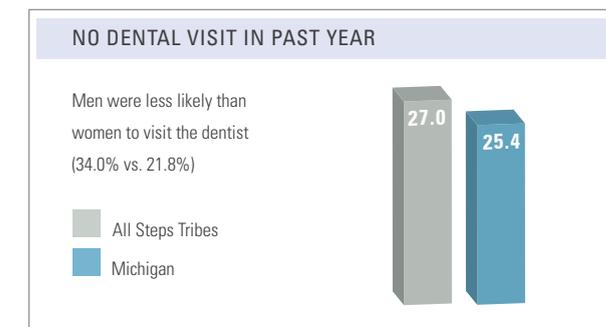
BRFS Question(s) asked:

11.1.How long has it been since you last visited a dentist or a dental clinic for any reason?

Note: If wisdom teeth are removed because of tooth decay or gum disease, they should be included in the count for lost teeth.

An estimated 27.0% of adults from all Steps tribes have not visited a dentist in the past year compared to 25.4% of all Michigan adults. Men were less likely than women to visit the dentist (34.0% vs. 21.8%).

Adults with a college degree were more likely to have visited the dentist in the past year than all adults (11.1% vs. 27%). In general, the likelihood of visiting the dentist increased with level of education attained.



NO DENTAL VISIT IN PAST YEAR ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	27.0	21.6-32.4
Male	34.0	24.6-43.4
Female	21.8	15.9-27.7
Less than High School	*	
High School or G.E.D.	26.1	17.1-35.1
Some post-High School	23.7	16.0-31.3
College graduate	11.1	2.5-19.8
Under \$15,000 annual income	*	
\$15,000-24,999 annual income	*	
\$25,000-34,999 annual income	*	
\$35,000-49,999 annual income	13.0	4.3-21.8
\$50,000-74,999 annual income	*	
\$75,000+ annual income	*	

Note: don't know/missing responses excluded. ^a The proportion who reported that they had not visited a dentist or dental clinic for any reason in the previous year.
 * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)





“It is impossible to address racial and ethnic disparities in health status without adequate data. Data provides knowledge, and knowledge provides power to construct effective interventions.”

*Thomas E. Perez,
The Civil Rights Dimension of
Racial and Ethnic Disparities in
Health Status*

HIV Testing

The Native American population is disproportionately affected by many social and behavioral factors that contribute to a disparity in health outcomes and increased vulnerability for Human Immunodeficiency Virus (HIV) infection. The Native American population is relatively young, and has high rates of poverty, sexually transmitted diseases and drug and alcohol abuse.²⁷

HIV infection is preventable and people who may already have the disease can get treatment that is life extending. It is important to keep awareness elevated and to remind community members that testing and treatments are available; these efforts will save lives.

According to the CDC, health care providers should initiate HIV screening in all health care settings while also preserving the patient's option to decline HIV testing. This ensures a provider-patient relationship favorable to optimal care. Screening for HIV infection should be performed routinely for all patients aged 13-64 years and for all patients being treated for TB. All patients seeking treatment for STD's, including all patients attending STD clinics, should be screened routinely for HIV during each visit for a new complaint, regardless of whether the patient is known or suspected to have specific behavior risk for HIV infection.

BRFS Question(s) asked:

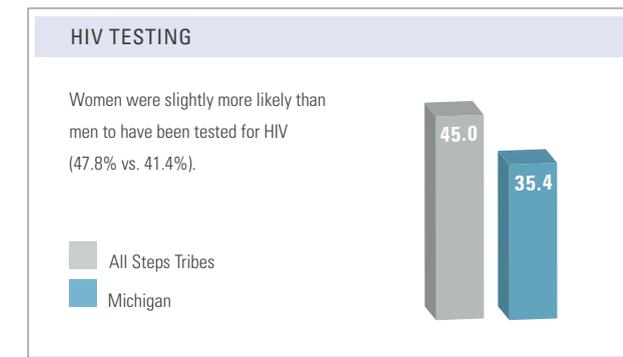
20.3. Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. (Include saliva tests).

The estimated proportion of adults from all Steps tribes that have been tested for HIV (45.0%) was substantially greater than the estimated proportion of all Michigan adults that have been tested for HIV (35.4%).

Women were slightly more likely than men to have been tested for HIV (47.8% vs. 41.4%).

EVER TESTED FOR HIV ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	45.0	38.5-51.5
Male	41.4	31.5-51.4
Female	47.8	39.3-56.4

*Note: don't know/missing responses excluded. ^a Among those respondents 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. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10)*



Asthma

Asthma, a chronic inflammatory disorder of the lungs explained as wheezing, coughing, chest tightness, and troubled breathing, is yet another serious disease which stresses the health of Native American families in Michigan. Asthma attacks can be prompted by a range of factors, such as exercise, chilly air, allergens, irritants including tobacco smoke, and respiratory viral infections. Family history of asthma or allergy, allergens, low birth weight, and exposure to tobacco smoke are just a few potential risk factors that are associated with the development of asthma.²⁸

According to the CDC, asthma “is among the most common chronic diseases in the United States.”²⁹ Mild asthma attacks are most common. Usually, taking a rescue (quick relief) inhaler will help ease symptoms, along with time.

Usually within a few minutes - or at worse, a few hours - airways will open up once again. It is less common to have a moderate to severe attack, but when it occurs, it is essential to get medical help immediately. Learning to recognize an asthma attack in its mild stages and taking action to prevent it from progressing to the severe stage may save lives.

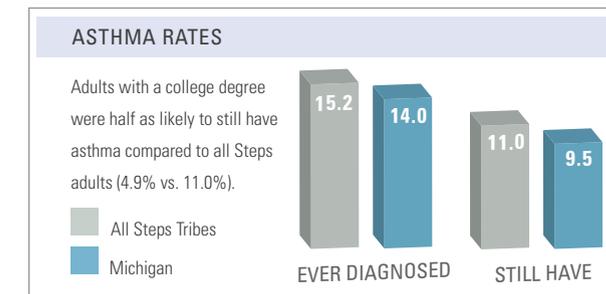
Asthma attacks and related emergency room visits may be avoided by managing asthma daily. With a doctor’s help, one can create an Asthma Action Plan to help reduce asthma triggers. Children who have asthma need to know how to deal with an asthma attack on their own. It is important to teach them what actions to take.

BRFS Question(s) asked:

9.1. Have you ever been told by a doctor, nurse or other health professional that you had asthma?

9.2. Do you still have asthma?

A greater proportion of adults from all of the Steps tribes have been diagnosed with asthma (15.2%) compared to an estimated 14.0% of all Michigan adults. An estimated 11.0% of all Steps adults and an estimated 9.5% of all Michigan adults still have asthma. From the data available, age does not appear to be strongly correlated with proportion of adults ever diagnosed with asthma or proportion of adults that still have asthma. Adults with a college degree were half as likely to still have asthma compared to all Steps adults (4.9% vs. 11.0%). The proportion of adults that still have asthma appears to decrease as annual household income increases.



ASTHMA				
Demographic Characteristics	Ever Had Asthma ^a		Still Have Asthma ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
All Steps Tribes	15.2	11.3-19.2	11.0	7.5-14.5
Male	8.8	4.1-13.5	5.2	1.4-9.1
Female	20.2	14.3-26.0	15.5	10.2-20.8
18-24	*		*	
25-34	*		*	
35-44	16.6	7.2-26.0	10.6	2.6-18.6
45-54	15.5	6.0-25.0	13.3	4.3-22.4
55-64	*		*	
65+	14.4	5.2-23.6	11.9	3.7-20.1
Less than High School	*		*	
High School or G.E.D.	12.0	5.7-18.3	9.9	3.9-15.9
Some post-High School	14.6	8.8-20.4	11.1	6.0-16.2
College graduate	12.5	3.5-21.5	4.9	0.6-9.2
Under \$15,000 annual income	*		*	
\$15,000-24,999 annual income	18.3	9.5-27.2	9.9	3.5-16.3
\$25,000-34,999 annual income	6.7	0.2-13.2	6.7	0.2-13.2
\$35,000-49,999 annual income	*		*	
\$50,000-74,999 annual income	10.9	3.0-18.8	5.2	0.0-10.6
\$75,000+ annual income	*		4.7	0.0-10.7

Note: don't know/missing responses excluded. ^a The proportion who reported that they were ever told by a doctor, nurse, or other health professional that they had asthma. ^b Among all respondents, the proportion who reported that they still have asthma. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10).





“So Creator sent a Peacemaker with the message to be righteous and just, and make a good future for our children seven generations to come.”

*Great Law of Peace,
Haudenosaunee Confederacy,
Six Nations Iroquois*

Diabetes

“Diabetes mellitus is a chronic disease characterized by high glucose levels, owing to insufficient production of insulin by the pancreas or to a reduction in the body’s ability to use insulin.”³⁰ If untreated, diabetes leads to kidney disease, blindness, amputations, and death.

Diabetes mellitus was almost unheard of in Native communities fifty years ago but is now the third most common chronic health problem for Native people nationwide. Approximately 20% of all Native Americans have diabetes.³¹ The prevalence of diabetes mellitus among Native Americans is increasing while the age of onset is decreasing.³²

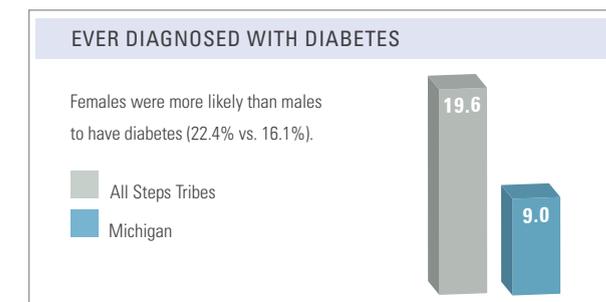
Risk factors including age; being more than 20% above ideal body weight; having a mother, father, brother, or sister with diabetes; giving birth to a baby weighing more than nine pounds; having diabetes during pregnancy; and degree of Indian ancestry have been consistently and strongly associated with diabetes.³³ Type 2 diabetes, the most common form of diabetes among Native Americans, can develop slowly over a period of years. During this time, a person may not know that they have diabetes, but still develop diabetes-associated complications. For this reason, the American Diabetes Association and the Indian Health Service recommend screening high-risk people.

A health care organization that wants to improve community diabetes screening must be motivated and prepared for change throughout the entire organization. The organization’s leadership must identify community diabetes screening as important work. They must also develop clear improvement goals, policies, and effective improvement strategies. This will help encourage the entire organization to make changes that will help improve community diabetes screening programs.

BRFS Question(s) asked:

10.1. Have you ever been told by a doctor that you have diabetes?

An estimated 19.7% of adults from all of the Steps tribes have diabetes; this represents more than double the proportion among all Michigan adults (9.0%). Females were more likely than males to have diabetes (22.4% vs. 16.1%). The proportion of adults that had been diagnosed with diabetes was almost twice as high among adults aged 55-64 as among all Steps adults (36.8% vs. 19.7%). The proportion of adults aged 35-44 that had been diagnosed with diabetes was substantially less than the proportion among all Steps adults (11.2% vs. 19.7%). Rates of diabetes decreased with increased levels of education; the proportion of adults with a college degree that had been diagnosed with diabetes (8.2%) was less than one-third of the proportion of adults with a high school diploma (24.8%).



EVER DIAGNOSED WITH DIABETES ^a		
Demographic Characteristics	%	95% Confidence Interval
All Steps Tribes	19.7	15.1-24.3
Male	16.1	9.7-22.6
Female	22.4	16.1-28.7
18-24	*	
25-34	*	
35-44	11.2	2.3-20.1
45-54	*	
55-64	36.8	25.0-48.6
65+	*	
Less than High School	*	
High School or G.E.D.	24.8	15.9-33.6
Some post-High School	15.9*	9.8-22.0
College graduate	8.2	2.0-14.5
Under \$15,000 annual income	*	
\$15,000-24,999 annual income	*	
\$25,000-34,999 annual income	*	
\$35,000-49,999 annual income	*	
\$50,000-74,999 annual income	10.0	0.0-19.9
\$75,000+ annual income	5.0	0.9-9.0

*Note: don't know/missing responses excluded. ^a The proportion who reported that they were ever told by a doctor that they have diabetes. This does not include adults who had been told they have pre-diabetes or women who had diabetes only during pregnancy. * Statistically inappropriate to report (unweighted N less than 50 or confidence interval half-width greater than 10).*



BRFS Methodology

The 2006 MITC BRFS data were collected from October, 2006 to January, 2007 by the Institute for Public Policy and Social Research (IPPSR) at Michigan State University. The data collected for the MITC BRFS were sent to the CDC for cleaning, editing, weighting and analysis. The CDC provided the MITC with detailed tables and reports from the analysis conducted with the full dataset. As the evaluator for the MITC Steps program, the Center for Healthcare Excellence at the Michigan Public Health Institute (MPHI-CHE) conducted additional analyses of the dataset to provide results to participating tribes specific to their communities, and translated and organized the data for reporting purposes.

Sample and Weighting of the 2006 MITC Steps BRFS

The MITC BRFS is different from most Behavioral Risk Factor Surveys conducted across the US due to the unique composition of the population of interest. Most Behavioral Risk Factor Surveys rely on random digit dial (RDD) telephone interviewing methods to select participants from a specific geographic region. This method produces a random sample of adults selected from the population of interest. For the MITC BRFS, the population of interest is limited to only adults who are Native American and members of one of eight participating Steps tribes. Sampling these communities cannot be accomplished with simple RDD methods due to varying geographic characteristics of the tribal communities. The MITC tribes are dispersed throughout the state of Michigan, in rural and semi-urban areas. For some tribes the majority of the membership lives on a reservation, but for others they do not.

Permission to contact tribal members by telephone using tribal membership lists was requested from the tribal councils of the eight participating communities. For the 2006 MITC BRFS, permission was granted by six of the eight tribal communities.

In order to draw sample for the remaining two communities it was necessary to construct a convenience sample utilizing lists of individuals who volunteered to participate in the survey. Upon receiving the telephone lists, IPPSR conducted a series of quality assurance tasks to ensure adequate response rates. These tasks included removing duplicate phone numbers, out-of-state phone numbers and work phone numbers, and filtering the list for only numbers that were not contacted in the previous year.

Cultural training for the IPPSR staff was provided by Michigan Inter-Tribal Council Health Services staff before calls were made. The purpose of the training was to ensure culturally appropriate communication between the interviewers and the respondents. For example, interviewers were trained to recognize speech patterns common among the target population.

A total of 2,367 telephone numbers were used for the 2006 MITC BRFS. The total number of eligible records was 853, of which 569 resulted in a completed or partially completed interview; 804 were ineligible; and 710 were of unknown eligibility. The CASRO (Council of American Survey Research Organizations) response rate is a measure of respondent contact and cooperation. This rate includes completed interviews and partial interviews in which at least 50 percent of the core questionnaire has been completed in the numerator and an estimate of the number of eligible units in the sample in the denominator (including a proportion of the unknowns). The CASRO response rate for the 2006 MITC Steps BRFS was 41%.

The 2006 CASRO response rate was lower than the previous two years. This may be due to some phone numbers being over a year old and they may no longer be working or they may no longer belong to a tribal member. Not all phone companies have recordings for non-working numbers and non-tribal members may simply hang up since they are not eligible. This may mean that a portion of the refusals and unknowns should actually be allocated to the ineligible group.



In addition, a portion of the phone numbers that were called in the previous year had to be included again this year due to small sample sizes for some of the tribal communities, which also may have increased the number of refusals.

The results from the 2006 MITC BRFS presented in this report as results for “All Steps Tribes” have been weighted for probability of telephone number selection, the number of adults in the household, and the number of residential phone lines. These results can be interpreted as estimates of the prevalence rates of various health risks among adults who are members of the participating Steps tribes. Respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.

As the authorizing agency of the Behavioral Risk Factor Surveillance System (BRFSS), the CDC provides guidance for analyzing and reporting BRFSS data to ensure the quality and integrity of all data in the system. Accordingly, the CDC provides the following guidance regarding data weighting and prevalence estimates:

The reliability of an estimate depends on the actual, unweighted number of respondents used as the base of a percentage, not on the weighted number. Interpreting and reporting weighted numbers that are based on a small, unweighted number of respondents can mislead the reader into believing that a given finding is much more precise than it actually is.

The BRFSS follows a rule of not reporting (to the public) or interpreting percentages based on an unweighted number of respondents of fewer than 50 or a confidence interval half-width greater than 10.

The CDC guidance ensures that reported statistics are accurate; data that do not meet the criteria are less likely to be accurate, and presenting such data in a report may lead readers to misinterpret the results. Adherence to the

CDC guidance had a significant impact on the amount of data that could be reported for the MITC BRFS. Due to a small total sample size, questions asked of only subpopulations (for example, women age 40 and older) and sub-questions (for example, a follow-up question for people who indicate that they smoke cigarettes that asks how many cigarettes they smoke per day) frequently resulted in an unweighted sample of less than 50 people and data could not be presented in this report. Further, most breakdowns of survey data by demographic categories (i.e. household income, education level) also could not be fully presented because of sample sizes that are too small or confidence intervals that are too wide.

Michigan Behavioral Risk Factor Survey

For comparison purposes the annual Michigan Behavioral Risk Factor Surveillance Surveys 2006 data are presented. The Michigan BRFS follows the CDC protocol for the BRFS and uses the standardized English core questionnaire. The 2006 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-dialed methodology with disproportionate stratification based on listedness. The 2006 Michigan BRFSS 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 post-stratification weighting factor that adjusted for sex, age, and race (using 2005 estimated Michigan population distributions with bridged race categories). State prevalence estimates were calculated using SUDAAN (version 9.01). Respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.³⁴



Bibliography

- 1 Office of Disease Prevention, U.S. Department of Health and Human Services. (2000). Healthy People 2010: A Systematic Approach to Health Improvement. www.healthypeople.gov/document/html/uih/uih_2.htm. (August 9, 2005).
- 2 Centers for Disease Control and Prevention. Measuring Healthy Days. Atlanta, Georgia: CDC, November 2000.
- 3 Must A, J Spadano, EH Coakley, et al. 1999. The Disease Burden Associated with Overweight and Obesity. *JAMA* 282 (16): 1523-1529.
- 4 Teufel, NI, Dufour, DL (1990). Patterns of food use and nutrient intake of obese and non-obese Hualapai Indian women of Arizona. *J Amer Dietetic Assoc.* Sept. v90 (9):1229-1235.
- 5 Welty TK.(1991). Health implications of obesity in American Indians and Alaska Natives. *Am J Clin Nutr*; 3:1616S-1620S.
- 6 Committee on the Consequences of Uninsurance (2002). *Without Coverage: Too Little, Too Late*. Institute of Medicine: National Academies Press.
- 7 Centers for Disease Control and Prevention (2006). Self-assessed health status and selected behavioral risk factors among persons with and without health-care coverage — United States, 2004. *MMWR* 47(09): 176-180.
- 8 Committee on the Consequences of Uninsurance (2002). *Without Coverage: Too Little, Too Late*. Institute of Medicine: National Academies Press.
- 9 Centers for Disease Control and Prevention (2006). Self-assessed health status and selected behavioral risk factors among persons with and without health-care coverage — United States, 2004. *MMWR* 47(09): 176-180.
- 10 Centers for Disease Control and Prevention. (1996). Physical activity and health: A report of the Surgeon General. profiles.nlm.nih.gov/NN/B/B/H/B/_/nnbbhb.pdf. (August 11, 2005).
- 11 Centers for Disease Control and Prevention (1997). Smoking-attributable mortality and years of potential life lost---United States, *MMWR* 1997;46: 444--51.
- 12 Max, W (2001). The financial impact of smoking on health-related costs: a review of the literature. *Am J Health Promot*;15: 321—31.
- 13 Centers for Disease Control and Prevention. (2006). Adult Cigarette Smoking in the United States: Current Estimates. http://www.cdc.gov/tobacco/factsheets/AdultCigaretteSmoking_FactSheet.htm.(November 7, 2006).
- 14 American Lung Association (2006). Smoking and Native American/Alaska Natives Fact Sheet. <http://www.lungusa.org/site/pp.asp?c=dvLUK900E&b=35999>. (November 7, 2006).
- 15 Centers for Disease Control and Prevention. (2007). Alcohol and Public Health. <http://www.cdc.gov/alcohol/index.htm>. (July 31, 2007).
- 16 Centers for Disease Control and Prevention. (2007). Alcohol and Public Health. <http://www.cdc.gov/alcohol/index.htm>. (July 31, 2007).
- 17 Reuben S (2003). Facing cancer in Indian country: the Yakama Nation and Pacific Northwest Tribes. President's Cancer Panel 2002 Annual Report. Bethesda (MD): National Cancer Institute.
- 18 American Cancer Society. (2005). ACS Guidelines for early breast cancer detection. www.cancer.org/docroot/CRI/content/CRI_2_2_3X_How_is_breast_cancer_found_5.asp?sitearea=. (August 17, 2005).
- 19 American Cancer Society. (2005). Cancer facts and figures 2005. www.cancer.org/docroot/STT/stt_0.asp. (August 17, 2005).
- 20 U.S. Preventive Services Task Force. (2003). Screening for cervical cancer: recommendations and rationale. www.ahrq.gov/clinic/3rduspstf/cervcan/cervcanrr.htm. (August 17, 2005.)
- 21 Office of Disease Prevention, U.S. Department of Health and Human Services. (2000). Healthy People 2010.
- 22 Vital Records & Health Data Development Section, Michigan Department of Community Health. (2005). Invasive colorectal cancer incidence and mortality trends, Michigan residents, 1985-2003. www.mdch.state.mi.us/pha/osr/Cancer/stateinc.asp?CDxID=IncTrendsColo. (August 18, 2005).
- 23 Pignone M, M Rich, SM Teutsch, et al. (2002). Screening for colorectal cancer in adults at average risk: a summary of the evidence for the U.S. Preventive Services Task Force. *Ann Intern Med* 137(2): 132-141.
- 24 National Institute of Dental and Craniofacial Research. (2000). Oral health in America: a report of the surgeon general. www.nidcr.nih.gov. (August 22, 2005).
- 25 Centers for Disease Control and Prevention. (2005). Fact sheet: oral health for adults. www.cdc.gov/OralHealth/factsheets/adult.htm. (August 23, 2005).
- 26 National Institute of Dental and Craniofacial Research. (2000). Oral health in America: a report of the surgeon general. www.nidcr.nih.gov. (August 22, 2005)
- 27 Centers for Disease Control and Prevention (1998). HIV/AIDS Among American Indians and Alaskan Natives — United States, 1981-1997. *MMWR* 47 (08) 154-160, 156.
- 28 Centers for Disease Control and Prevention. (2003). Basic facts about asthma. www.cdc.gov/asthma/faqs.pdf. (April 19, 2007).
- 29 Centers for Disease Control and Prevention. 2001. Self-Reported Asthma Prevalence Among Adults — United States, 2001. *MMWR* 50:682-686.
- 30 Centers for Disease Control and Prevention. (2004). National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2003. www.cdc.gov/diabetes/pubs/factsheet.htm. (August 10, 2005).
- 31 Kingfisher, P (2000). The health Status of indigenous women in the U.S. University of Illinois.
- 32 National Institute of Diabetes Mellitus and Digestive & Kidney Disease (1994). Diabetes Mellitus in Native Americans: The Eastern Tribes, National Institutes of Health. Bethesda, MD.
- 33 Indian Health Diabetes Best Practices: Community Diabetes Screening (2007). http://www.ihs.gov/MedicalPrograms/diabetes/resources/bp06_CommunityScreening.pdf (05/08/08).
- 34 EM Garcia, SK Lyon-Callo, and AP Rafferty (2007). Health Risk Behaviors in the State of Michigan: 2006 Behavioral Risk Factor Survey. Lansing, MI: Michigan Department of Community Health, Bureau of Epidemiology, Chronic Disease Epidemiology Section.



***General Epidemiology Terms Used in this Publication:**

age-adjusted rate	An age-adjusted incidence or mortality rate is a weighted average of the age-specific incidence or mortality rates, where the weights are the proportions of persons in the corresponding age groups of a standard million population. The potential confounding effect of age is reduced when comparing age-adjusted rates computed using the same standard million population.
complete prevalence	Complete Prevalence represents the proportion of people alive on a certain day who previously had a diagnosis of the disease, regardless of how long ago the diagnosis was, or if the patient is still under treatment or is considered cured.
confidence interval	A range of values that has a specified probability of containing the rate or trend. The 95% (p-value = .05) and 99% (p-value = .01) confidence intervals are the most commonly used.
percent change	The percent change (PC) in a statistic over a given time interval is $\text{Percent change} = (\text{Final value} - \text{Initial value}) / \text{Initial value} * 100$. A positive PC corresponds to an increasing trend, a negative PC to a decreasing trend.
relative survival rate	A specific measurement of survival where the rate is calculated by adjusting the rate to remove all causes of death except the one in question. For example, it is the ratio of a cancer patient's chance of surviving a given time interval to that of an average person of the same age and sex.
spatial correlation	A measure of the tendency for places that are near to each other to have more similar (positive correlation) or dissimilar (negative correlation) values of their statistics.
standard error	The standard error of a rate is a measure of the sampling variability of the rate.
standard population	A standard population for a geographic area, such as the U.S. or the world, is a table giving the proportions of the population falling into the age groups 0, 1-4, 5-9, . . . , 80-84, and 85+.
statistically significant	Describes a mathematical measure of difference between groups. The difference is said to be statistically significant if it is greater than what might be expected to happen by chance alone.
surveillance data	Measures of cancer incidence, morbidity, survival, and mortality for persons with cancer. It also includes the assessment of genetic predisposition, environmental and behavioral risk factors, screening practices, and the quality of care from prevention through palliation.
trends over time	The change in rate over time expressed as an annual percent change.
Statistical Weighting	A technique used to assure representation of certain groups in the sample. Data for underrepresented cases are weighted to compensate for their small numbers, making the sample a better representation of the underlying population.

****Random Samples and Convenience Samples**

A convenience sample is a group of participants that is selected at the convenience of the researcher. There are many methods for drawing a convenience sample; participants are often chosen based on membership in a group or their availability at a location. Convenience sampling may be used for a number of reasons. One reason is that it is very difficult to sample a population that does not have clear geographic boundaries. Another reason is the population of interest is very small and drawing a random sample would cost too much money or take too much time.

A convenience sample is not usually an accurate representation of the entire population that it was chosen from because it is likely that there are characteristics about the group selected which are different from the population. For example, a convenience sample that is selected by choosing people who visit the clinic on walk-in days will likely differ in their overall health from the general population because of the simple fact that they are at the clinic seeking medical services.

A random sample is one where the researcher randomly selects participants from the entire population that is being studied. For true random sampling, each member of the population has an equal chance of being selected. The mathematical theories which are the foundation for statistics are based on assumptions about the probability of selection, which are attained with a random sample.

Due to the scientific integrity of a random sample, the results can have statistical formulas applied to them to make the results representative of the entire population. Researchers can conclude, with a specific level of confidence, the likelihood that the findings from the sample are consistent with what actually exists in the population.

Researchers can also conduct a process called 'weighting' to data produced from a random sample which makes the data more closely resemble what would be found if the entire population of interest was studied. To weight survey data, researchers apply formulas which adjust the data to more closely match the entire population based on factors such as the probability of selection, number of adults in the household, number of telephone lines in the household, and demographic characteristics, like age and gender. Weighting data from a random sample of people creates statistically accurate estimates of population measures.

In general, the scientific integrity of a convenience sample is not as strong as a random sample. The data collected using a convenience sample cannot be generalized to the population, meaning that a person cannot view the results from a convenience sample as representing all people in the population. Statistical formulas cannot be applied to a convenience sample, making it impossible to draw any definitive conclusions about the results. Despite their limitations, convenience samples can still provide useful information. To interpret the findings from a convenience sample properly, there must be consideration for how the sample might differ from the population. In particular, attention should be given to who might be left out of a convenience sample or who might be overrepresented in a convenience sample. It is very important to consider how the people in the convenience sample might behave differently than all people in the population. Results produced using a convenience sample must be carefully explained so that inaccurate conclusions are not drawn about the findings. In general, findings from a convenience sample are only representative of the participants.

* Source: National Cancer Institute, "Glossary of Statistical Terms" 2008

**Source Michigan Public Health Institute 2008





Authors: The Michigan Inter-Tribal Council and the Center for Healthcare Excellence at the Michigan Public Health Institute.

No reproduction of this report is allowed without express written permission from the Michigan Inter-Tribal Council.

Michigan Inter-Tribal Council, 2956 Ashmun Street, Sault Sainte Marie, MI 49783 (906) 632-6896

This project was financed in part through a cooperative agreement (U58/CCU523338) from the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. The opinions, findings, and conclusions expressed in this publication do not necessarily reflect the opinions or policies of the federal Centers for Disease Control and Prevention.

Printed July 2008

Acknowledgements

We are particularly grateful to the tribal communities and tribal residents of Michigan who agreed to participate in this 2006 Michigan Tribal Behavioral Risk Factor Survey: The Bay Mills Indian Community; the Grand Traverse Bands of Ottawa and Chippewa Indians, the Hannahville Indian Community, the Huron Potawatomi Indian Community, the Keweenaw Bay Indian Community, the Little Traverse Bay Bands of Odawa Indians, the Saginaw Chippewa Indian Tribe, and the Sault Sainte Marie Tribe of Chippewa Indians.

The participating tribal governments allowed access to their enrollment data bases in support of this unique data collection effort. Data were collected for the 2006 Michigan Tribal Behavioral Risk Factor Survey by the Institute for Public Policy and Social Research, Office of Survey Research, at Michigan State University. The Michigan Inter-Tribal Council is appreciative to Michigan State University Survey Research staff including Debra Rusz, Project Analyst, and Larry Hembroff, Ph.D., for conducting the survey.

Translation and organization of the data was performed by the Center for Healthcare Excellence at the Michigan Public Health Institute (MPHI-CHE). We would especially like to express our gratitude to co-authors Shannon Laing, Anya Day, and Paulina Blackinton who were instrumental in the thorough analysis and presentation of the data for this report.

We are very thankful to the U.S. Department of Health and Human Services Centers for Disease Control and Prevention Steps to a Healthier U.S. and the Behavioral Surveillance Branch in Atlanta, Georgia for funding and providing technical assistance to this survey.

We would specially like to thank our CDC Steps to a Healthier U.S. Project Officer, Nancy Williams, for her wonderful guidance and for being a remarkable liaison between our tribal communities and the federal government.



Michigan Inter-Tribal Council, 2956 Ashmun Street, Sault Sainte Marie, MI 49783
Phone (906) 632-6896 Toll Free: 800.562.4957 or 877.482.3601 Fax (906) 635-4212