KENT COUNTY HEALTH DEPARTMENT

2002

KENT COUNTY

Behavioral Risk Factor Survey

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Selected Risk Factors	Kent County Estimates (2002)	Michigan Estimates (2002)	National (Median) Estimates (2001)
No health care coverage, age 18-64	12.8 ± 2.1	13.8 ± 1.3	15.6
Colorectal cancer screening, age 50 and over: no Fecal Occult Blood Testing in past 2 years	59.7 ± 4.9	64.9 ± 2.3	68.7
Never had a sigmoidoscopy or colonoscopy	39.0 ± 2.1	44.4 ± 2.4	53.7
Ever told by a doctor of having diabetes	7.2 ± 1.5	8.1 ± 0.8	6.6
No flu shot in past year, age 65 and over	30.2 ± 6.9	32.2 ± 3.3	33.8
Never had a pneumococcal vaccination, age 65 and over	36.1 ± 7.2	36.9 ± 3.4	75.9
Obesity (BMI ≥ 30)	19.6 ± 2.3	25.2 ± 1.4	21.1
No leisure-time physical activity	20.3 ± 2.3	24.3 ± 1.4	25.8
Current Smokers	19.8 ± 2.3	24.1 ± 1.4	22.9
Binge Drinkers	17.1 ± 2.1	16.8 ± 1.3	14.8

Introduction

In 1990, *Healthy People 2000, National Health Promotion and Disease Prevention Objectives,* was released to the public. The document outlined the U.S. government's plan to improve the health of individuals, communities, and the nation. In 1999, the revised *Healthy People 2010* plan documented health objectives organized into 28 focus areas (*page 2, top*). The objectives address factors such as behavior, biology, physical environment and social environment that interact to influence health.

In addition to the 28 focus areas named in the *2010* report, a smaller subset of ten indicators called Leading Health Indicators (*right*) were developed. The intent of these indicators is to monitor progress on priorities and provide a picture of the nation's health at specific points in time. According to the Department of Health and Human Services, the Leading Health Indicators "reflect the major public health concerns in the United States and were chosen based on their ability to motivate action, the availability of data to measure their progress, and their relevance as broad public health issues."

Behaviors are individual responses or reactions to internal stimuli and external conditions. It has been estimated that individual behaviors and environmental factors are responsible for about 70 percent of all premature deaths in the United States.[1] Obtaining information surrounding behaviors that put one at risk for poor health is instrumental in developing policies and interventions.

The behaviors that put Kent County residents at risk for poor health are explored here. Leading Health Indicators are presented accompanied by their *Healthy People 2010* objective that will be measured over time. These indicators are accompanied by other focus area indicators. Questions not relating to leading health indicators or focus areas will be addressed in future behavioral risk factor surveys.

Healthy People 2010 Leading Health Indicators

- Access to Health Care
- Environmental Quality
- Immunization
- Injury and Violence
- Mental Health
- Overweight and Obesity
- Physical Activity
- Responsible Sexual Behavior
- Substance Abuse
- Tobacco Use

BRFS Methods

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, state-based telephone surveillance system supported by the Centers for Disease Control and Prevention (CDC). Through a series of monthly telephone interviews, states uniformly collect data on the behaviors and conditions that place adults at risk for the chronic diseases, injuries, and preventable infectious diseases that are the leading causes of illness and death in the United States.[2] The annual Michigan surveys follow the overall CDC telephone survey protocol for the BRFSS.[3] Michigan Behavioral Risk Factor Survey (BRFS) Data are collected quarterly by the Institute for Public Policy and Social Research (IPPSR) at Michigan State University.

In order to get a better estimate of the prevalence of these behaviors and conditions in Kent County, the Kent County Health Department partnered with IPPSR in December of 2001. This partnership called for IPPSR's Office for Survey Research (OSR) to administer the 2002 Michigan BRFS interview via telephone to randomly selected, English-speaking adults from a sample of households in Kent County. The Kent County BRFS was thus conducted as a supplement to the annual state-wide survey.

KENT COUNTY POPULATION AND SAMPLE DEMOGRAPHICS
Demographic characteristics of unweighted and weighted Kent County BRFS survey samples (i.e., those County residents who were called and responded to the survey) compared to the 2000 census for Kent County

Population Characteristics	2000 Census Percentage	Sample % Distribution Unweighted	Weighted
Total Households	213,124	1,207	1,207
Total Number of Adults	412,076	1,207	1,207
Households with children	36.6	39.2	44.0
Age			
18-24	14.6	6.9	14.7
25-34	20.8	16.9	20.9
35-44	22.6	24.8	22.6
45-54	17.6	18.8	17.7
55-64	9.8	12.7	9.8
65-74	7.3	10.2	7.3
75+	7.1	9.6	7.1
Gender			
Male	48.4	40.5	48.1
Female	51.6	59.5	51.9
Race			
White	85.5	88.8	85.0
Black	7.8	6.2	8.0
Other	6.7	5.0	7.0
Hispanic	6.0	1.9	6.3
Non-Hispanic	94.0	98.1	93.7
Education			
Less than high school		9.0	10.4
High school graduate		28.6	30.1
Some college		27.6	26.7
College graduate		34.8	32.8
Household income			
< $20,000	17.4	14.3	13.9
$20,000-34,999	19.0	24.6	23.6
$35,000-49,999	18.0	19.9	20.2
$50,000-74,999	22.6	20.0	20.3
$75,000 or more	23.0	21.2	22.1

Data from the Kent County BRFS were weighted to adjust for the probabilities of selection. This weighting accounted for probabilities of telephone number selection, the number of adults in a household, and number of residential phone lines. Another weighting factor was also added to adjust for age, sex, and race distributions in the county based on data from the 2000 U.S. census. Income levels were not weighted or adjusted. Prevalence estimates and confidence interval limits were calculated using SPSS, a computer program designed for performing statistical analyses of data**.** Respondents who refused to answer questions or responded to a question that they "did not know" were not included in calculations.

Data from Kent County were compared to data from the BRFS for Michigan and the nation. Kent County has performed a BRFS previously in 1993 and 1997. In comparing trend data over the years, every effort was made to compare data from the same year. However, in a few instances where state and national data were not available for a particular year, data from adjacent years were utilized. National data was not available for all survey questions. In these instances, Kent County data were compared only to Michigan data.

Sample Results

A total of 9,362 telephone numbers were used for the 2002 Kent County BRFS. The telephone calls resulted in the following numbers: 1,207 completed interviews, 277 refusals, 2,919 non-working or disconnected numbers, 508 no answers, 1,612 numbers that were not private residences, 30 households with no eligible member, 590 eligible respondents selected but not interviewed, 18 eligible respondents with language barriers, 80 busy numbers, 41 interviews that were terminated or partially complete, and 33 eligible respondents physically or mentally unable to participate. The Council of American Survey Research Organizations (CASRO) response rate, which includes a portion of the respondents with unknown eligibility in the denominator, was 52.0%. The refusal rate was 8.37%.

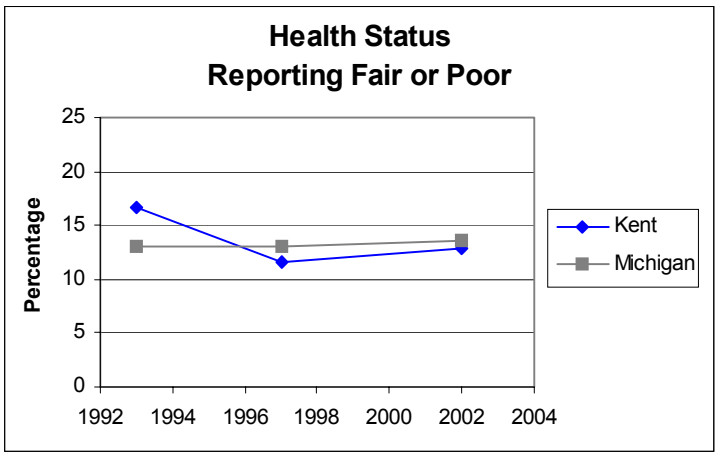
Perceived Health Status

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." - from the Preamble to the Constitution of the World Health Organization

A primary goal of *Healthy People 2010* is to help individuals improve their quality of life. Health-related quality of life includes the personal sense of mental and physical well-being. In gauging the community's health-related quality of life, self-assessment is useful in revealing aspects of health that may not be measurable through other assessment tools. Attitudes regarding our general state of health can be significant predictors of the prevalence of disease and mortality. As evidence, greater future expenditures for health care services have been associated with individuals who rate their health as "fair" or "poor" than with those whose general health self-assessments are "good" or better.[4]

Survey respondents were asked to rate their health as excellent, very good, good, fair, or poor. The BRFS data indicate a number of disparities related to the perceived health of Kent County residents. Black respondents were more likely to report "fair" or "poor" health status than were white respondents. Reported health status also declined quite predictably with socioeconomic status (SES). Those with less formal education and lower income more often reported their health status as less than "good." A higher proportion of elder respondents reported their health as "fair" or "poor" than did younger respondents.

The proportion of Kent County residents reporting fair or poor health was 12.9 % (± 1.9%) in 2002 and 11.6% (± 2.7%) in 1997. This is similar to Michigan data for the same period: 13.5% (± 1.1%) reporting fair or poor health in 2002, and 13.1% (± 1.4%) in 1997.



HEALTH STATUS
Percentage of respondents who said their health, in general, was fair or poor.
(% with 95% confidence intervals)

Demographic Characteristics	General Health Fair or Poor
Total	**12.9 ± 1.9**
Age	
18-24	10.8 ± 4.6
25-34	3.6 ± 2.3
35-44	8.6 ± 3.3
45-54	13.3 ± 4.6
55-64	21.4 ± 7.5
65-74	24.1 ± 9.1
75+	34.1 ± 10.2
Gender	
Male	11.9 ± 2.6
Female	13.8 ± 2.7
Race	
White	11.8 ± 2.0
Black	23.0 ± 8.3
Hispanic	17.3 ± 8.6
Non-Hispanic	12.5 ± 1.9
Education	
Less than high school	26.0 ± 7.8
High school graduate	15.2 ± 3.7
Some college	12.5 ± 3.6
College graduate	6.9 ± 2.5
Household income	
Less than $20,000	35.4 ± 7.8
$20,000-34,999	17.6 ± 4.7
$35,000-49,999	8.4 ± 3.7
$50,000-74,999	4.7 ± 2.8
$75,000 or greater	3.8 ± 2.5

Access to Health Care

NO HEALTH CARE INSURANCE
Percentage of respondents age 18-64 years who reported that they had no health care insurance coverage.
(% with 95% confidence intervals)

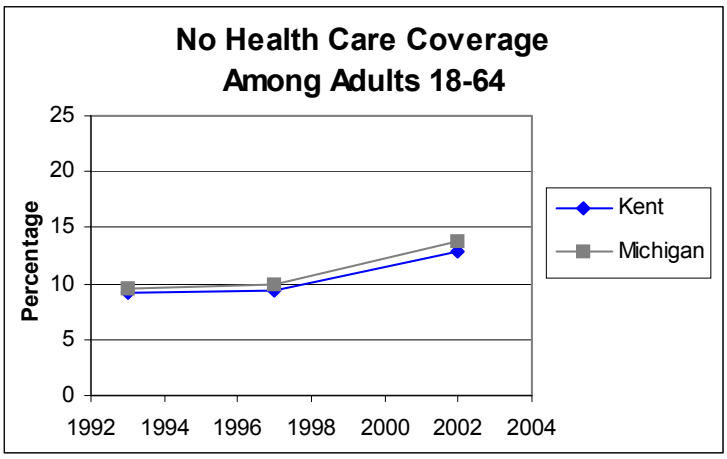
Demographic Characteristics	No Health Insurance Coverage
Total	**12.8 ± 2.1**
Age	
18-24	26.0 ± 6.6
25-34	12.9 ± 4.2
35-44	8.2 ± 3.3
45-54	11.4 ± 4.3
55-64	6.0 ± 4.2
Gender	
Male	17.0 ± 3.3
Female	8.4 ± 2.4
Race	
White	10.9 ± 2.1
Black	24.7 ± 8.8
Hispanic	23.6 ± 9.9
Non-Hispanic	11.9 ± 2.1
Education	
Less than high school	25.0 ± 9.3
High school graduate	16.4 ± 4.3
Some college	13.1 ± 3.9
College graduate	6.3 ± 2.5
Household income	
Less than $20,000	31.5 ± 8.7
$20,000-34,999	19.1 ± 5.6
$35,000-49,999	10.5 ± 4.4
$50,000-74,999	5.9 ± 3.2
$75,000 or greater	3.6 ± 2.5

Healthy People 2010 objective 1-1: Increase the proportion of persons under 65 with health insurance.

Having health insurance provides an individual with access to health care. With access to health care, an individual is more likely to obtain preventive services that are essential to the maintenance of good health. Among others, these services include immunizations, early prenatal care, periodic health check ups, and cancer screening procedures including Pap smears. Data have indicated that individuals with health insurance are twice as likely to receive important yearly check ups.[5] Without access to health care, many health conditions may go unnoticed for long periods of time. A delay in diagnosis may result in more difficult medical management of these conditions once discovered.

In order to create a healthier America, it is the goal of *Healthy People 2010* to decrease the proportion of individuals with no health care coverage. However, the data indicate that trends are heading in the wrong direction. This holds true for Kent County. Data from the 2002 BRFS indicated that 12.8% (± 2.1%) of those residents surveyed had no health care insurance compared to 9.3% (± 2.9%) in 1997. Further analysis of the data points to several disparities in health care coverage.

Young adults 18-24 years of age in Kent County reported the highest proportion of no health care coverage (26.0% ± 6.6%). Males were also more likely to be uninsured than females (17.0 % ± 3.3% vs. 8.4% ± 2.4%). Racial disparities were evident as greater proportions of African American (24.7% ± 8.8%) and Hispanic (23.6% ± 9.9%) respondents were uninsured than whites (10.9% ± 2.1%). Analysis of data for education and household income showed that greater proportions of respondents were uninsured as levels of these SES indicators decreased.



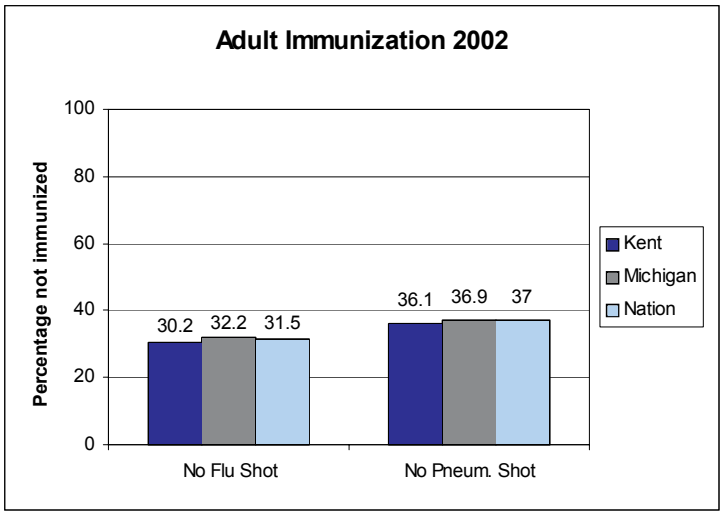
Adult Immunization

Healthy People 2010 objective 14-29a: Increase the proportion of noninstitutionalized adults aged 65 and older who are vaccinated annually against influenza.

The respiratory infections due to the influenza virus and pneumococcal bacteria cause more deaths in the United States than all the other vaccine-preventable diseases combined.[6] Children are at greatest risk of contracting these infections, evidenced, for example, by the millions who suffer annually from pneumococcal-related inner ear infections. The at-risk elderly population, however, accounts for 90% of deaths associated with influenza and pneumococcal infections.[7] Residents of long-term care facilities, older people with coexisting complications such as heart or lung ailments, and immunocompromised persons are more likely to succumb to influenza and pneumococcal illnesses.

Annual influenza vaccination and a one-time immunization against pneumococcal disease are effective measures to control the spread and reduce the severity and mortality rate of these illnesses. *Healthy People* seeks to increase the proportion of adults immunized for these diseases. During the last decade, there was a nearly two-fold increase in the percentage of persons over 65 years of age receiving an annual influenza vaccination.[8]

In 2002, only 30.2% (± 6.9%) of Kent County residents 65 years and older surveyed said that they had not had a flu shot in the past 12 months, and 36.1% (±7.2%) had not received the pneumococcal vaccine. Responses to the question regarding a recent flu shot did not differ by SES. Responses to both questions suggest that local adult immunization rates for influenza and pneumococcal disease are similar to rates for the state and nation (*see graph*). However, the extreme risks associated with these diseases suggest that these numbers are still too high. No one should go without vaccination for these diseases.



ADULT IMMUNIZATION
Proportion of respondents age 65 years and older who said that they had not had a flu shot in the past 12 months.
(% with 95% confidence intervals)

Demographic Characteristics	No Flu Shot
Total	**30.2 ± 6.9**
Age	
65-74	31.0 ± 9.8
75+	29.4 ± 9.7
Gender	
Male	27.5 ± 10.6
Female	31.7 ± 9.0
Race	
White	29.7 ± 7.2
Black	*
Hispanic	*
Non-Hispanic	31.0 ± 7.0
Education	
Less than high school	34.2 ± 15.1
High school graduate	32.4 ± 11.1
Some college	26.7 ± 16.2
College graduate	25.0 ± 14.4

* Sample size too small to be statistically reliable.

Seat Belt Use

SEATBELT USE
Percentage of respondents who reported that they do not always use seatbelts when driving or riding in the car.
(% with 95% confidence intervals)

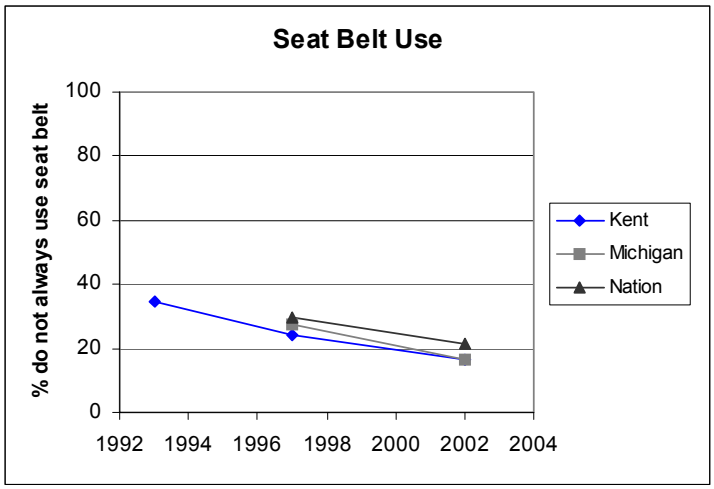
Demographic Characteristics	Do Not Always Use Seatbelt
Total	**16.7 ± 2.1**
Age	
18-24 years	19.3 ± 5.8
25-34 years	20.5 ± 5.0
35-44 years	18.9 ± 4.7
45-54 years	13.3 ± 4.6
55-64 years	17.9 ± 7.0
65-74 years	10.2 ± 6.3
75+ years	7.1 ± 5.6
Gender	
Male	22.2 ± 3.4
Female	11.5 ± 2.5
Race	
White	16.8 ± 2.3
Black	21.8 ± 8.1
Hispanic	13.3 ± 7.9
Non-Hispanic	16.9 ± 2.2
Education	
Less than high school	27.0 ± 7.8
High school graduate	15.9 ± 3.8
Some college	16.8 ± 4.1
College graduate	13.9 ± 3.4
Household income	
Less than $20,000	17.0 ± 6.1
$20,000-34,999	18.0 ± 4.8
$35,000-49,999	18.2 ± 5.2
$50,000-74,999	15.3 ± 4.8
$75,000 or greater	16.6 ± 4.8

Health People 2010 objective 15-15a: Reduce deaths caused by motor vehicle crashes.
Healthy People 2010 objective 15-19: Increase the use of safety belts.

Nationally, motor vehicle crashes account for approximately half of the deaths that occur due to unintentional injury.[9] In 1997, this meant that over 46,000 people lost their life due to a motor vehicle accident.[10] Although death is the most severe consequence of an accident, the magnitude of disability caused by car crashes must not be understated. Severe injuries from motor vehicle accidents cause many Americans to suffer from lifelong disability. These injuries result in billions of dollars worth of health care expenditures and lost productivity nationwide.

Using a seat belt is one of the many ways to prevent the occurrence of serious injury during an auto accident. In hopes of reducing the number of deaths and serious injury from motor vehicle accidents, *Healthy People 2010* strives to increase the proportion of Americans who use their seat belt every time they ride in a vehicle. Data from Kent County Behavioral Risk Factor Surveys from 1993, 1997, and 2002 indicate that citizens of Kent County are using their seat belt more and more often. In 1993, nearly 35% of respondents indicated that they did not always use their seat belt. This percentage decreased to 16.7% ± 2.1% in 2002. This bodes well for the safety of motor vehicle travelers, but room for improvement still exists.

Based on BRFS data, males were more likely to not use their seat belts than females (22.2% ± 3.4% vs. 11.5% ± 2.5%). Blacks also reported that they were more likely to not always use their safety belts than whites (21.8% ± 8.1% vs. 16.8% ± 2.3%). However, this difference was not statistically significant due to a lower number of black respondents. A low level of education may also be a predictor of lack of safety belt use as respondents with less than a high school education were the most likely to not always use their seat belt.



Firearms in the Home

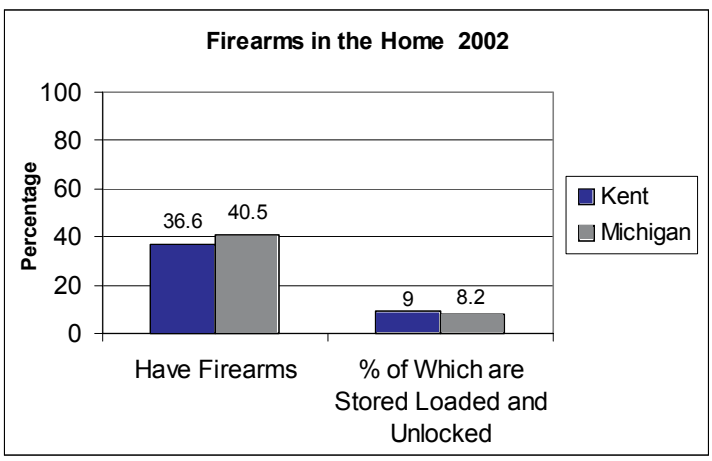
Health People 2010 Objective 15-32: Reduce homicides.
Healthy People 2010 Objective 15-3: Reduce the proportion of persons living in homes with firearms that are loaded and unlocked.

Although guns are frequently kept in the home for personal protection reasons, statistics on gun deaths in the U.S. reveal that such firearms in the home are much more likely to be used to kill oneself, an acquaintance, or a family member, rather than an intruder.[11] According to a CDC study, 42% of suicides committed by children 10-14 years old involve guns. Moreover, the study showed the rate of unintentional deaths due to firearms for U.S. children under 15 years old was nine times higher than the combined rates of the other 25 industrialized countries in the study.[12]

The *Healthy People 2010* goal is to reduce to 16% the proportion of respondents with firearms who also store them loaded and unlocked. Currently the estimate is 19%. Parents who own firearms should keep guns locked up and unloaded, and store ammunition separately. Education is a tool that can be used to help reduce firearm deaths. All parents should instruct their children about the potential dangers of firearms stored in the home, as well as in the homes of friends and relatives they may visit.

In Kent County, 36.6 % (± 2.8%) of residents surveyed said they kept firearms in or around the home. Among gun owners, 9.0% reported storing guns loaded and unlocked. The reported prevalence of gun ownership in Michigan in 2002 was 40.5%.

Reporting of gun ownership differs significantly across age, gender, race, and income groups. Respondents in the middle age groups said they own firearms more often than younger and older survey respondents. Men are more likely to own guns than women. Whites are more likely than blacks to keep firearms in the home, and reporting of gun ownership increases with increasing income.



FIREARMS IN THE HOME
Percentage of respondents who reported they kept firearms in or around the home.
(% with 95% confidence intervals)

Demographic Characteristics	Have Firearms in Home
Total	**36.6 ± 2.8**
Age	
18-24 years	26.2 ± 6.7
25-34 years	32.4 ± 6.0
35-44 years	40.1 ± 6.0
45-54 years	42.4 ± 6.8
55-64 years	49.6 ± 9.3
65-74 years	37.2 ± 10.3
75+ years	26.2 ± 9.4
Gender	
Male	41.1 ± 4.1
Female	31.8 ± 3.7
Race	
White	39.3 ± 3.0
Black	16.3 ± 7.6
Hispanic	26.7 ± 10.1
Non-Hispanic	37.1 ± 2.9
Education	
Less than high school	31.4 ± 8.4
High school graduate	36.3 ± 5.0
Some college	38.0 ± 5.4
College graduate	36.5 ± 4.8
Household income	
Less than $20,000	24.5 ± 7.1
$20,000-34,999	27.8 ± 5.6
$35,000-49,999	37.6 ± 6.6
$50,000-74,999	40.6 ± 6.7
$75,000 or greater	49.6 ± 6.5

Obesity

OBESITY
BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared. A BMI of 30 or greater is considered obese. (% with 95% confidence intervals)

Demographic Characteristics	Obesity (BMI ≥ 30.0)
Total	**19.6 ± 2.3**
Age	
18-24	13.6 ± 5.2
25-34	17.2 ± 4.7
35-44	20.5 ± 4.9
45-54	19.8 ± 5.5
55-64	29.1 ± 8.3
65-74	24.7 ± 9.4
75+	17.3 ± 8.3
Gender	
Male	18.6 ± 3.2
Female	20.7 ± 3.3
Race	
White	19.2 ± 2.4
Black	28.3 ± 8.9
Hispanic	14.9 ± 8.1
Non-Hispanic	20.0 ± 2.4
Education	
Less than high school	24.0 ± 7.7
High school graduate	20.2 ± 4.2
Some college	24.7 ± 4.8
College graduate	13.3 ± 3.4
Household income	
Less than $20,000	25.0 ± 7.2
$20,000-34,999	24.4 ± 5.4
$35,000-49,999	15.4 ± 4.9
$50,000-74,999	21.2 ± 5.5
$75,000 or greater	15.4 ± 4.7

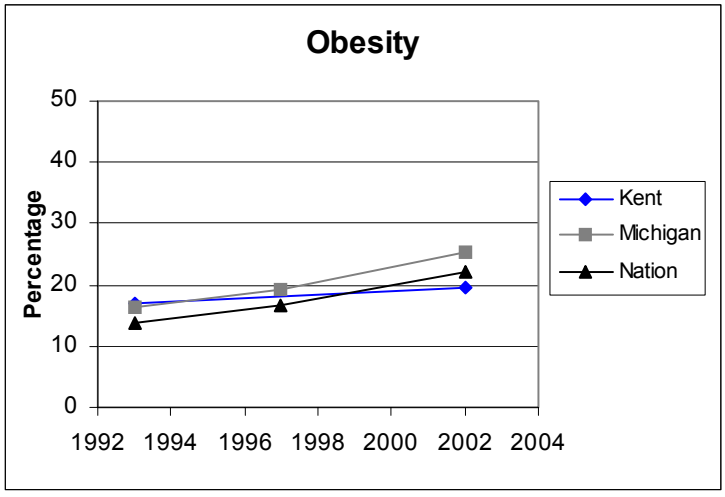
NOTE: Weight and height are self-reported by respondents. BMI calculations by survey researchers. Pregnant women were excluded from analysis.

Healthy People 2010 objective 19-2: Reduce the proportion of adults who are obese (Body Mass Index ≥ 30.0).

The problem of obesity has reached epidemic proportions in the United States. The proportion of Americans who are considered to be obese has increased steadily over the past 10 years. In terms of public health, this trend is troubling since obesity contributes to a variety of health problems. Obesity increases the risk of illness due to high blood pressure, high cholesterol, type 2 diabetes, and stroke. Gallbladder disease, arthritis, breathing problems, and certain types of cancer are also more prevalent in obese individuals.[13]

Due to the large role obesity plays in the health of Americans, *Healthy People 2010* strives to reduce the numbers of obese individuals in the nation. Although respondents in Kent County showed a lower percentage of obesity than the state and nation as a whole, the 2002 survey results suggest the county is not immune to the increasing trend of obesity that is seen nationwide. The prevalence of obesity in Kent County was 17.0% ± 3.1% in 1993 versus 19.6% ± 2.3% in 2002.

Using the measure of Body Mass Index (BMI), survey results reveal that prevalence of obesity varies reliably according to education level or household income. For instance, 13.3% (± 3.4%) of those reporting having completed a college degree were estimated to be obese while among respondents who did not complete high school, 24.0% (± 7.7%) were obese. African American respondents in Kent County also had a higher prevalence of obesity than white respondents (28.3% ± 8.9% vs. 19.2% ± 2.4% respectively).



Physical Activity

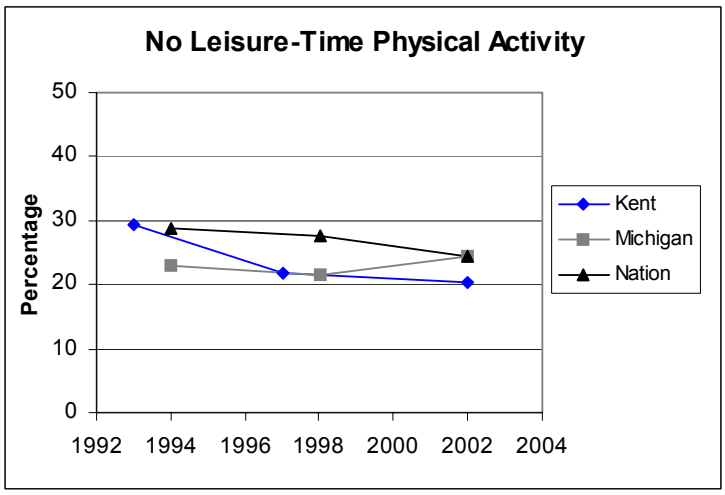
Healthy People 2010 objective 22-2: Increase the proportion of adults who engage regularly in moderate physical activity for at least 30 minutes per day.

The health benefits of regular physical activity are wide-ranging. Even when performed at moderate levels, regular activity is associated with lower death rates in adults of all ages. This decrease in death rate is likely due to the fact that physical activity decreases the risk of heart disease, lowers one's risk of developing diabetes, and decreases the chances of developing colon cancer. In addition, data show that physical activity can reduce symptoms of depression.[14]

Physical activity also increases bone and muscle strength. This is extremely important for our older residents for it reduces the chance of falling and helps them to maintain their independent living status.

Because of the great health benefits associated with even moderate levels of physical activity, *Healthy People 2010* aims to increase the proportion of people who participate in some form of physical activity. Data from the 2002 BRFS for Kent County indicate that we are heading in the right direction. The proportion of respondents indicating no physical activity decreased from 29.5% ± 3.6% in 1993 to 20.3% ± 2.3% in 2002. These data also indicate that Kent County residents are more active than the state (24.3% nonactive) and nation (24.4% nonactive) as a whole.

Kent County data indicated that African Americans were more likely to report no leisure-time physical activity than whites (32.7% ± 9.2% vs. 18.6% ± 2.4%). The data also indicated an increase in the proportion of respondents reporting no physical activity as the SES indicators of education level and household income decreased.



PHYSICAL ACTIVITY
Percentage of respondents who reported no leisure-time physical activity.
(% with 95% confidence intervals)

Demographic Characteristics	No Physical Activity
Total	**20.3 ± 2.3**
Age	
18-24	25.0 ± 6.4
25-34	17.3 ± 4.7
35-44	17.8 ± 4.6
45-54	13.3 ± 4.6
55-64	24.8 ± 7.9
65-74	25.3 ± 9.2
75+	33.7 ± 10.1
Gender	
Male	20.2 ± 3.3
Female	20.3 ± 3.1
Race	
White	18.6 ± 2.4
Black	32.7 ± 9.2
Hispanic	21.1 ± 9.2
Non-Hispanic	20.1 ± 2.3
Education	
Less than high school	28.8 ± 8.0
High school graduate	28.9 ± 4.7
Some college	17.4 ± 4.1
College graduate	11.4 ± 3.1
Household income	
Less than $20,000	40.8 ± 8.0
$20,000-34,999	23.5 ± 5.3
$35,000-49,999	20.6 ± 5.4
$50,000-74,999	11.6 ± 4.3
$75,000 or greater	12.3 ± 4.2

Responsible Sexual Behaviors

RESPONSIBLE SEXUAL BEHAVIORS
Percentage of respondents reporting sexual activity, use of birth control, and use of condoms. (% with 95% confidence intervals)

Demographic Characteristics	Sexually Active	Using Birth Control
Total	**90.0 ± 2.1**	**74.7 ± 3.3**
Gender		
Male	90.5 ± 2.7	71.7 ± 4.3
Female	89.0 ± 3.6	79.5 ± 4.9

Demographic Characteristics	Use Condoms
Total	**16.1 ± 3.2**
Age	
Less than 40	20.5 ± 4.4
40 and older	8.0 ± 4.0
Gender	
Male	18.9 ± 4.4
Female	12.2 ± 4.5
Race	
White	13.6 ± 3.2
Black	29.8 ± 13.1
Unmarried women	
Ages 18-44	13.7 ± 7.9
Education	
High school graduate or less	18.9 ± 5.9
More than high school graduate	14.7 ± 3.8
Household income	
Less than $35,000	24.8 ± 7.2
$35,000 or greater	11.0 ± 3.4

Healthy People 2010 objective 13-6a: Increase the proportion of sexually active persons who use condoms.

Responsible sexual behavior can both reduce the potential for unintended pregnancies and guard against the acquisition and spread of Sexually Transmitted Diseases (STD). The absence or misuse of birth control results in nearly 50% pregnancies being unintended nationwide. The prevalence of unplanned pregnancies is highest among teenage girls, women over 40 years old, and low-income African American women.[15] Increased maternal and infant illness, decreased tendency to breast feed, reduced educational attainment for mothers, and increased potential for child abuse and neglect are some of the wide-ranging effects of unintentional pregnancy. Failure to practice birth control, especially condom use, also results in 15 million new cases of STD each year, disproportionately threatening women with such complications as pelvic inflammatory disease, infertility, and cervical cancer.[15]

Women and men utilize various measures to reduce the potential for pregnancy and STD infection. Sterilization is the most common form of contraception, and the oral contraception pill is the most common reversible birth control used by women.[15] Condoms, on the other hand, when used correctly and consistently, are unique in preventing both pregnancy and STD/HIV transmission. *Healthy People 2010* seeks to increase condom use among sexually active persons, and to reduce the incidence of unintended pregnancies to 30%.

Nearly three-quarters of persons surveyed who reported being sexually active were presently practicing birth control (74.7% ± 3.3%). More women reported practicing birth control than did men (79.5% ± 4.9% vs. 71.7% ± 4.3%). Condoms were mentioned by 16.1% (± 3.2%) of respondents as their present contraception method. Blacks (29.8% ± 13.1%) and those giving their income as less than $35,000 annually (24.8% ± 7.2%) were more likely to report condom use than whites (13.6% ± 3.2%) and persons with higher incomes (11.0% ± 3.4%).

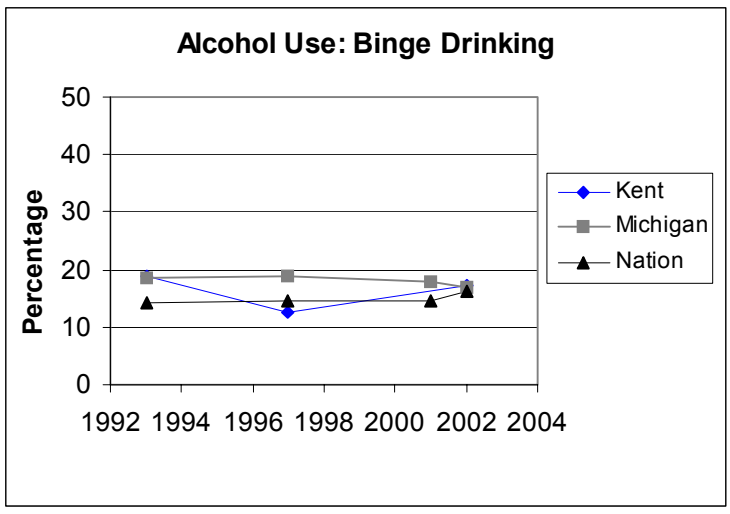
Alcohol Consumption

Healthy People 2010 objective 26-11c: Reduce the proportion of adults engaging in binge drinking of alcoholic beverages during the past month.

The health and societal consequences from excessive alcohol consumption cannot be overstated. The effects of violence, vehicle crash deaths, spousal and child abuse, and loss of income reach well beyond those who drink in excess.[16] In addition to alcohol dependency, inappropriate alcohol consumption can lead to heart, liver, and pancreatic disease, cancer, and fetal alcohol syndrome in children whose mothers abuse alcohol during pregnancy.[17]

Engaging in heavy drinking and binge drinking are measures used to estimate one's risk of incurring alcohol related health and social problems. Despite the goal of reducing the proportion of adults engaged in binge drinking, there has not been a marked improvement in this index since the late 1980s.[16] The nature of this problem may be even more serious for Michigan, where survey results for binge drinking have tended above the national median rate for the past decade.

The 2002 Kent County BRFS indicates that the prevalence and gravity of binge drinking for adults 18 years and older is equal to the problem statewide. Calculations from the county sample revealed binge drinking to be most widespread among 18-24 year old age group and Hispanic respondents, (30.3% ± 6.8%, and 33.3% ± 10.7%, respectively). Among respondents who did not complete high school, significantly fewer were estimated to engage in binge drinking compared to those with more formal education. Although it affects a smaller percentage of the population than binge drinking, heavy drinking took place with nearly equal frequency in all age groups under 75 years, suggesting a problem in Kent County with chronic over-consumption of alcohol. Male respondents to both questions were much more likely than females to be classified as participating in heavy and binge drinking (8.1% ± 2.2% vs. 1.1% ± 0.8%, and 28.5% ± 3.7% vs. 6.2% ± 1.9%; *see table*).



ALCOHOL CONSUMPTION
Percentage of respondents reporting heavy* drinking and percentage of respondents reporting binge** drinking.
(% with 95% confidence intervals)

Demographic Characteristics	Heavy Drinking	Binge Drinking
Total	**4.4 ± 1.2**	**17.1 ± 2.1**
Age		
18-24	4.5 ± 3.1	30.3 ± 6.8
25-34	6.4 ± 3.0	26.4 ± 5.5
35-44	3.3 ± 2.1	17.8 ± 4.6
45-54	3.8 ± 2.6	11.4 ± 4.3
55-64	6.0 ± 4.4	7.7 ± 5.0
65-74	4.6 ± 4.5	4.6 ± 4.8
75+	1.2 ± 2.8	0.0 ± 4.6
Gender		
Male	8.1 ± 2.2	28.5 ± 3.7
Female	1.1 ± 0.8	6.2 ± 1.9
Race		
White	4.8 ± 1.3	15.9 ± 2.2
Black	***	21.8 ± 8.1
Hispanic	1.3 ± 2.5	33.3 ± 10.7
Non-Hispanic	4.7 ± 1.2	15.9 ± 2.1
Education		
Less than H.S.	1.6 ± 2.3	7.1 ± 4.6
High school grad	6.1 ± 2.5	22.0 ± 4.3
Some college	3.7 ± 2.1	20.2 ± 4.4
College graduate	4.3 ± 2.0	12.7 ± 3.3
Household income		
< $20,000	4.1 ± 3.2	19.0 ± 6.4
$20,000-34,999	6.4 ± 3.1	20.4 ± 5.0
$35,000-49,999	4.2 ± 2.6	18.7 ± 5.2
$50,000-74,999	1.9 ± 1.8	14.9 ± 4.8
$75,000 or more	7.7 ± 3.4	17.4 ± 4.9

* Heavy drinking is defined as having consumed 60 or more alcoholic drinks in the past month.
** Binge drinking is defined as having consumed five or more drinks on one occasion in the past month.
***Sample size too small to be statistically reliable.

Smoking

SMOKING
Percentage of respondents who reported that they had ever smoked at least 100 cigarettes in their life and that they smoke cigarettes now.
(% with 95% confidence intervals)

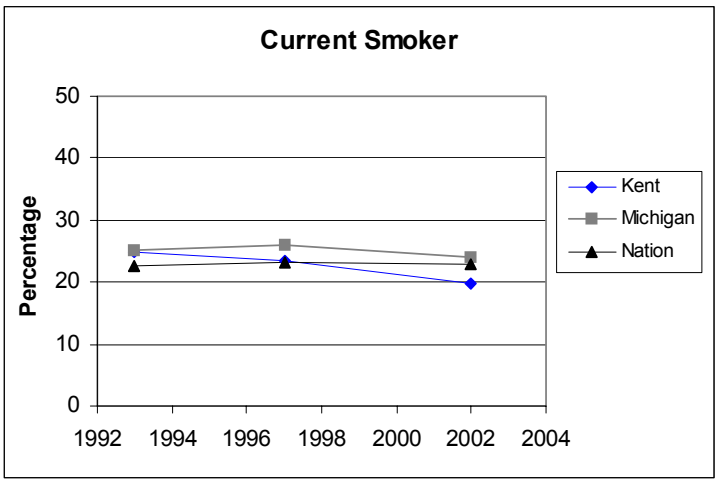
Demographic Characteristics	Current Smoker
Total	**19.8 ± 2.3**
Age	
18-24	24.4 ± 6.4
25-34	20.9 ± 5.1
35-44	25.6 ± 5.2
45-54	18.5 ± 5.3
55-64	18.8 ± 7.1
65-74	11.4 ± 6.6
75+	2.4 ± 3.0
Gender	
Male	22.8 ± 3.4
Female	16.7 ± 2.9
Race	
White	20.3 ± 2.5
Black	18.0 ± 7.6
Hispanic	14.7 ± 8.2
Non-Hispanic	20.1 ± 2.3
Education	
Less than H.S.	29.4 ± 8.0
High school grad.	24.8 ± 4.4
Some college	19.9 ± 4.4
College graduate	11.6 ± 3.2
Household income	
Less than $20,000	25.9 ± 7.1
$20,000-34,999	26.0 ± 5.5
$35,000-49,999	26.0 ± 5.9
$50,000-74,999	13.0 ± 4.5
$75,000 or greater	11.1 ± 4.0

Healthy People 2010 objective 27-1a: Reduce cigarette smoking by adults.

Cigarette smoking is the single most preventable cause of death in the United States. One in five deaths in the country is smoking-related. Diseases of the respiratory and cardiac systems account for the majority of smoking-attributed mortality. In males, the risk of death from lung cancer is 22 times greater in those who smoke. Although the magnitude is not as devastating in women, cigarette smoking increases a woman's risk of dying from lung cancer twelve-fold. In addition, men and women who smoke increase their risk of dying from emphysema and bronchitis about ten-fold. In both men and women, the risk of dying from a heart-related condition is tripled if the individual is a smoker.[18] Also, it is estimated that 30% of cancers are attributable to tobacco smoke.

Because of the overwhelming health burden related to cigarette smoking, one of the major goals of *Healthy People 2010* is to reduce the number of people who smoke. The percentage of smokers in Kent County has decreased since 1993 (24.8% ± 3.5% in 1993 vs. 19.8% ± 2.3% in 2002). This trend is promising, but the fact that nearly 20% of the respondents were current smokers still presents concern.

Among respondents in Kent County, the largest percentages of smokers were seen in age groups under the age of 45. More males smoked (22.8% ± 3.4%) than females (16.7% ± 2.9%). Percentages of smokers tended to increase as the SES indicators of education and household income decreased. Nearly thirty percent (29.4% ± 8.0%) of respondents with less than a high school education were current smokers. Only 11.6% ± 3.2% of college graduates were smokers. In addition, nearly 26% of respondents in each income category less than $50,000 were current smokers, while 13.0% ± 4.5% of those with household incomes of $50,000-74,999 and 11.1% ± 4.0% of those with household incomes of $75,000 or greater were smokers.



Breast Cancer Screening

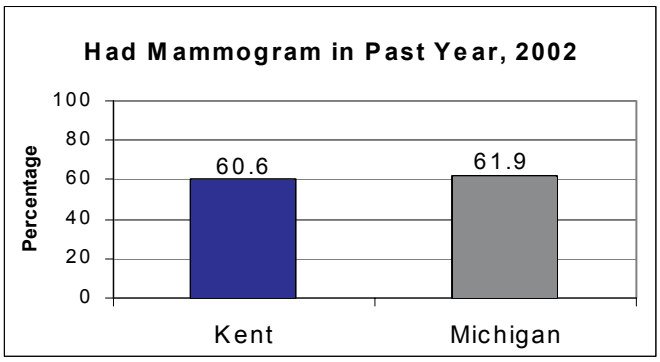
Healthy People 2010 objective 3-13: Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding two years.

Breast cancer is the most common cancer for women, affecting one out of every nine women during her lifetime.[19] In 2000, roughly 41,000 deaths were attributed to breast cancer, 15% of all female cancer related deaths.[20] Breast cancer incidence has risen in recent years, 33% between 1973 and 1990, due in large part to increased screening. Fortunately, early diagnoses has contributed to higher breast cancer survival rates, as more early stage cancers receive treatment.[19]

The risk factors associated with breast cancer are not clearly understood, although hormonal levels, naturally produced and taken as replacement therapy, are related to its pathogenesis. Other associations exist between breast cancer and biophysical and environmental factors: family history of breast cancer, reproductive history, physical activity level, diet, and use of tobacco and alcohol. Breast cancer rates are increased for residents of Northern U.S. states, urban dwellers, and whites, while mortality rates are higher for African American women.[19]

Healthy People seeks to increase the proportion of women over 40 who have had a mammogram in the past two years. For women under the age of 50, mammograms remain the best method for detecting early-stage breast cancer. It is estimated that periodic mammograms can reduce breast cancer by approximately 30% for women in their 50's or older and by up to 17% for women 40-49 years old.[20] Clinical breast exams (CBE) detect some breast cancers that are not detectable by way of mammography and should be used as a screening procedure in conjunction with mammograms.[21] The American Cancer Society's recommendation for CBE's is every three years for women 20-39 years old, and every year for women 40 years and older. An annual mammogram is recommended for all women beginning at age 40.[22]

BRFS results suggest that Kent County has surpassed the *Healthy People 2010* target of 70% mammogram screening every other year. Among women 40 years and older, 77.2% (± 4.4%) said they had a mammogram within the past two years. Nearly sixty-nine percent (68.7% ± 4.9%) reported having had a clinical breast examination in the past year. Unfortunately, there were too few African American respondents to this question to determine with confidence whether the proportion receiving appropriate breast cancer screening differed from white respondents.



BREAST CANCER SCREENING
Percentage of female respondents age 40 and over who reported having had a mammogram in the past year or in the past two years, and percentage of respondents who reported having had a clinical breast exam (CBE) in the past year or in the past three years.
(% with 95% confidence intervals)

Demographic Characteristics	Had Mammogram Past yr.	Past 2 yrs.
Total	**60.6 ± 5.1**	**77.2 ± 4.4**
Age		
40-49 years	48.9 ± 8.4	74.1 ± 7.4
50-59 years	75.3 ± 9.2	84.7 ± 7.7
60-69 years	71.4 ± 11.8	80.4 ± 10.4
70+ years	56.8 ± 11.3	72.0 ± 10.2
Race		
White	60.3 ± 5.4	79.0 ± 4.5
Black	65.4 ± 18.3	69.2 ± 17.7
Education		
High school graduate or less	58.4 ± 7.3	76.2 ± 6.4
More than high school graduate	62.4 ± 7.1	78.5 ± 6.0
Household income		
<$35,000	51.9 ± 8.4	71.3 ± 7.6
≥$35,000	64.6 ± 7.4	80.9 ± 6.1

Demographic Characteristics	Had Clinical Breast Exam Past yr.	Past 3 yrs.
Total	**68.7 ± 4.9**	**89.5 ± 2.4**
Age		
<40	76.6 ± 5.1	90.8 ± 3.5
40-49 years	63.5 ± 8.1	92.0 ± 4.6
50-59 years	84.3 ± 7.8	94.0 ± 5.1
60-69 years	73.2 ± 11.6	85.7 ± 9.2
70+ years	56.9 ± 11.4	77.8 ± 9.6
Race		
White	67.2 ± 5.2	89.9 ± 2.6
Black	76.9 ± 16.2	86.7 ± 8.6
Education		
High school graduate or less	63.8 ± 7.1	85.4 ± 4.2
More than high school graduate	73.0 ± 6.6	92.0 ± 2.8
Household income		
< $35,000	58.8 ± 8.3	81.3 ± 5.2
≥ $35,000	74.5 ± 6.8	96.8 ± 2.0

Colorectal Cancer Screening

COLORECTAL CANCER SCREENING
Percentage of respondents age 50 and over who did not have a blood stool test within the last two years using a home kit, and percentage of respondents who had never received a sigmoidoscopy or a colonoscopy.
(% with 95% confidence intervals)

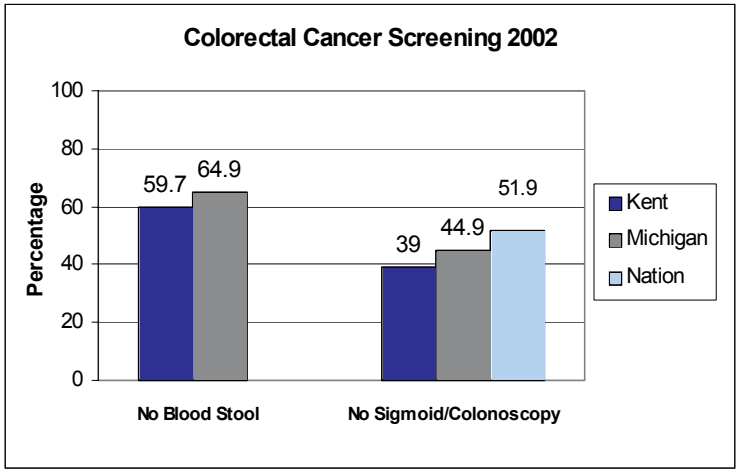
Demographic Characteristics	No Blood Stool Test Last 2 yrs.	Never Had a Sigmoid or Colonoscopy
Total	**59.7 ± 4.9**	**39.0 ± 2.1**
Age		
50-59 years	71.5 ± 7.2	39.2 ± 7.8
60-69 years	50.5 ± 9.7	38.2 ± 9.5
70+ years	52.9 ± 8.9	39.3 ± 8.7
Gender		
Male	55.7 ± 7.6	39.0 ± 7.5
Female	64.2 ± 6.4	38.9 ± 6.6
Race		
White	59.7 ± 5.2	39.2 ± 5.2
Black	59.1 ± 21.0	36.4 ± 20.3
Education		
Less than H.S.	67.3 ± 12.5	47.3 ± 13.2
High school grad.	59.1 ± 8.6	40.7 ± 8.7
Some college	60.6 ± 9.9	36.7 ± 10.0
College graduate	58.2 ± 9.3	34.3 ± 9.1
Household income		
< $20,000	68.3 ± 11.8	45.8 ± 12.8
$20,000-34,999	61.1 ± 9.9	37.6 ± 9.9
$35,000-49,999	64.3 ± 12.6	35.1 ± 12.5
$50,000-74,999	55.3 ± 14.3	34.8 ± 13.8
$75,000 or more	51.6 ± 12.4	43.3 ± 12.6

Healthy People 2010 objective 3-12: Increase the proportion of adults who receive a colorectal cancer screening examination.

Cancers of the colon and rectum are the third leading cause of cancer deaths for U.S. men and women.[19] Colon and rectal cancers generally appear after age 50 and disproportionately affect males, African Americans, and persons of higher socioeconomic position.[23] Several physical and behavioral factors predispose individuals to these cancers. Principle among them is a colorectal cancer history in a sibling or parent. A history of polyps or inflammatory bowel disease (ulcerative colitis, Crohn's disease) can also precede colorectal cancer.[23] Less is known about the association between diet and colorectal cancer risk, although increased consumption of fruits and vegetables, and reduced intake of saturated fat and alcohol are often cited as steps to limit colorectal cancer risk.[24]

Treatment of colorectal cancer is more effective if the cancer is detected in the early stages of development.[25] Accordingly, aggressive screening tools for early cancer diagnosis are recommended. For persons 50 years and older, the American Cancer Society and *Healthy People 2010* call for increased annual Fecal Occult Blood Testing (FOBT), and with less frequency, either a sigmoidoscopy or colonoscopy. These tests detect the presence of polyps and changes in the lining of the colon and rectum.

More than half of Michigan and U.S. respondents reported not having had a sigmoidoscopy or colonoscopy, and as many as three out of four surveyed had not had the FOBT in the past two years. Results suggest Kent County residents receive these screening tests more frequently: fewer indicated not having had the sigmoidoscopy or colonoscopy procedure (39.0% ± 2.1%). Approximately sixty percent (59.7% ± 4.9%) of Michigan and Kent County residents reported not having had a fecal occult blood stool test in the last two tears. In Kent County, a greater percentage of persons at least 70 years old said they had used the home test kit in the past two years.



Prostate Cancer Screening

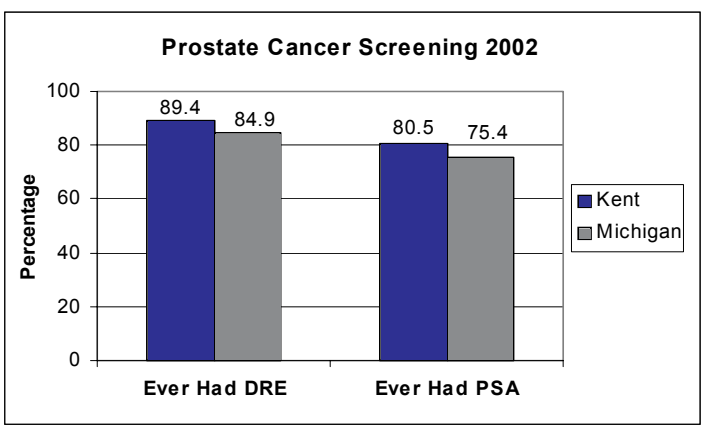
Healthy People 2010 objective 3-10e: Increase the proportion of primary care providers who counsel about Proctoscopic examinations.

Cancer of the prostate gland is the second most common cancer in North American men, and the second leading cause of cancer deaths among men.[26] It is largely a disease of older males, with the median age of onset occurring at 70 years.[27] The risk of prostatic disease generally begins around age 50, and earlier for African American men and men with a father or brother who has had prostate cancer.[27] A family member with prostate cancer is more predictive of one's cancer risk, while the death rate due to prostate cancer is highest for African American men.[28] Nonetheless, the five year survival rate for all patients with this cancer has increased to over 90% in recent decades.[29]

Knowledge is limited regarding the causative factors of this disease. Like colorectal cancer, there is some evidence that dietary habits and prostate cancer are related. Saturated fats, especially from red meats, have been linked to higher rates of prostate cancer.[27] Vitamin E, selenium and other antioxidants found in many fruits and vegetables may play a role in preventing disease progression.[30]

Primary prevention measures for prostate cancer are also less understood than for other cancers, and there is not consensus among medical professionals regarding the efficacy of prostate cancer screening.[31] The Digital Rectal Exam (DRE), the most common prostate cancer screening method, attempts to detect abnormalities in prostate gland shape and size. The Prostate-Specific Antigen (PSA), a substance that is detected in a blood test, may indicate the presence of prostate cancer cells. However, the PSA may also be higher in men who have non-cancerous conditions.

The Michigan Department of Community Health Prostate Cancer Advisory Committee's position on screening is that it may be appropriate for asymptomatic men 50-75 years old with at least a ten year life expectancy. It is also recommended for high-risk individuals, 40-75 years old with at least a ten year life expectancy.[31] Among Kent County men who were asked the prostate cancer screening questions, about 70% had received either or both diagnostic tests in the last year. Men with some education beyond high school had an increased prevalence for the annual PSA test (72.2% ± 8.4%), when compared to men with less education (41.4% ± 12.7%).



PROSTATE CANCER SCREENING
Percentage of male respondents* age 50 and over who reported having had a digital rectal exam (DRE), and percentage of respondents who report having had a prostate-specific antigen (PSA) test, ever or within the past year.
(% with 95% confidence intervals)

Demographic Characteristics	Had Digital Rectal Exam Ever	In Past yr.
Total	**89.4 ± 4.9**	**72.4 ± 7.6**
Age		
50-59 years	91.0 ± 6.9	68.9 ± 11.7
60-69 years	87.8 ± 9.9	82.9 ± 12.7
70+ years	88.4 ± 9.8	68.4 ± 14.8
Race		
White	83.1 ± 4.5	61.1 ± 6.5
Black	61.5 ± 27.3	75.0 ± 32.7
Education		
High school graduate or less	74.4 ± 9.1	54.5 ± 12.1
More than high school graduate	85.7 ± 4.9	63.7 ± 7.3
Household income		
Less than $35,000	83.5 ± 8.2	58.5 ± 12.0
$35,000 or greater	80.0 ± 5.8	63.5 ± 7.8

Demographic Characteristics	Had PSA Test Ever	In Past yr.
Total	**80.5 ± 6.4**	**68.9 ± 8.3**
Age		
50-59 years	72.1 ± 10.8	64.6 ± 13.6
60-69 years	89.7 ± 9.9	74.3 ± 14.8
70+ years	85.7 ± 10.8	69.4 ± 15.2
Race		
White	58.5 ± 6.0	64.2 ± 7.7
Black	46.2 ± 28.3	33.3 ± 38.5
Education		
High school graduate or less	65.2 ± 9.9	41.4 ± 12.7
More than high school graduate	56.5 ± 7.0	72.2 ± 8.4
Household income		
Less than $35,000	72.7 ± 10.0	45.8 ± 12.8
$35,000 or greater	51.9 ± 7.2	37.6 ± 9.9

* Men who reported having been diagnosed with prostate cancer (4.1%) were excluded.

Diabetes

DIABETES
Percentage of respondents who reported they had ever been told by a doctor that they have diabetes (excluding gestational diabetes). (% with 95% confidence intervals)

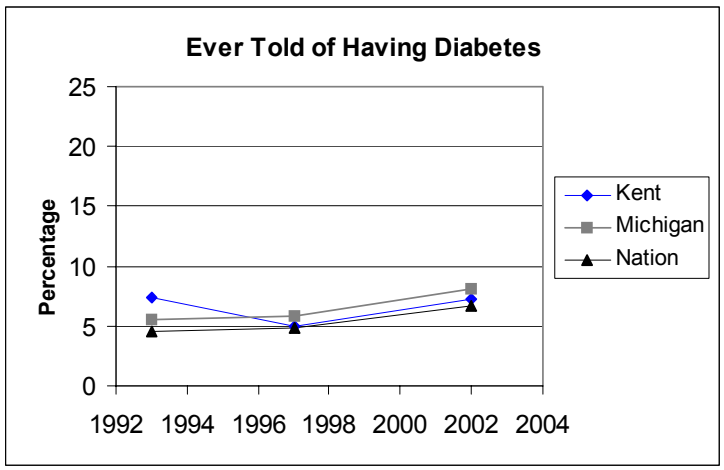
Demographic Characteristics	Ever Told You Have Diabetes
Total	**7.2 ± 1.5**
Age	
18-24 years	1.7 ± 1.8
25-34 years	1.2 ± 1.3
35-44 years	5.2 ± 2.7
45-54 years	9.0 ± 3.8
55-64 years	15.4 ± 6.6
65-74 years	19.3 ± 8.3
75+ years	14.1 ± 7.5
Gender	
Male	8.4 ± 2.3
Female	5.8 ± 1.8
Race	
White	6.8 ± 1.5
Black	9.9 ± 5.8
Hispanic	10.7 ± 7.1
Non-Hispanic	6.8 ± 1.5
Education	
Less than high school	12.7 ± 5.8
High school graduate	8.2 ± 2.8
Some college	7.5 ± 2.9
College graduate	3.8 ± 1.9
Household income	
Less than $20,000	12.2 ± 5.3
$20,000-34,999	9.2 ± 3.6
$35,000-49,999	6.5 ± 3.3
$50,000-74,999	5.6 ± 3.1
$75,000 or greater	5.1 ± 2.8

Healthy People 2010 objective 5-3: Reduce the overall rate of diabetes that is clinically diagnosed.

Persons with diabetes do not sufficiently produce and/or use the hormone insulin, the mechanism by which body tissue and organs utilize glucose. There has been an eight-fold increase in diabetes diagnoses in the U.S. Today, as many as 17 million Americans suffer from diabetes.[32] One-third of these live with undiagnosed diabetes.[19] Minority populations and older Americans suffer disproportionately from diabetes and its life-threatening complications. Diabetes-associated high blood pressure, heart attack, stroke, and kidney disease, debilitate many older Americans and make this disease the seventh leading cause of death in the U.S.[19]

Between five and ten percent of diabetes patients, primarily children and adolescents, are diagnosed with type 1, or insulin-dependent, diabetes. The remaining 90-95% are classified as type 2, non-insulin-dependent diabetes.[19] The trend toward increased fat, calories, and processed food in our diets is a major factor in the development of type 2 diabetes. Hereditary influence is also a primary factor, especially for type 2 diabetes.[19] Reducing our intake of calories, especially calories from fat, combined with even modest amounts of exercise, could go a long way toward accomplishing the *Healthy People 2010* goals of preventing new cases of diabetes and decreasing the diabetes death rate.[19]

BRFS data for 2002 indicate that more Michigan and Kent County residents reported having been diagnosed with diabetes than did respondents in the national BRFS survey (8.1 % ± 0.8% in Michigan; 7.2% ± 1.5% in Kent County; 6.5% in U.S.). Analysis of the question concerning a diabetes diagnosis revealed that diabetes increases in prevalence with increased age and respondents with more years of formal education are less likely to suffer from diabetes.



Heart Disease

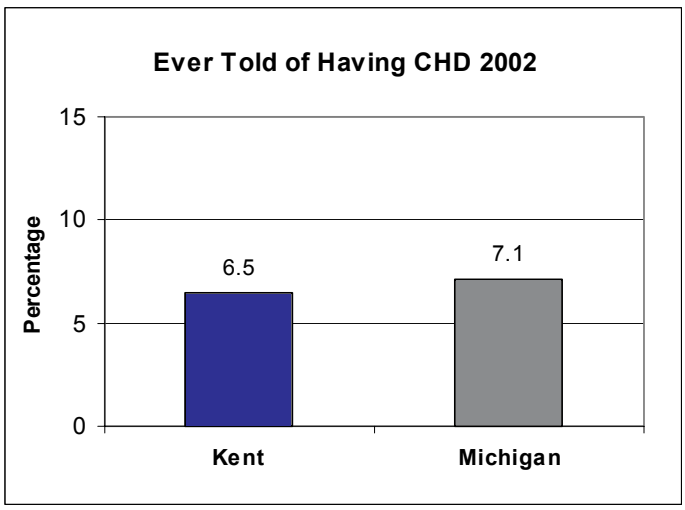
Healthy People 2010 objective 12-16: Increase the proportion of persons with coronary heart disease who have their LDL-cholesterol level treated to a goal of less than or equal to 100 mg/dL.

Coronary heart disease (CHD) is a term used to identify several disorders that reduce the blood supply to the heart.[33] It is most frequently the result of narrowing of the coronary arteries, called atherosclerosis. Heart disease is the leading cause of death for all people in the United States and is a major contributor to disability and increases in health care costs.[34] Symptoms of heart disease are minimal, but angina (chest pain) is common.

In order to achieve a reduction in the number of deaths due to CHD, we must work to reduce the risk factors for heart disease (many of which have been discussed previously): high blood pressure, smoking, high cholesterol, obesity, low physical activity, and diabetes.[33] For the most part, these behaviors are modifiable and interrelated. Increasing physical activity and reducing fat in the diet can lower blood pressure and cholesterol and help reduce the risk of coronary heart disease.

CHD is often a disease of old age and this is reflected in the Kent County figures: 22.9% ± 9.0% of those 75 and older had been told by a doctor they have CHD. Males were more likely to have CHD than females (8.5% ± 2.9% vs. 4.6% ± 2.2%). This disparity between genders is seen nationwide. Disparities by race were not apparent in the Kent County data.

Low socioeconomic status again appeared to result in a higher prevalence of disease. Those with less than a high school education and those whose household income was less than $20,000 were most likely to report that they had CHD (13.0% ± 7.4% and 16.3% ± 7.6%, respectively).



HEART DISEASE
Percentage of respondents age 35 and over who reported a doctor has told them they had angina or coronary heart disease.
(% with 95% confidence intervals)

Demographic Characteristics	Ever Told You Have Angina or Coronary Heart Disease
Total	**6.5 ± 1.8**
Age	
35-44 years	1.1 ± 1.4
45-54 years	4.3 ± 2.7
55-64 years	9.6 ± 5.3
65-74 years	8.4 ± 6.1
75+ years	22.9 ± 9.0
Gender	
Male	8.5 ± 2.9
Female	4.6 ± 2.2
Race	
White	6.9 ± 2.0
Black	5.9 ± 6.3
Hispanic	6.5 ± 9.4
Non-Hispanic	6.4 ± 1.8
Education	
Less than high school	13.0 ± 7.4
High school graduate	7.5 ± 3.5
Some college	7.0 ± 3.5
College graduate	3.5 ± 2.2
Household income	
Less than $20,000	16.3 ± 7.6
$20,000-34,999	12.9 ± 5.5
$35,000-49,999	1.6 ± 2.4
$50,000-74,999	3.8 ± 3.3
$75,000 or greater	3.1 ± 2.5

Stroke

STROKE
Percentage of respondents age 35 and over who reported a doctor has told them they had a stroke.
(% with 95% confidence intervals)

Demographic Characteristics	Ever Told You Had a Stroke
Total	**3.3 ± 1.3**
Age	
35-44 years	1.1 ± 1.4
45-54 years	1.0 ± 1.4
55-64 years	4.4 ± 3.5
65-74 years	8.2 ± 5.7
75+ years	9.6 ± 6.5
Gender	
Male	2.5 ± 1.6
Female	3.8 ± 2.0
Race	
White	3.0 ± 1.4
Black	4.0 ± 5.7
Hispanic	3.2 ± 7.3
Non-Hispanic	3.2 ± 1.4
Education	
Less than high school	7.8 ± 5.9
High school graduate	5.1 ± 2.9
Some college	2.0 ± 2.0
College graduate	1.6 ± 1.6
Household income	
Less than $20,000	8.7 ± 5.7
$20,000-34,999	6.8 ± 4.1
$35,000-49,999	0.8 ± 1.8
$50,000-74,999	0.8 ± 1.6
$75,000 or greater	0.6 ± 1.4

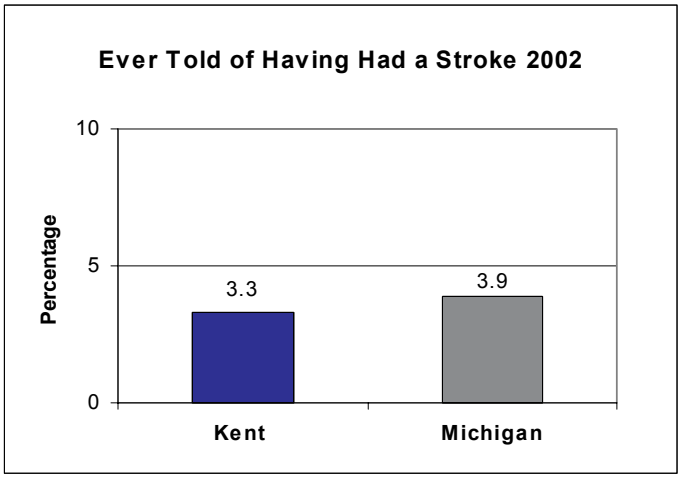
Healthy People 2010 objective 12-8: Increase the proportion of adults who are aware of the early warning symptoms and signs of a stroke.

Stroke is similar to coronary heart disease (CHD) in that it is associated with a reduction in blood supply. Instead of affecting the heart, the lack of blood supply affects the central nervous system. A stroke occurs when an artery in the brain is either ruptured or clogged. With no blood supply, nerve cells in the affected part of the brain die within minutes and serious damage often results. Stroke is the third leading cause of death in the U.S.[35] Similar to CHD, the warning signs are minimal and many people don't realize that they are in danger until it is too late.

Stroke and CHD share many of the same risk factors. Although the health complications from stroke are great, the risk of stroke can be greatly reduced by increasing physical activity, reducing fat and salt in the diet, and quitting smoking. When we look at the risk factors for CHD and stroke, it is evident that the objectives of *Healthy People 2010* are aimed at reducing the risky behaviors that may lead to these serious health problems.

Nationally, very few stroke victims are under the age of 65. This trend is also reflected in the data from Kent County. The prevalence of stroke in males and females did not differ significantly. Significant racial disparities were not observed among Kent County residents, similar to CHD.

Again, the lowest categories of SES showed the highest prevalence of stroke. Nearly eight percent (7.8% ± 5.9%) of those with less than a high school education reported being told they had a stroke, while approximately nine percent (8.7% ± 5.7%) of respondents with household incomes less than $20,000 indicated they had been told they had a stroke.



HIV Testing

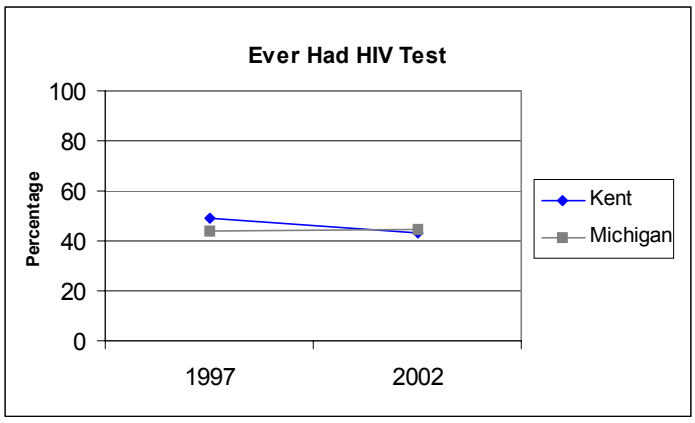
Healthy People 2010 objective 13-5: Reduce the number of cases of HIV infection among adolescents and adults.

The human immunodeficiency virus, or HIV, is the pathogen, which for most carriers ultimately develops into AIDS (Acquired Immuno-deficiency Syndrome). AIDS progressively erodes the body's capacity to fight infections and certain cancers. The compromised immune systems of persons with HIV also leave them susceptible to opportunistic infections, most notably Hepatitis C and tuberculosis.[36] Transmission of HIV is primarily via unprotected sex and blood-to-blood contact, most notably the sharing of needles among users of illicit drugs. Infected mothers can also pass the virus to their infants during pregnancy, delivery, or through breast milk.

Overall, U.S. HIV infection rates have declined in recent years due to education, and the widespread use of highly active anti-retroviral drug therapy (HAART) has led to a decrease in AIDS-related mortality. However, the same is not seen in the highest risk factor groups. HIV infections no longer appear to be declining for men who have sex with men (MSM) or among low-income African American women. The AIDS death rate is many times higher for racial and ethnic minorities and the poor, who often lack equal access to education and treatment. [37, 38]

Healthy People 2010 objectives include decreasing the number of persons newly infected with HIV and decreasing HIV-associated risk behaviors such as unprotected sex among sexually active persons. In estimating the prevalence of persons receiving HIV testing, the BRFS excludes testing done in conjunction with blood donation.

The BRFS indicated that the prevalence of Kent County, Michigan, and U.S. residents reporting having had at least one HIV test has fluctuated between 40 and 50% in the past ten years. The overall measure of HIV testing from the 2002 Kent County BRFS was 43.4% ± 3.1%, vs. 44.6% ± 1.8% for Michigan. The highest estimates of testing by age and race were for 25-34 year olds (65.6% ± 5.9%) and for blacks and Hispanics (62.4 ± 9.9 and 61.6 ± 11.3). Nearly twelve percent (11.7% ± 4.8%) of county and state 18-24 year olds surveyed said they had participated in at least one HIV high-risk behavior in the past year. The likelihood of engaging in any of the HIV risk factors increased reliably for low-income respondents, those with less education, among African Americans, and for Hispanics as compared to non-Hispanics.



HIV TESTING
Percentage of respondents who reported ever having had an HIV test, excluding HIV tests when donating blood.
(% with 95% confidence intervals)

Demographic Characteristics	Ever Tested for HIV	Engage in High-risk Behaviors
Total	**43.4 ± 3.1**	**4.4 ± 1.3**
Age		
18-24 years	39.8 ± 7.3	11.7 ± 4.8
25-34 years	65.6 ± 5.9	2.4 ± 1.9
35-44 years	46.4 ± 6.0	5.7 ± 2.8
45-54 years	31.0 ± 6.3	1.0 ± 1.4
55-64 years	17.1 ± 6.8	0.9 ± 1.4
Gender		
Male	40.2 ± 4.3	5.0 ± 1.9
Female	46.4 ± 4.3	3.7 ± 1.6
Race		
White	40.7 ± 3.3	3.9 ± 1.3
Black	62.4 ± 9.9	11.2 ± 6.6
Hispanic	61.6 ± 11.3	15.3 ± 8.4
Non-Hispanic	41.9 ± 3.2	3.5 ± 1.2
Education		
Less than H.S.	51.2 ± 10.8	9.9 ± 6.4
High school grad.	42.0 ± 5.7	6.6 ± 2.8
Some college	45.3 ± 5.8	3.5 ± 2.2
College graduate	41.0 ± 5.2	2.0 ± 1.5
Household income		
< $20,000	45.0 ± 9.4	14.8 ± 6.7
$20,000-34,999	44.9 ± 7.2	6.5 ± 3.6
$35,000-49,999	48.9 ± 7.1	1.6 ± 1.9
$50,000-74,999	39.5 ± 6.7	1.9 ± 1.8
$75,000 or more	42.6 ± 6.5	4.0 ± 2.5

*Reported "yes" to the question, "As far as you know, have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation." "Don't know" was considered a valid response.

Oral Health

Oral Health
Percentage of respondents who reported never having visited a dentist or dental clinic,* or had last visited a dentist or dental clinic five or more years ago.
(% with 95% confidence intervals)

Demographic Characteristics	Have Not Visited Dentist in Past yr.
Total	**21.4 ± 2.3**
Age	
18-24 years	28.0 ± 6.7
25-34 years	24.3 ± 5.4
35-44 years	17.8 ± 4.6
45-54 years	19.0 ± 5.3
55-64 years	12.0 ± 6.0
65-74 years	21.6 ± 8.6
75+ years	29.8 ± 9.8
Gender	
Male	25.3 ± 3.5
Female	17.3 ± 3.0
Race	
White	20.4 ± 2.5
Black	32.7 ± 9.2
Hispanic	32.0 ± 10.6
Non-Hispanic	20.4 ± 2.4
Education	
Less than high school	35.2 ± 8.4
High school graduate	26.0 ± 4.5
Some college	19.6 ± 4.3
College graduate	13.7 ± 3.4
Household income	
Less than $20,000	41.7 ± 8.1
$20,000-34,999	29.6 ± 5.7
$35,000-49,999	19.6 ± 5.3
$50,000-74,999	13.0 ± 4.5
$75,000 or greater	8.5 ± 3.6

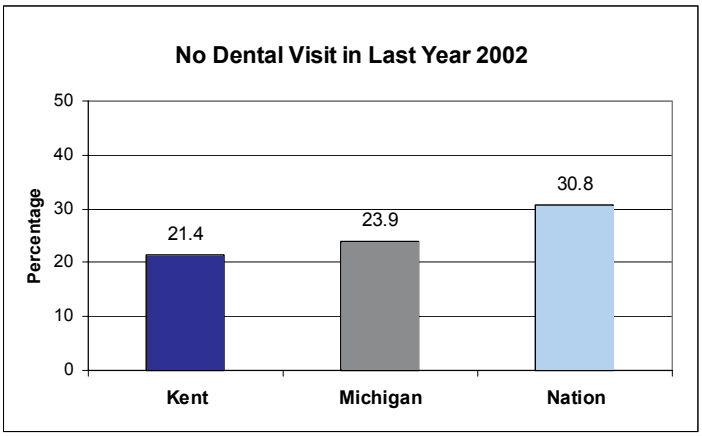
* Includes dental specialists, e.g.orthodontists.

Healthy People 2010 objective 21-2d: Reduce the proportion of adults with untreated dental decay.

Poor oral health and oral diseases equate to a lowered quality of life for many thousands of Americans. Aside from tooth decay that results in tooth loss, periodontal infections contribute to a host of health problems. Studies have shown that bacteria from oral infections entering the blood stream contribute to the development of heart disease, stroke, diabetes, and low birth weights.[39] For adults over the age of 55, the risk of poor oral health can extend to oral and pharyngeal cancers.[40]

Periodic visits to a dentist are critical for prevention, early diagnosis, and treatment of oral diseases and for assessing self-care practices. Yet, only 44% of persons in the U.S. have private dental insurance, and the National Health and Nutrition Exam Survey (NHANES II) reports that only 13% of U.S. adults over the age of 40 had an oral cancer exam in the past year.[41, 42] Dental visits and nearly all facets of oral health vary markedly by one's socioeconomic position. For example, adults with some college education have two times less incidence of destructive periodontal disease than high school graduates and two and a half times less risk than those who did not finish high school. The same disparity by educational level is true for older adults with edentulous (total tooth loss).[43]

In the Kent County BRFS survey 21.4% (± 2.3%) respondents indicated that it had been more than one year since their last dental visit. For Michigan in 2002, the estimate was 23.9%. The reporting on frequency of visits for dental care differed reliably across all the SES groups in the survey. Recommended yearly visits to the dentist were less common among females and racial and ethnic minorities. Significant disparities in dental visits were also apparent among income and educational levels. Low-income persons were less likely to have had a dental visit in the past year than those with high incomes (41.7% ± 8.1% vs. 8.5% ± 3.6%). Likewise, those with less formal education more often reported infrequent dental care than college graduates (35.2% ± 8.4% vs. 13.7% ± 3.4%).

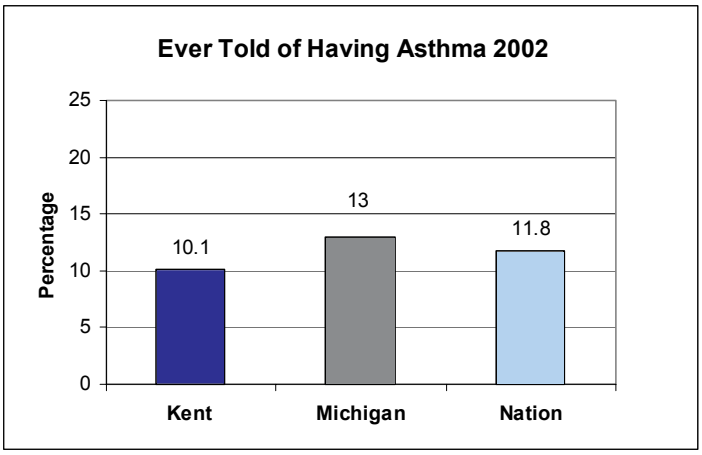


Asthma

Healthy People 2010 objective 24-7: Increase the proportion of persons with asthma who receive appropriate asthma care.

Asthma is a chronic respiratory disorder characterized by inflammation and narrowing of the airways. These symptoms may result in mild to life-threatening conditions. An estimated 15 million Americans have asthma.[44] Asthma disproportionately affects African Americans, who are three times more likely than whites to be diagnosed with this disease.[45] Asthma has been categorized into two types: allergic and non-allergic.[44] The majority of adult asthma and 90% of childhood asthma is classified as allergic.[19] Several environmental risk factors serve as triggers for asthma attacks. Exposures to these risk factors have been more clearly linked to childhood asthma.[19] These indoor and outdoor allergens include such triggers as air pollutants, dust mites, cockroach antigens, animal allergens, mold, and tobacco smoke. By alleviating these factors and properly managing treatment of asthma through medicines, symptoms would be largely reversible.

Healthy People 2010 seeks to improve overall respiratory health by decreasing the incidence of asthma. Ten percent (10.1 ± 1.7) of Kent County residents surveyed answered yes to the question: "Have you ever been told by a doctor that you have asthma?" By comparison, 13% of residents surveyed throughout Michigan and 11.8% nationwide answered yes to this question. While it was estimated that more young respondents had been diagnosed with asthma (17.7% ± 5.7% vs. 10.1% ± 1.7% for all respondents), young respondents did not report still having asthma at greater rates than the general population (5.8% ± 3.5% vs. 6.6% ± 1.4%). Females were more likely than males, and blacks were more likely than whites and Hispanics, to state that they had been told they had asthma, and also more likely to report that they were currently suffering from asthma.



ASTHMA
Percentage of respondents who reported that they had ever been told by a doctor that they had asthma, and percentage of respondents who reported that they still had asthma.
(% with 95% confidence intervals)

Demographic Characteristics	Ever Told Have Asthma	Still Have Asthma
Total	**10.1 ± 1.7**	**6.6 ± 1.4**
Age		
18-24 years	17.7 ± 5.7	5.8 ± 3.5
25-34 years	7.2 ± 3.3	5.2 ± 2.8
35-44 years	9.7 ± 3.5	7.4 ± 3.2
45-54 years	10.9 ± 4.1	8.1 ± 3.7
55-64 years	10.3 ± 5.5	8.5 ± 5.0
65-74 years	6.9 ± 5.5	4.6 ± 4.5
75+ years	4.7 ± 4.7	4.7 ± 4.5
Gender		
Male	6.9 ± 2.2	3.6 ± 1.5
Female	12.9 ± 2.5	9.1 ± 2.3
Race		
White	8.7 ± 1.8	5.6 ± 1.4
Black	17.8 ± 7.4	14.9 ± 6.9
Hispanic	8.0 ± 6.3	2.7 ± 3.9
Non-Hispanic	10.3 ± 1.8	6.8 ± 1.5
Education		
Less than H.S.	12.0 ± 5.7	7.9 ± 4.7
High school grad.	8.5 ± 2.9	6.1 ± 2.5
Some college	10.0 ± 3.3	6.2 ± 2.6
College graduate	10.9 ± 3.1	6.8 ± 2.5
Household income		
< $20,000	12.8 ± 5.5	10.9 ± 5.0
$20,000-34,999	10.4 ± 3.7	7.3 ± 3.3
$35,000-49,999	9.8 ± 3.9	7.9 ± 3.6
$50,000-74,999	12.6 ± 4.3	6.0 ± 3.2
$75,000 or more	9.0 ± 3.7	4.3 ± 2.6

Nutrition

FRUIT AND VEGETABLE CONSUMPTION
Percentage of respondents who reported consuming, on average, three or more servings of fruits or vegetables a day, and percentage of respondents who reported consuming, on average, five or more servings of fruits or vegetables a day.
(% with 95% confidence intervals)

Demographic Characteristics	3 or More Fruits/Veg per Day	5 or More Fruit/Veg per Day
Total	**37.0 ± 2.7**	**10.1 ± 1.7**
Age		
18-24 years	30.9 ± 6.9	9.7 ±4.4
25-34 years	29.4 ± 5.7	8.4 ± 3.4
35-44 years	34.4± 5.7	7.8 ± 3.2
45-54 years	42.9 ± 6.7	9.0 ± 3.8
55-64 years	40.5 ± 8.9	11.1 ± 5.7
65-74 years	48.8 ± 10.6	14.9 ± 7.6
75+ years	48.8 ± 10.7	19.8 ± 8.5
Gender		
Male	28.5 ± 3.7	6.9 ± 2.1
Female	45.1 ± 3.9	13.7± 2.7
Race		
White	37.8 ± 3.0	10.4 ± 1.9
Black	31.0 ± 9.1	10.9 ± 6.1
Hispanic	32.0 ± 10.6	2.7 ± 3.9
Non-Hispanic	37.3 ± 2.8	10.7 ± 1.8
Education		
Less than H.S.	23.2 ± 7.4	9.6 ± 5.2
High school grad.	30.7 ± 4.8	6.9 ± 2.6
Some college	38.1 ± 5.3	11.8 ± 3.5
College graduate	46.8 ± 4.9	12.7 ± 3.3
Household income		
< $20,000	41.5 ± 8.0	12.2 ± 5.3
$20,000-34,999	34.1 ± 5.9	7.2 ± 3.2
$35,000-49,999	36.4 ± 6.4	10.7 ± 4.1
$50,000-74,999	33.5 ± 6.3	10.3 ± 4.1
$75,000 or more	36.8 ± 6.2	10.2 ± 3.9

Healthy People 2010 objective 19-5: Increase the proportion of persons aged two years and older who consume at least two servings of fruit.

Nutrition, the quantity and quality of what we eat, directly impacts our risk factors for the majority of diseases highlighted in this report. The *Dietary Guidelines for Americans* call for decreasing the importance of fat as a proportion of caloric intake, while increasing fruit and vegetable intake to three to five servings of each per day.[46] Fruits and vegetables provide such beneficial minerals as potassium, calcium, and magnesium, in addition to soluble fiber, vital in preventing heart disease and diabetes. Antioxidants, present in vitamin A and E, and beta-carotene laden dark green leafy vegetables and dark yellow or orange fruits and vegetables, defend cells from damage by free radicals. Cellular damage is the common pathway to development of cancers, the aging process, and other diseases.[47,48]

The increasing prevalence of health-related problems in overweight children and adults is a consequence of poor food choices. For children ages two to 19 years, almost one third (32%) of vegetable calories are supplied by fried potatoes.[46] Away-from-home-meals are an important factor in the trend towards poorer nutrition. Restaurant meals, which tend to be higher in fat and lower in fruit and vegetable content than home meals, increased 68% as a proportion of all meals between 1977 and 1995. Of fruits and vegetables that comprise the American diet, only 7-10% are of the beneficial dark-colored variety.[46]

Traditionally, a serving of fruit or vegetable is considered to be a piece of fruit, a half cup of fresh or frozen fruit or vegetable, a half cup of cooked legumes (e.g. beans, peas, lentils), a quarter cup of dried fruit, or six ounces of 100% fruit or vegetable juice. Household members were asked a series of questions about the frequency of their consumption of these foods. In this analysis, potatoes and fruit juices were not included as fruit or vegetable servings due to the potential variation in respondents' interpretation of what constitutes a serving of these items. It was determined that the inclusion of these foods in the analysis could potentially yield a false measure of beneficial fruit and vegetable consumption.

Of all county residents surveyed for the BRFS, only 37% (± 2.7%) indicated that they ate at least three fruits or vegetables daily. The survey results also suggest that only ten percent (10.1% ± 1.7%) of the population eats the widely recommended daily allowance of five fruits or vegetables. In no demographic grouping did the majority of respondents say that they ate at least three fruits and vegetables daily. Fruit and vegetable consumption varied with age, gender, and education. The percentage of respondents eating at least three and at least five daily servings increased for older respondents, women, and persons with more formal education. Fewer Hispanics than non-Hispanics reported eating at least five fruits and vegetables daily.

Selected Risk Factors and Health Indicators

Risk Factors/Health Indicators	Kent County Overall	Michigan Overall	Kent County Men	Kent County Women
No personal health care provider	16.0 ± 2.1	18.5± 1.4	24.1 ± 3.5	8.5 ± 2.2
When sick or need health advice usually go to Emergency Room	4.0 ± 1.1	*	6.6 ± 2.0	1.6 ± 1.0
When sick or need health advice don't have usual place to go	3.5 ± 1.1	*	4.5 ± 1.7	2.7 ± 1.3
Past 12 months needed medical care and could not get it	6.2 ± 1.4	*	7.8 ± 2.2	4.8 ± 1.6
Of those who could not get medical care in past 12 months, the main reason was due to cost	62.3 ± 10.1	*	51.7 ± 8.4	69.6 ± 13.5
One to five permanent teeth removed	20.5 ± 2.3	*	19.5 ± 3.1	21.6 ± 3.4
Of those who currently smoke, percentage that tried to quit smoking in last year	55.5 ± 6.3	58.3 ± 3.5	59.0 ± 9.4	52.6 ± 8.5
Driven when had too much to drink on at least one occasion	2.4 ± 1.1	*	4.2 ± 1.9	2.2 ± 1.6
Have mercury thermometers in homes	34.7 ± 2.8	*	31.7 ±3.9	37.5 ± 4.0
Very Important to know HIV status	91.4 ± 1.7	89.6 ± 1.2	90.2 ±2.6	92.4±2.3
Think medical treatments help someone with HIV live longer	91.5 ± 1.7	91.3 ± 1.1	91.5 ± 2.45	91.7 ±2.4
Have not had a Pap smear in past year	*	*	*	25.1 ± 3.5
Mostly sitting or standing at work	56.9 ± 3.5	61.6 ± 2.3	51.5 ± 4.7	63.4 ±5.01
Mostly heavy labor at work	16.0 ± 2.6	16.3 ± 1.8	23.7 ± 4.9	6.7 ± 2.6
Five days of moderate exercise for 30 minutes	31.6 ± 2.7	*	31.1 ±3.8	32.8 ± 3.7
Three days of vigorous exercise for at least 20 minutes	26.5 ± 2.5	*	31.2 ± 3.8	22.4 ± 3.3
Trying to lose weight now	39.5 ± 2.8	*	31.3 ± 3.8	47.2 ± 4.0
Using physical activity or exercise to lose weight / keep from gaining weight	74.6 ± 2.8	*	74.9 ± 4.1	74.7 ± 3.9
No safe and convenient places to bicycle or walk for exercise	6.4 ± 1.5	*	6.0 ± 2.1	6.8 ± 2.1

* Questions about this indicator were either not part of the State BRFS, or were not relevant to all respondents.

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