

Health Risk Behaviors of Kansans:

Results from 2008 Kansas Behavioral
Risk Factor Surveillance System



Kansas BRFSS
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Health Risk Behaviors of Kansans 2008

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Kansas Department of Health and Environment (KDHE)
Mission

To protect the health and environment of all Kansans by promoting responsible choices.

Through education, direct services and the assessment of data and trends, coupled with policy development and enforcement, KDHE will improve health and quality of life. We prevent illness, injuries and foster a safe and sustainable environment for the people of Kansas.

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BRFSS Overview

The Behavioral Risk Factor Surveillance System (BRFSS) is a random digit dial telephone survey among non-institutionalized adults age 18 years and older. In addition, adult respondents provide limited data on a randomly selected child in the household via surrogate interview. The BRFSS is coordinated and partially funded by the Centers for Disease Control and Prevention and is the largest continuously conducted telephone survey in the world. It is conducted in every state, the District of Columbia, and several United States territories. The first BRFSS survey in Kansas was conducted as a point-in-time survey in 1990. Kansas is conducting the BRFSS survey annually since 1992.

The 2008 survey consisted of 222 questions and took an average of 20 minutes to complete. Survey topics on the 2008 Kansas BRFSS included: health status, healthy days, health care access, sleep, exercise, diabetes, oral health, cardiovascular disease prevalence, asthma, disability, tobacco use, demographics, alcohol consumption, immunization, falls, seatbelt use, drinking and driving, women's health, prostate cancer screening, colorectal cancer screening, HIV/AIDS, emotional support and life satisfaction, average hours worked, random child selection module, childhood asthma prevalence, and questions pertaining to asthma call back survey, pre-diabetes, diabetes, diabetes assessment, hypertension awareness, cholesterol awareness, impairment and access to eye care, excess sun exposure, fruits and vegetables, physical activity, other tobacco products, secondhand smoke, COPD, underage-drinking, oral health, natural disasters and 2007 Greensburg tornado, disability, veterans health status, anxiety and depression, depression treatment, food security and insecurity.

The overall goal of the BRFSS is to develop and maintain the public health surveillance capacity of the state by conducting population-based health risk surveys via telephone in Kansas. BRFSS data are used for the following:

- Monitoring the leading contributors to morbidity and premature death
- Tracking the health status and assess trends
- Measuring public knowledge, attitudes, and opinions
- Program planning
 - Needs assessment
 - Development of goals and objectives
 - Identification of target groups
- Policy development
- Evaluation of the programs

Data from BRFSS are weighted to account for the complex sample design and non-response bias such that the resulting estimates will be representative of the underlying population as a whole as well as for target subpopulations.

For more information about the Kansas BRFSS, including past questionnaires and data results, please visit: <http://www.kdheks.gov/brfss/index.html>

Leading Health Indicators

The Healthy People 2010 is a comprehensive nationwide plan consisting of goals and objectives related to health promotion and disease prevention. In Healthy People 2010, Leading Health Indicators are the major public health concerns and were chosen by Healthy People 2010 based on their relevance to broad public health topics and availability of data to measure their progress.

The Leading Health Indicators are:

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

This document contains data on the Leading Health Indicators, which were measurable using 2008 Kansas Behavioral Risk Factor Surveillance (BRFSS).

For more information about Healthy People 2010, please visit <http://www.healthypeople.gov/>

For information about Healthy Kansans 2010, please visit <http://www.healthykansans2010.org/>

For more information about Leading Health Indicators, please visit <http://www.healthypeople.gov/LHI/>

Kansas Performance on BRFSS Measures for the Ten Leading Health Indicators of HP 2010

	Kansas BRFSS Data 2002	Kansas BRFSS Data 2003	Kansas BRFSS Data 2004	Kansas BRFSS Data 2005	Kansas BRFSS Data 2006	Kansas BRFSS Data 2007	Kansas BRFSS Data 2008	HP2010 Goal
<i>Physical Activity</i>								
Obj. 1. Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.	-	38%	37%	38%	-	38%	35%	50%
<i>Overweight and Obesity</i>								
Obj. 1. Reduce the proportion of adults who are obese.	23%	23%	23%	24%	26%	28%	28%	15%
<i>Tobacco Use</i>								
Obj. 1. Reduce cigarette smoking by adults.	22%	20%	20%	18%	20%	18%	18%	12%
<i>Substance Abuse</i>								
Obj. 1. Reduce the proportion of adults engaging in binge drinking of alcoholic beverages during the past month.	16%	14%	13%	12%	15%	15%	14%	6%
<i>Mental Health</i>								
Obj. 1. Increase the proportion of adults with recognized depression who receive treatment.	-	-	-	-	-	-	42%	50%
<i>Immunization</i>								
Obj. 1. Increase the proportion of non-institutionalized adults aged 65 years and older who are vaccinated annually against influenza.	67%	71%	68%	66%	73%	73%	72%	90%
Obj. 2. Increase the proportion of adults aged 65 years and older ever vaccinated against pneumococcal disease.	62%	60%	63%	67%	70%	69%	67%	90%
<i>Access to Health Care</i>								
Obj. 1. Increase the proportion of persons with health insurance.	89%	87%	87%	87%	87%	88%	88%	100%
Obj. 2. Increase the proportion of persons who have a specific source of ongoing primary care.	84%	84%	84%	84%	84%	84%	85%	96%

PHYSICAL ACTIVITY

Regular physical activity throughout the lifespan is important in preventing premature death. Regular physical activity can decrease the risk of numerous chronic diseases and conditions such as hypertension, diabetes, and certain types of arthritis. Regular physical activity also improves flexibility and joint mobility, decreases body fat, and aids in weight loss and weight maintenance (1).

Types of Physical Activity

- **Moderate** physical activity involves small increases in heart rate and breathing rate, e.g., walking, gardening, vacuuming, etc.
- **Vigorous** physical activity involves large increases in heart and breathing rate, e.g., running, aerobics, etc.
- **Leisure time** physical activity is defined as physical activities or exercises, other than the regular job, such as running, calisthenics, golf, gardening, or walking for exercise.

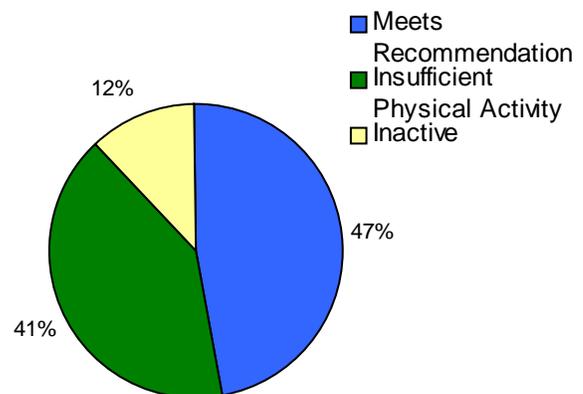
Recommendations For Physical Activity

Recommendations for physical activity have evolved over the years. The initial recommendations emphasized vigorous physical activity. Current recommendations emphasize not only vigorous physical activity, but also moderate physical activity and the integration of the two into an individual's lifestyle (2).

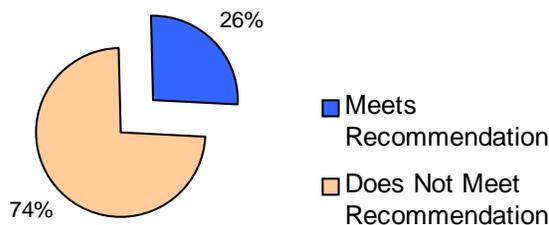
Physical Activity Levels

- **Recommendation:** Moderate physical activity 30 minutes or more per day, 5 or more days per week OR vigorous physical activity 20 minutes or more per day, 3 or more days per week.
- **Insufficient:** Some activity but not enough to meet the recommendation.
- **Inactive:** No physical activity.

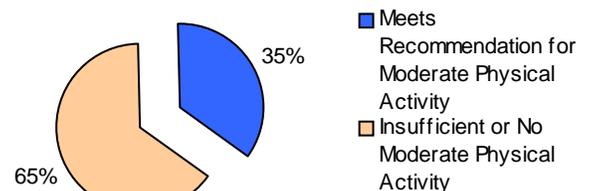
Physical Activity Status Among Adults 18 Years and Older



Vigorous Physical Activity Status Among Adults 18 Years and older

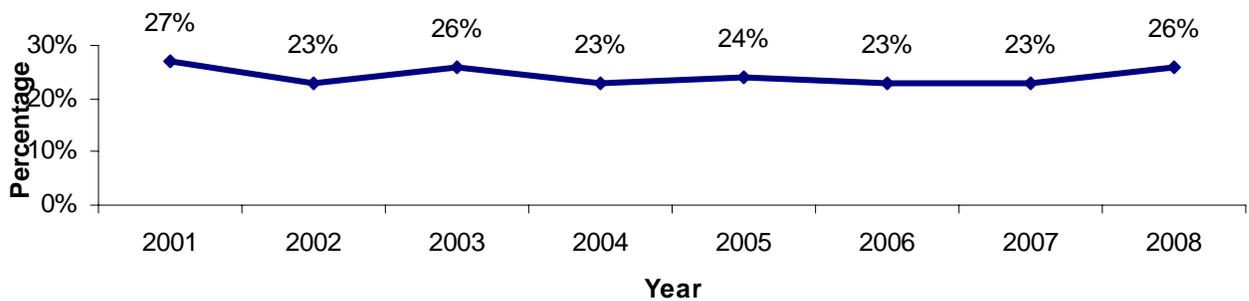


Moderate Physical Activity Status Among Adults 18 Years and Older



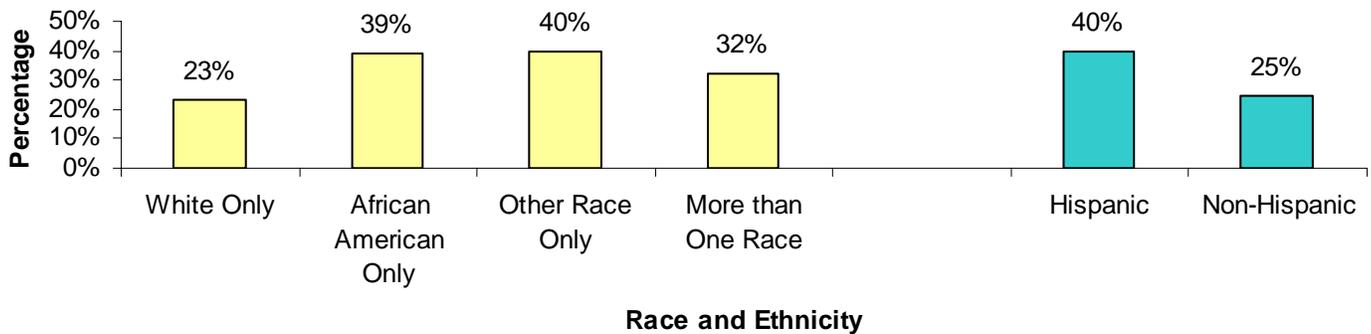
- Less than half of the adults (47 %) meet the recommendation for physical activity.
- Three in four (74%) adults do not meet the recommendation for vigorous physical activity.
- Two in three (65%) adults do not meet the recommendation for moderate physical activity.
- One in four (26%) adults do not participate in leisure time physical activity.

Percentage of Adults Not Participating in Leisure Time Physical Activity 2001-2008



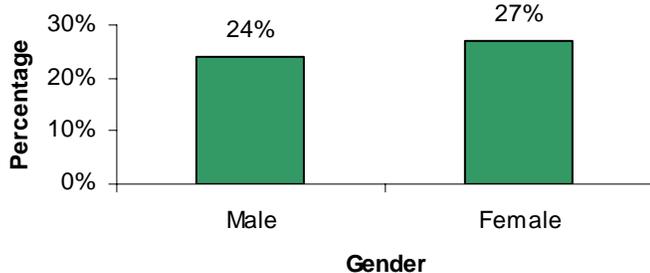
Leisure Time Physical Activity Among Certain Subpopulations

Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Race and Ethnicity

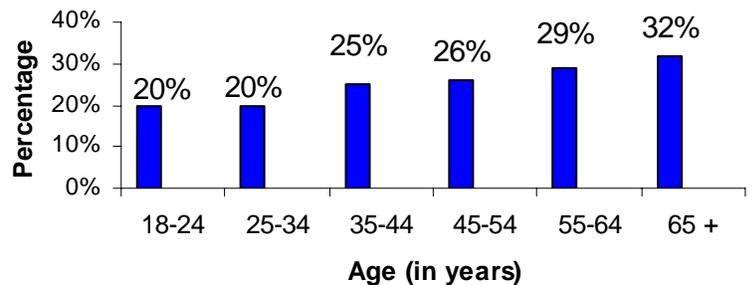


- 39% of African American adults and 23% of White adults do not participate in leisure time physical activity.
- 40% of Hispanic adults do not participate in leisure time physical activity.

Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Gender



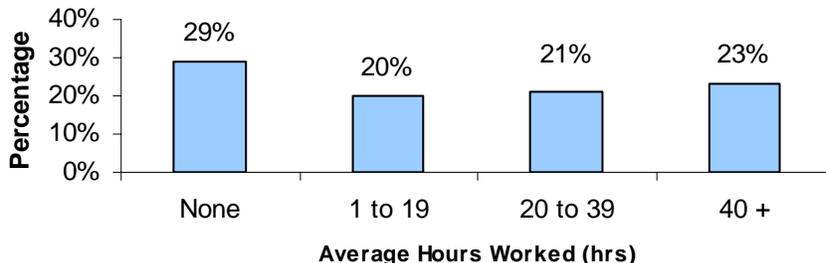
Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Age



- One in four adult females and about one in four adult males do not participate in leisure time physical activity.
- One in five adults ages 18-24 years (20%) do not participate in leisure time physical activity.
- One in three adults ages 65 years and older (32%) do not participate in leisure time physical activity.

Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Average Hours Worked

- Among adults who reported not working any hours per week at a job or business, 29% do not participate in leisure time physical activity.



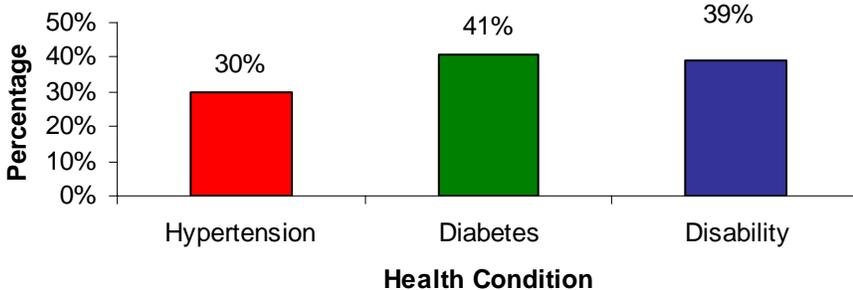
Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Annual Household Income



- Among adults with an annual household income of less than \$15,000, 42% do not participate in leisure time physical activity.

Leisure Time Physical Activity and Health Conditions

Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Health Condition



- About one-third of adults with hypertension do not participate in leisure time physical activity.
- Two out of five adults with diabetes do not participate in leisure time physical activity.
- About two out of five adults living with a disability do not participate in leisure time physical activity.

Summary

Less than half of the Kansans ages 18 years and older engage in the recommended level of physical activity with respect to leisure time activity. The percentage of adults ages 18 years and older who do not participate in leisure time physical activity remained stable over the period of 8 years. The percentage of non-participation in leisure time physical activity is higher among adults aged 65 years and above, African Americans, Hispanics, adults of other races, adults with lower annual household incomes, and individuals who do not work. Higher percentage of non participation in leisure time physical activity was also seen among adults with hypertension and diabetes. The percentage of non-participation in leisure time physical activity is also higher among adults living with disability.

The Healthy People 2010 target for the physical activity objective is to increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day by 50%. As only 35% of adults in Kansas are engaged in the recommended amount of physical activity, therefore to reach this target, further public health efforts are needed.

OBESITY

Poor diet and physical inactivity, risk factors for obesity, are the second actual leading cause of death in the United States (3). Obesity is a condition that raises the risk of morbidity from hypertension, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and certain types of cancers (4). In Kansas, an estimated \$657 million per year in medical costs is spent on obesity related diseases (5).

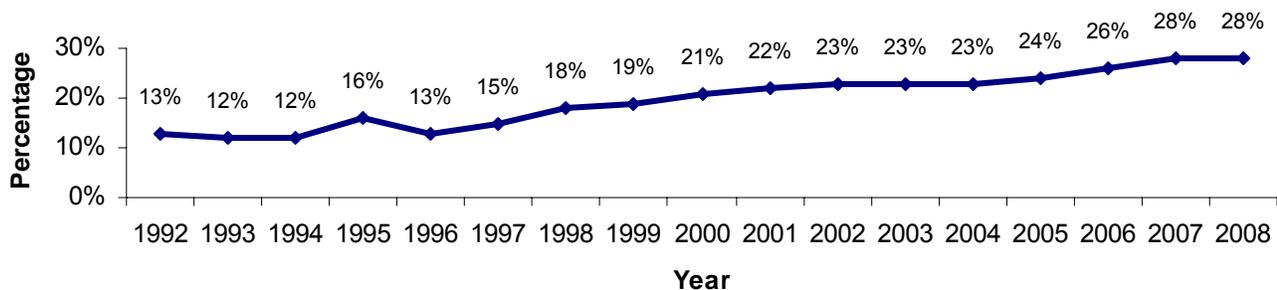
There are many measurements to assess obesity including body mass index (BMI) and waist circumference. BMI is a weight status indicator which measures weight for height in adults and correlates with total body fat content. While BMI is used in population assessment, BMI is not ideal to assess obesity in individuals who are very muscular or who are under 5 feet tall (6).

BMI Classifications:

- **Obese:** BMI greater than or equal to 30 kg/m²
- **Overweight:** BMI 25 to less than 30 kg/m²
- **Normal/Underweight:** BMI less than 25 kg/m²

A BMI calculator is available at
http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tbl

Percentage of Adults Who are Obese, 1992-2008

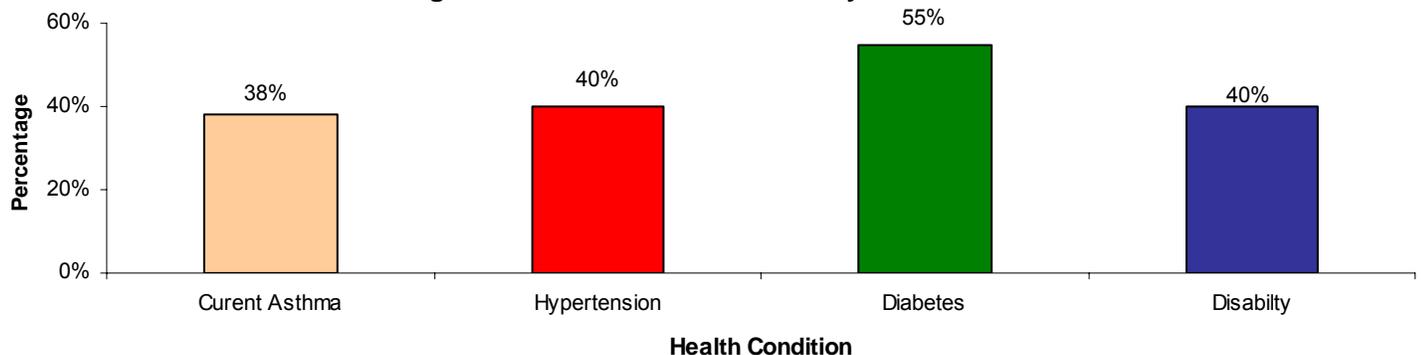


- The prevalence of obesity in Kansas has doubled since 1992.
- In 2008, 28% of adult Kansans are obese.

Obesity and Health Conditions

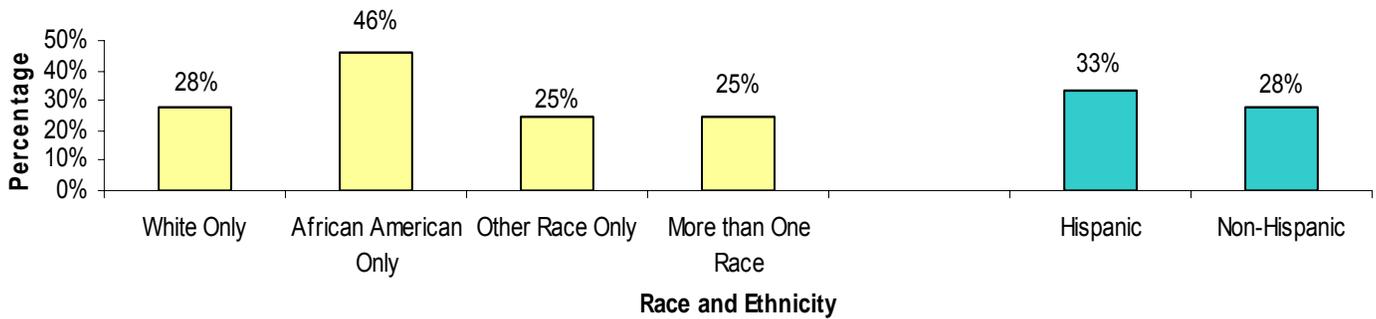
- More than half of the adults with diabetes are obese.

Percentage of Adults Who Are Obese by Health Conditions



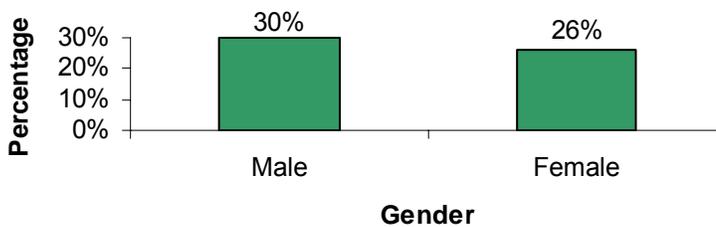
Obesity Among Certain Subpopulations

Percentage of Adults Who Are Obese by Race and Ethnicity

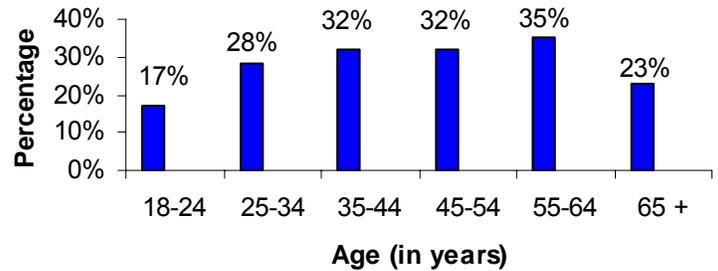


- About one in two (46%) of African American adults are obese (BMI \geq 30).
- One out of three (33%) Hispanic adults and 28% of Non-Hispanic adults are obese.

Percentage of Adults Who Are Obese by Gender

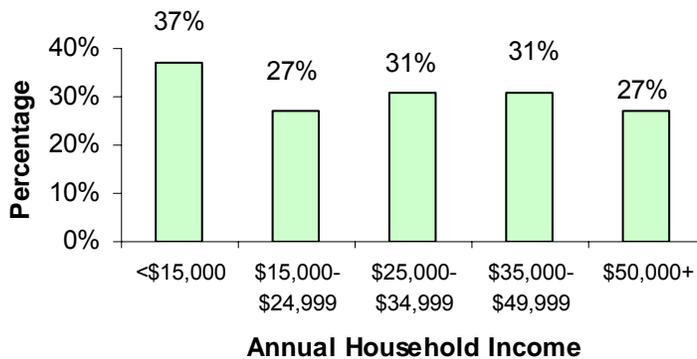


Percentage of Adults Who Are Obese by Age

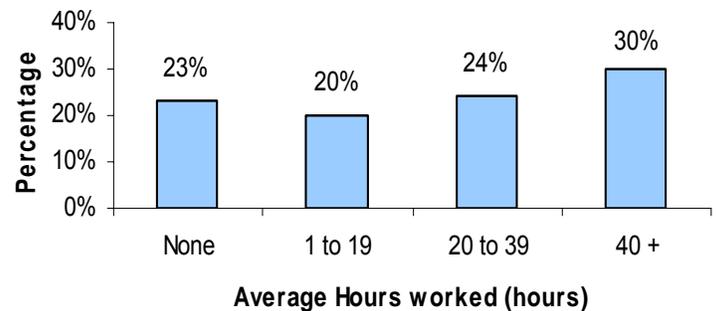


- 30% adult males and 26% adult females in Kansas are obese.
- One in three (35%) adults ages 55-64 years old are obese.

Percentage of Adults Who Are Obese by Annual Household Income



Percentage of Adults Who Are Obese by Average Hours Worked



- Among adults with an annual household income less than \$15,000, 37% are obese.
- About one in three adults who work 40 or more hours per week at a job or business are obese.

Summary

Over a period of 17 years, a steady increase is seen in the prevalence of obesity in Kansas. The prevalence of obesity in Kansas has doubled since 1992. The higher estimates of obesity are seen in adults aged 25 years and above, African Americans, individuals with lower income, and those who work more than 40 hours/week. Higher prevalence of obesity was seen among adults with current asthma, hypertension, and diabetes. The percentage of obesity is also higher among adults living with disability.

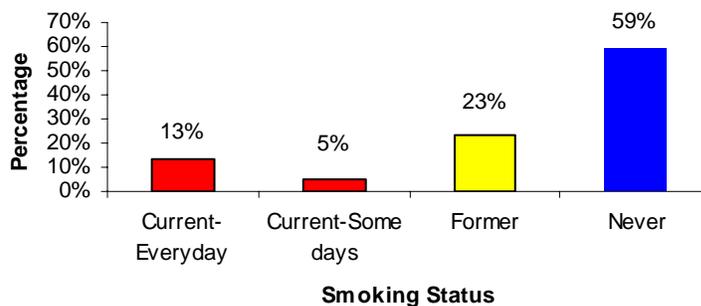
The Healthy People 2010 target for obesity objective is to reduce the proportion of adults who are obese to 15%. As 28% of adults in Kansas are obese, therefore to reach this target, further public health efforts are needed.

TOBACCO USE

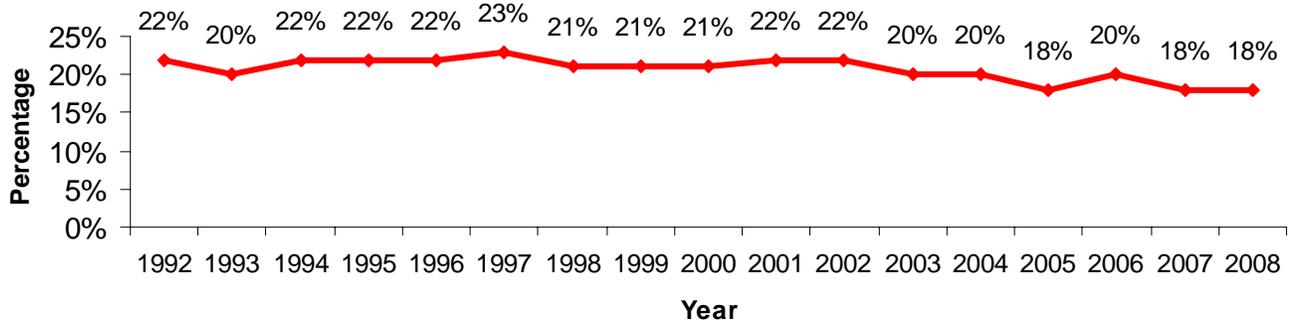
The leading preventable cause of death in the United States is tobacco, resulting in an estimated 430,000 deaths per year (3). Smoking may complicate health problems and is a risk factor for numerous health problems including coronary heart disease, peripheral vascular disease, stroke, emphysema, chronic bronchitis, low birth weight babies, and cancer of the lung, larynx, mouth, esophagus, and bladder (7). In Kansas, an estimated \$724 million per year in medical costs are spent on smoking related diseases(8).

- In 2008, 18% of adult Kansans currently smoke cigarettes.

Percentage of Adults by Smoking Status

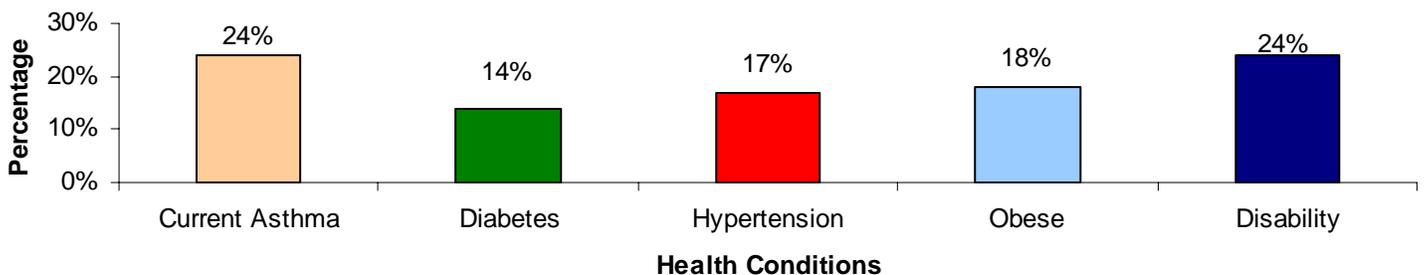


Current Smoking Trend, 1992-2007



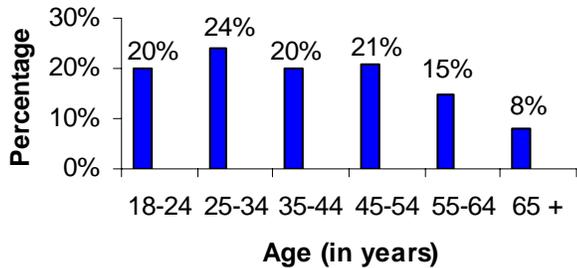
Current Smoking and Health Conditions

- About one in four (24%) adults with current asthma currently smoke cigarettes.

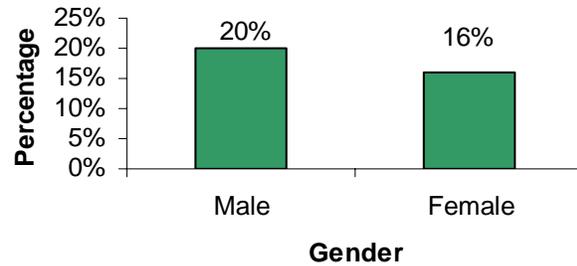


Current Smoking Among Certain Subpopulations

Percentage of Current Smokers by Age

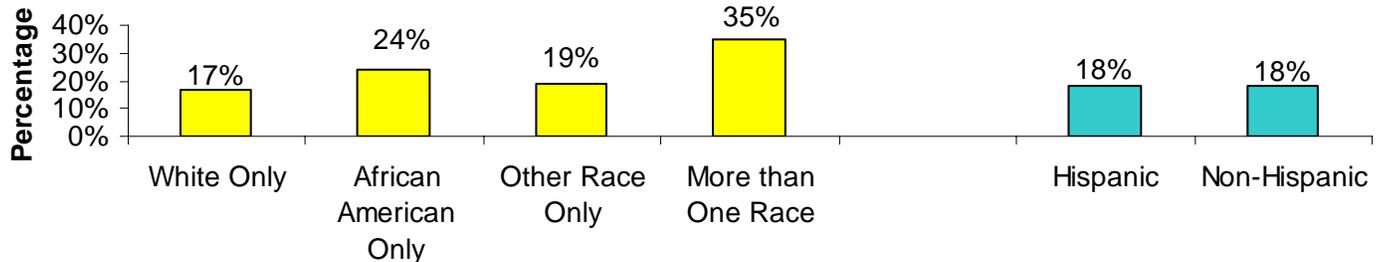


Percentage of Current Smokers by Gender



- One in five adults ages 18-24 years currently smoke cigarettes.
- 20% of adult males and 16% of adult females currently smoke cigarettes.

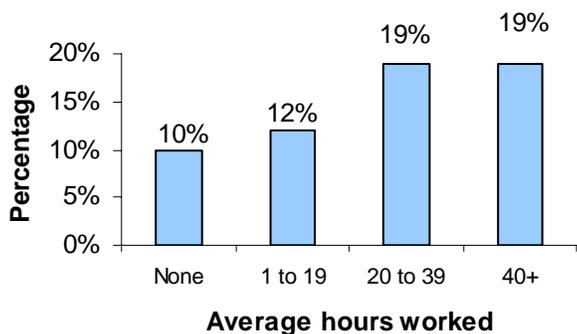
Percentage of Current Smokers by Race and Ethnicity



Race and Ethnicity

- More than 1 in 3 (35%) adult Kansans who are multi-racial currently smoke cigarettes.
- 18% of adult Hispanics and 18% of adult Non-Hispanics currently smoke cigarettes.

Percentage of Current Smokers by Average Hours Worked



Percentage of Current Smokers by Annual Household Income



- Among adults who currently work 40 or more hours per week at a job or business, 19% currently smoke cigarettes.
- One in three (33%) adults with an annual household income less than \$15,000 currently smoke cigarettes.

Summary

In Kansas, an estimated 378,297 (18%) adults ages 18 years and older are current smokers. From 2002 onwards a slow decline is seen in the prevalence of current smoking. However in more recent years, a plateau is seen. The prevalence of current smokers is higher among young and middle aged adults, males and individuals with lower annual household income. Prevalence of current smokers is also high among adults that have current asthma and among adults living with disability.

The Healthy People 2010 target for tobacco use objective is to reduce cigarette smoking by adults to 12%. As 18% of adults in Kansas are current cigarettes smokers therefore to reach this target, further public health efforts are needed.

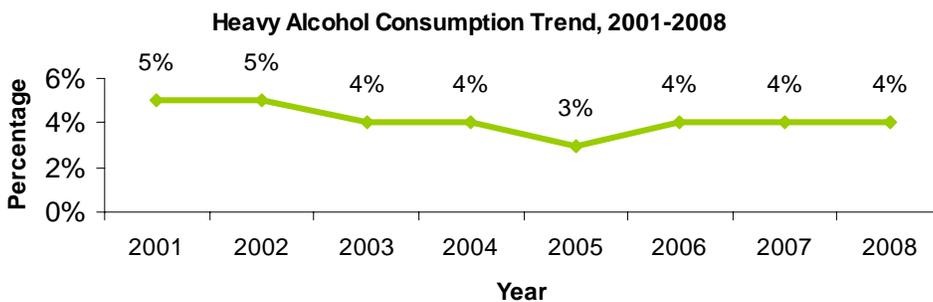
SUBSTANCE ABUSE: ALCOHOL

Alcohol is the third leading actual cause of death in the United States and is estimated to be responsible for approximately 85,000 deaths each year (3). In the United States, over \$100 billion each year is associated with alcohol abuse; 70% of these costs are in the form of lost productivity and 10% for medical treatment (9). Types of alcohol consumption include acute (binge) and chronic (heavy) drinking.

Heavy Alcohol Consumption

Heavy alcohol consumption is defined as more than two drinks per day for men and more than one drink per day for women during the past 30 days.

Heavy drinking is associated with a number of chronic health conditions, including chronic liver disease and cirrhosis, gastrointestinal cancers, heart disease, stroke, pancreatitis, depression, and a variety of social problems (10).

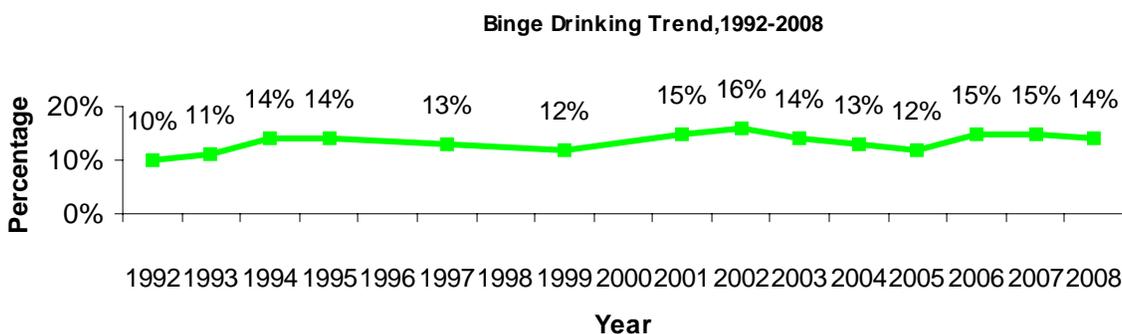


- In 2008, 4% of Kansas adults reported heavy consumption of alcohol in the past 30 days.

Binge Drinking

Binge drinking is defined as consumption of five or more drinks for males and four or more drinks for females on one occasion.

Binge drinking is associated with a number of adverse health effects including: motor vehicle crashes, falls, burns, drowning, hypothermia, homicide, suicide, child abuse, domestic violence, sudden infant death syndrome, alcohol poisoning, hypertension; myocardial infarction, gastritis, Pancreatitis, sexually transmitted diseases, meningitis, and poor control of diabetes (10).

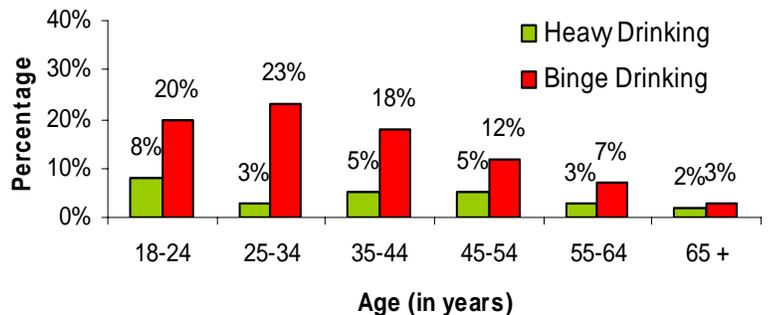


- In 2008, 14% of Kansas adults reported consuming five or more drinks on an occasion in the past 30 days.

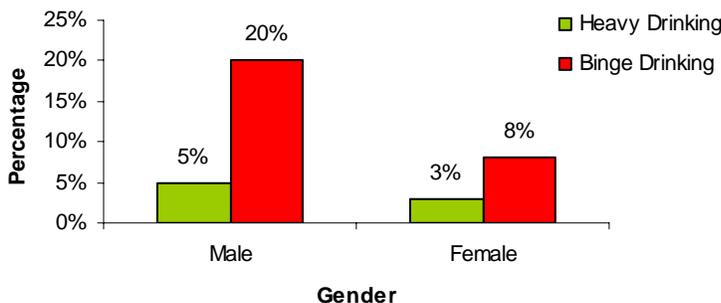
Heavy Alcohol Consumption and Binge Drinking Among Certain Subpopulations

- 8% of 18-24 year old Kansans reported heavy alcohol consumption during the past 30 days.
- 20% of adults ages 18-24 years reported binge drinking on an occasion in the past 30 days.

Heavy Alcohol Consumption and Binge Drinking by Age

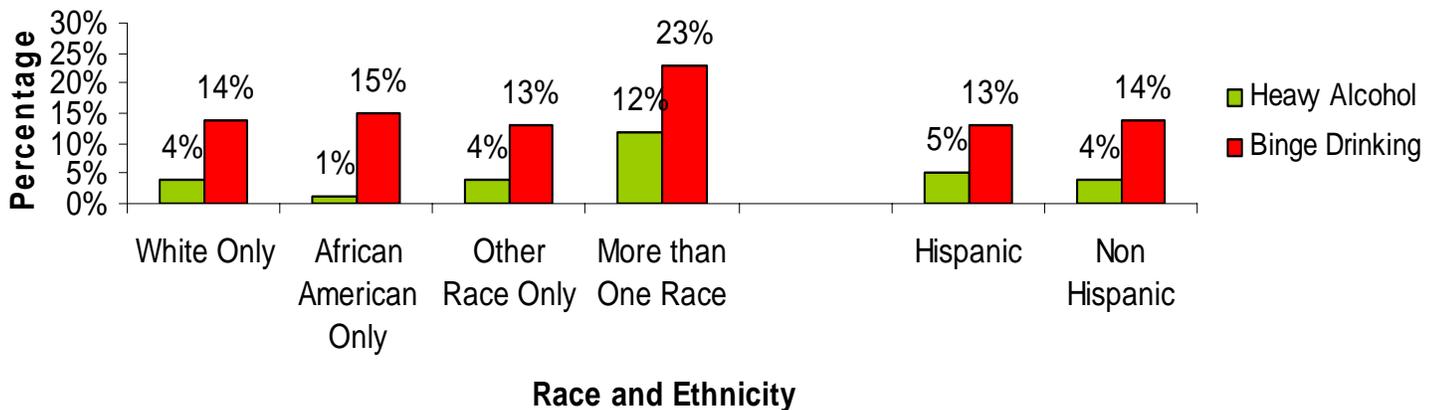


Heavy Alcohol Consumption and Binge Drinking by Gender



- 5% of males ages 18 years and older reported heavy alcohol consumption in the past 30 days.
- One in five males ages 18 years and older binge drank on an occasion in the past 30 days.

Heavy Alcohol Consumption and Binge Drinking by Race and Ethnicity



- Heavy alcohol consumption within the past 30 days is reported by 12% of multiracial and by 4% of white adults.
- Binge drinking within the past 30 days is reported by about 1 in 4 (23%) multiracial adults.
- Binge drinking is reported by 13% of Hispanic and 14% of non-Hispanic adults.

Summary

Over the past several years, the prevalence of heavy and binge drinking among Kansans adults ages 18 years and older has remained stable. The higher prevalence of heavy drinking and binge drinking are seen among males and younger age groups.

The Healthy People 2010 target for the substance abuse objective is to reduce the proportion of adults engaging in binge drinking of alcoholic beverages during the past month to 6%. As 14% of adults in Kansas are binge drinker of alcoholic beverages during the past month, therefore to reach this target, further public health efforts are needed.

MENTAL HEALTH

Mental health plays a vital role in a person's well being, family and interpersonal relationships, and a person's involvement in society (11). Anxiety and Depression are considered leading causes of mental health disorders. Anxiety disorders are the most prevalent mental disorder among adults in the United States. On average, an estimated 40 million (18.1%) adults are affected with an anxiety disorder (12, 13). Depression is one of the leading mental health disorders (14). It affects on average about 20.9 million (9.6%) of the adults, ages 18 years and older in the United States (13).

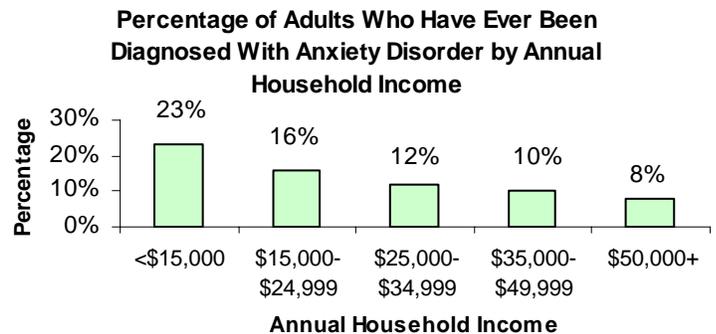
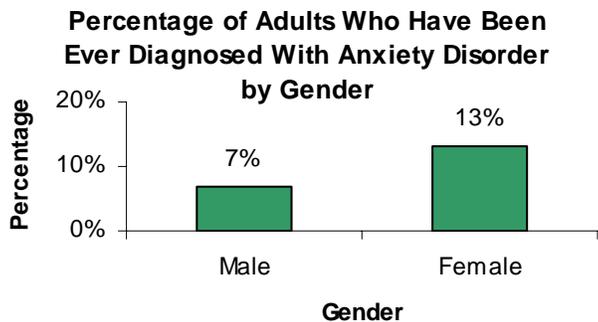
Types of Anxiety and Depression

The types of Anxiety include acute stress disorder, generalized anxiety disorders, obsessive-compulsive disorders, panic disorders, posttraumatic stress disorder, social anxiety disorder and specific phobias (14).

The types of Depression include major depression disorder, minor depression, dysthymia, and bipolar disorder (15).

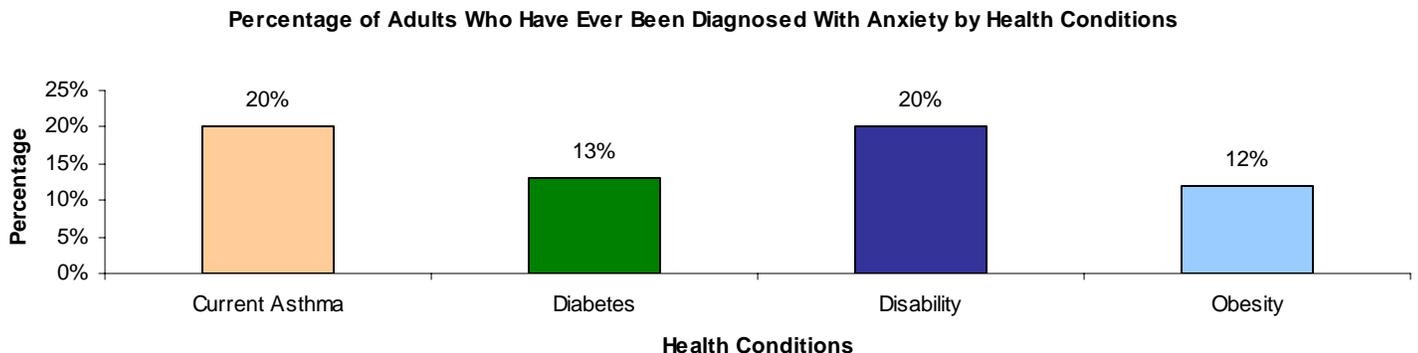
Anxiety Status in Kansas

- An estimated 210,165 (10%) Kansas adults ages 18 years and older have ever been diagnosed with anxiety disorder (life time) by a doctor or other health care provider.
- About 7% of males and 13% of females have ever been diagnosed with anxiety.
- About 1 in 4 (23%) adults with annual household income of less than \$15,000 have ever been diagnosed with anxiety.
- About 1 in 5 (20%) divorced or separated adults have ever been diagnosed with anxiety.



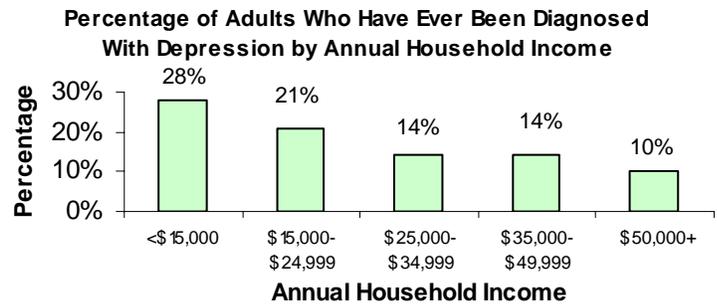
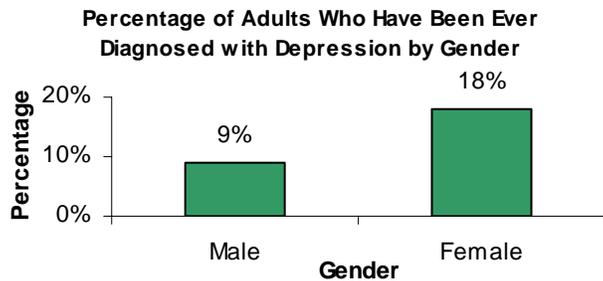
Anxiety and Health Conditions

- About 1 in 5 (20%) adults with current asthma have ever been diagnosed with anxiety disorder.
- About 1 in 5 (20%) adults living with disability have ever been diagnosed with anxiety disorder.



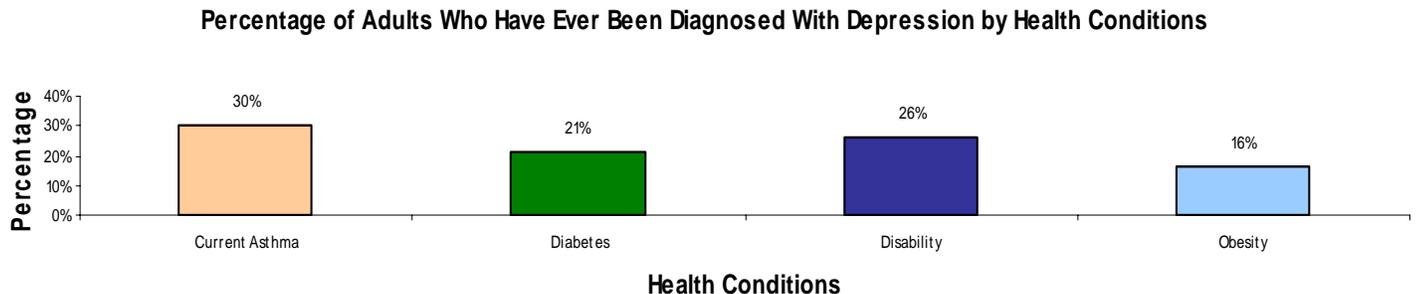
Depression in Kansas

- An estimated 294,231 (14%) Kansas adults ages 18 years and older have ever been diagnosed with depression disorder (life type) by a doctor or other health care provider.
- About 9% of males and 18% of females have ever been diagnosed with depression.
- About 1 in 3 (28%) adults with annual household income of less than \$15,000 have ever been diagnosed with depression.
- About 1 in 4 (24%) divorced or separated adults have ever been diagnosed with depression.



Depression and Health Conditions

- About 1 in 3 (30%) adults with current asthma have ever been diagnosed with depression.
- About 1 in 4 (26%) adults living with disability have ever been diagnosed with depression.



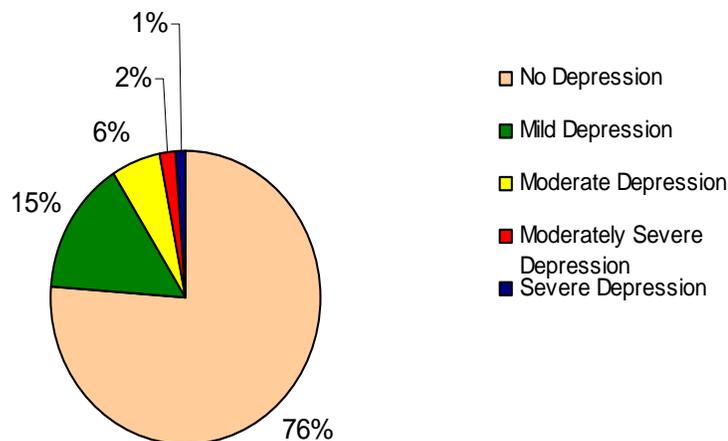
Severity of Depression Based on the Patient Health Questionnaire (PHQ-8)

PHQ-8, was derived from PHQ-9 (it included 8 out of 9 questions of PHQ-9). PHQ-9 is a tool derived from Primary Care Evaluation of Mental Disorders (PRIME-MD) to provide assistance to general practitioners in the diagnosis and evaluation of psychiatric disorders. In the mid-1990s, PRIME-MD was developed by Drs. Robert Spitzer and Kurt Kroenke and colleagues at Columbia University in collaboration with researchers at the Regenstrief Institute at Indiana University. The questionnaire includes items corresponding to each of the nine depression criteria listed in the DSM-IV, and scores range from 0 to 27. Cut-points of 5, 10, 15 and 20 represent the threshold for mild, moderate, moderately severe, and severe depression (16). The PHQ-9 is posted online at <www.pfizer.com/phq-9/>. The Centers for Disease Control and Prevention through the Behavioral Surveillance Branch included the Anxiety and Depression Module in 2006 and 2008 BRFSS. This module included 8 questions from PHQ-9, hence referred as PHQ-8. The Kansas 2008 BRFSS data for these 8 questions are analyzed here using the severity score methodology described by the authors of PHQ-9 (available at: http://www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9/severity_scoring/).

The methodology for creating a depression severity scale includes conversion of the number of days reported by the respondent for each of the eight questions of PHQ-8 into points. The number of points are then totaled across all 8 questions to determine depressive symptoms severity score for each respondent. The results of this analysis showed that:

- About 1 in 4 (24%) respondents received a score of five and higher showing some level of depression.
- About 1 in 6 (15%) adults have mild depression and about 6% of adults have moderate depression, where as 3% of respondents have moderately severe or severe depression.
- By using data from PHQ-8 questions and resulting depression severity scores, a higher percentage of adults is identified with depression as compared to the percentage of adults who reported having ever been told by a doctor or other health professional that they have depression (24% vs. 14%).

Severity Status of Depression Among Adults in Kansas Based on PHQ-8 Questionnaire and Severity Score

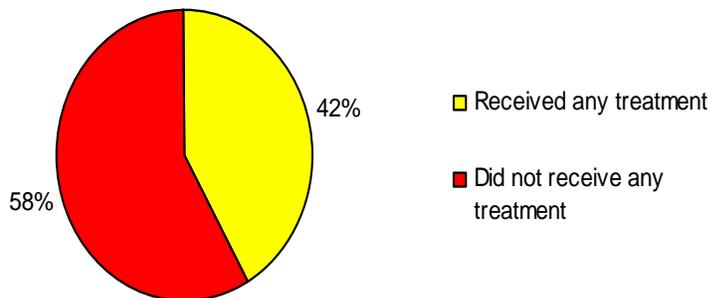


Depression Treatment

One of the objectives addressing mental health issues recommended by the Healthy People 2010 plan is to increase the proportion of adults with recognized depression who receive treatment. Depression is a treatable condition. Available medications and psychological treatments, alone or in combination, can help 80 percent of those with depression. With adequate treatment, future episodes of depression can be prevented or reduced in severity. Treatment for depression can enable people to return to satisfactory, functioning lives (1). Healthy people 2010 target for the adults aged 18 years and older with recognized depression to receive treatment is 64 %.

Before 2008, data on treatment among Kansans with depression were not available. In 2008, a set of seven questions to assess the treatment status among adults with depression was asked through Kansas BRFSS survey. Treatment was defined as any treatment and hospitalization for sadness, discouragement or lack of interest for a period of two weeks or longer in the past 12 months.

Depression Treatment Among Adults Aged 18 Years and Older, Kansas 2008



- In 2008 survey about 4 in 10 (41.8%) adults aged 18 years and older who reported having symptoms of depression over a period of two weeks and longer in the past 12 months received any treatment.

No statistically significant difference is seen in the percentage of adults with depressive symptoms receiving a treatment by age, gender, race, ethnicity, education, annual household income and marital status.

The respondents who have depression symptoms but do not receive the treatment were asked the main reason for not receiving the treatment. The top three reason were that they did not feel the need or felt that there symptoms were not severe enough (38.1%), could not afford the treatment (20.5%) and they were fearful/ apprehensive/ nervous/disliked going for treatment (9%).

IMMUNIZATIONS

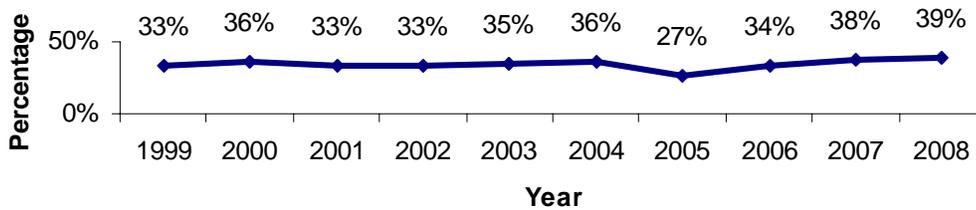
In 2005, influenza and pneumonia were the 8th leading cause of death in the United States (17). Most of these deaths could have been prevented with proper vaccination. Influenza vaccination is 70-90% effective in preventing illness among healthy adults less than 65 years old. Among healthy adults 65 years and older, the influenza vaccination is 30-40% effective in preventing illness and 85% effective in preventing influenza related death (18).

Influenza Vaccination

It is recommended that the following adult groups receive an influenza vaccination every year: (18):

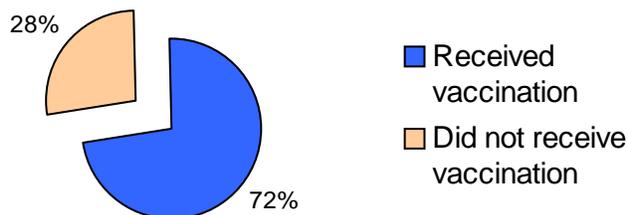
- Adults ages 50 years and older
- Persons ages 2-64 years with underlying chronic medical conditions such as asthma, diabetes, and heart problems
- Pregnant females
- Adults with children < 6 months in their home
- Residents of nursing homes and other chronic care facilities
- Health care workers who have direct patient contact
- Out of home caregivers
- Influenza recommendations for children can be found at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr54e713a1.htm>

Percentage of Adults Who Reported Having a Flu shot During the Past 12 Months, 1999-2008



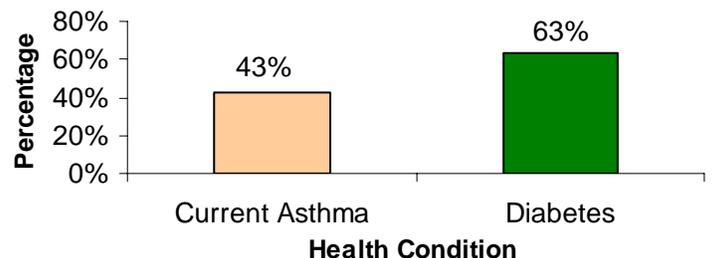
- In 2008, 39% adults in Kansas received a Flu shot within the past 12 months.
- In 2008, 39.5% adults in Kansas received influenza vaccination either by Flu shot or Flu spray.

Percentage of Adults Ages 65 Years and Older Who Received a Flu shot in the Past 12 Months



- About 3 in 4 (72%) adults ages 65 years and older received an influenza vaccination during the past 12 months.

Percentage of Adults Who Received a Flu shot in the Past 12 Months by Health Conditions



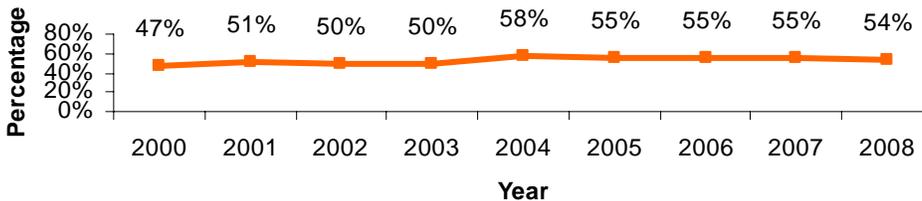
- 43% of adults with asthma received an influenza vaccination in the past 12 months.
- About two-thirds (63%) of adults with diabetes received an influenza vaccination in the past 12 months.

Pneumococcal Vaccination (Also Known As Pneumonia Shot)

It is recommended that the following adult groups receive a pneumococcal vaccination (2):

- Adults ages 65 years and older
- Persons ages 2-64 years with underlying chronic medical conditions such as asthma, diabetes, and heart problems
- Persons ages 2-64 years living in environments or social conditions in which the risk for invasive pneumococcal disease or its complications is increased

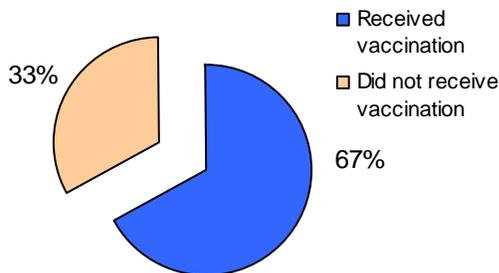
Percentage of At Risk Adults* Who have Received a Pneumococcal Vaccination in Kansas, 2000-2008



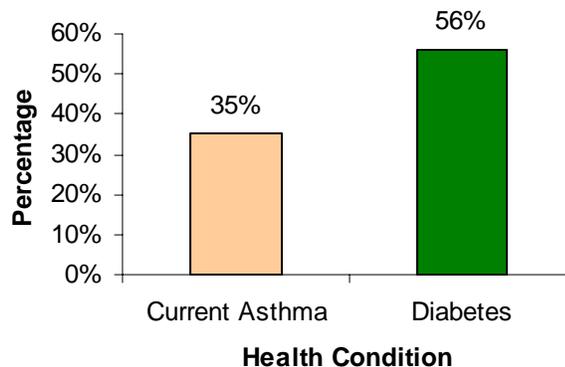
* At risk adults are those who have diabetes, asthma or who are 65 years of age or older.

- In 2008 about more than half (54%) of adults in Kansas who have diabetes, or asthma, or who are 65 years and older have ever received a pneumococcal vaccination.

Percentage of Adults Ages 65 Years and Older Who Have Ever Received a Pneumococcal Vaccination



Percentage of Adults Who Have Received a Pneumococcal Vaccination by Health Condition



- More than two-thirds (67%) of adult Kansans ages 65 years and older reported that they have ever received a pneumococcal vaccination.
- About one-third (35%) of adults with asthma have ever received a pneumococcal vaccination.
- Among adults with diabetes, more than half (56%) have ever received a pneumococcal vaccination.

Summary

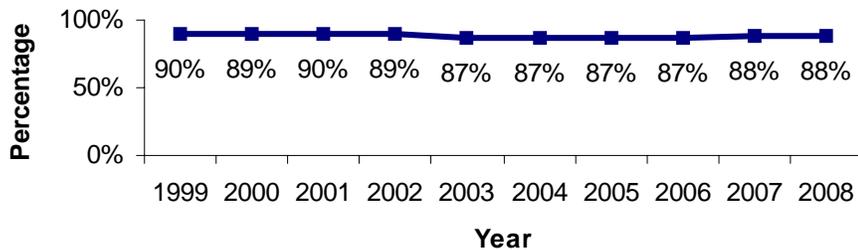
Over the past several years, the prevalence of adults ages 18 years and older receiving annual influenza and one time pneumococcal vaccine has remained low and stable. The percentages of these vaccinations among adults with current asthma and diabetes are also low.

The Healthy People 2010 target is to increase the proportion of non-institutionalized adults aged 65 years and older who are vaccinated annually against influenza by 90%. The 2008 Kansas estimate for this age groups is far below this target. The Healthy People 2010 target for pneumococcal vaccination among adults 65 years and older is also 90%. The Kansas estimate for pneumococcal vaccination among adults of this age group is also far below the target. Further public health efforts are needed to create awareness regarding health benefits of these vaccinations in adults ages 65 years and older.

ACCESS TO HEALTH CARE:

Access to health care can be defined as “the timely use of personal health services to achieve the best possible health outcomes”, which includes both use and effectiveness of services such as health information and preventive treatment (19). Access to quality care is necessary to eliminate health disparities, increase the number of years of life and increase the quality of life.

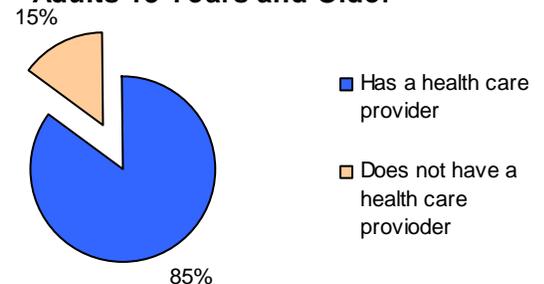
Percentage of Adults Ages 18 Years and Older Who Have Health Care Coverage, 1999-2008



- In 2008, 88% of adults ages 18 years and older had some type of health care coverage including health insurance, prepaid plans such as HMOs or governmental plan such as Medicare.

- In 2008, 85% of adults ages 18 years and older had at least one person they think of as their personal doctor or health care provider.

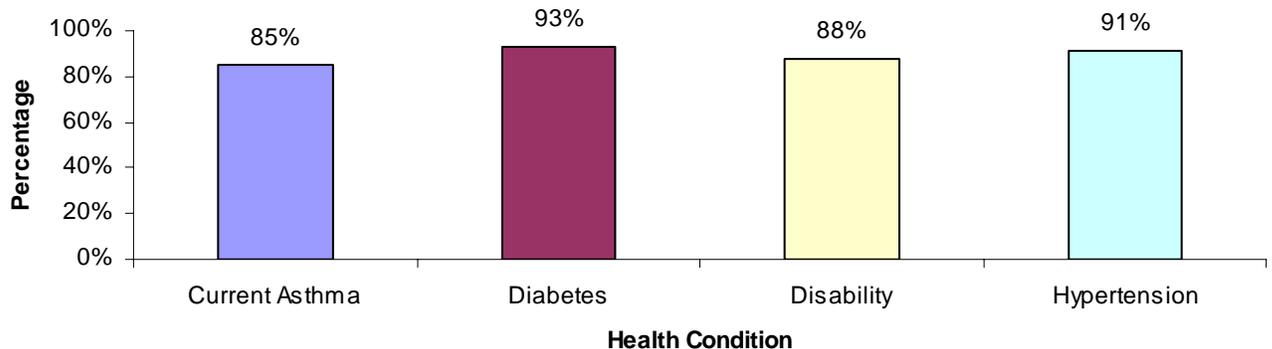
Health Care provider Status Among Adults 18 Years and Older



Health Care Access and Health Conditions

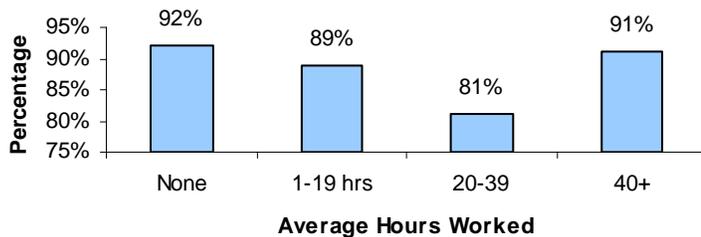
- About 85% adults with asthma and 93% of adults with diabetes have health care coverage.
- Among adults with a disability, 88% have health care coverage.

Percentage of Adults With Health Care Coverage by Health Condition

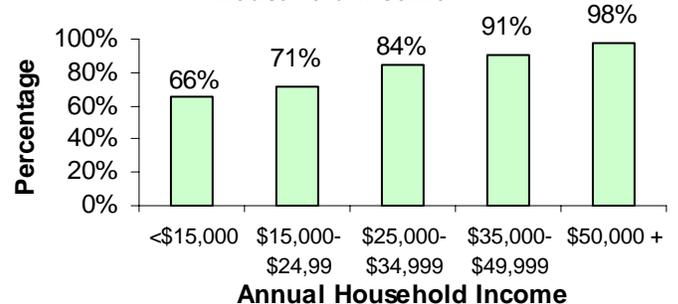


Health Care Access Among Certain Subpopulations

Percentage of Adults 18 Years and Older Who Have Health Care Coverage by Average Hours Worked

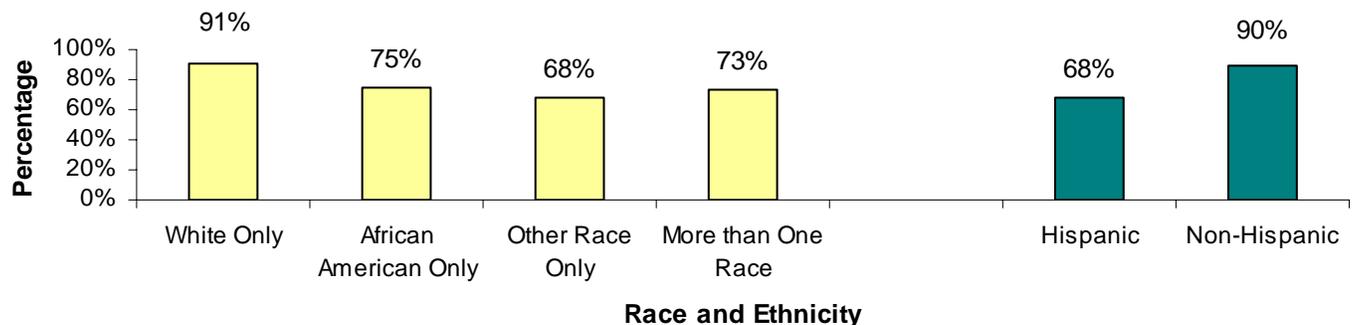


Percentage of Adults 18 Years and Older Who Have Health Care Coverage by Annual Household Income



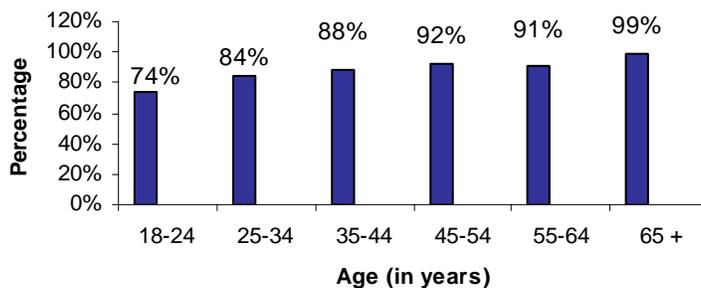
- Among adults ages 18 years and older who reported not working any hours at a job or business, 92% have health care coverage.
- 66% of adults ages 18 years and older with an annual household income level of less than \$15,000 have health care coverage.

Percentage of Adults Ages 18 Years and Older With Health Care Coverage by Race and Ethnicity

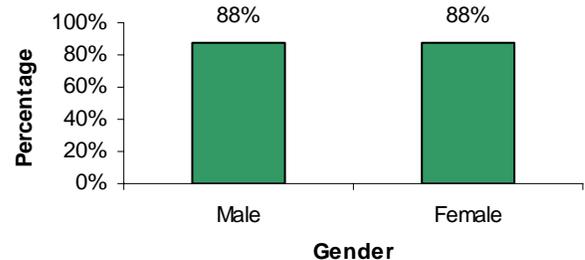


- About two-thirds (68%) of adults ages 18 years and older who are Asian, Native Hawaiian or Pacific Islander, Alaska Native, American Indian or other race have health care coverage.
- 68% of Hispanics ages 18 years and older have health care coverage.

Percentage of Adult 18 Years and Older With Health Care Coverage by Age



Percentage of Adults Ages 18 Years and Older Who Have Health Care Coverage by Gender

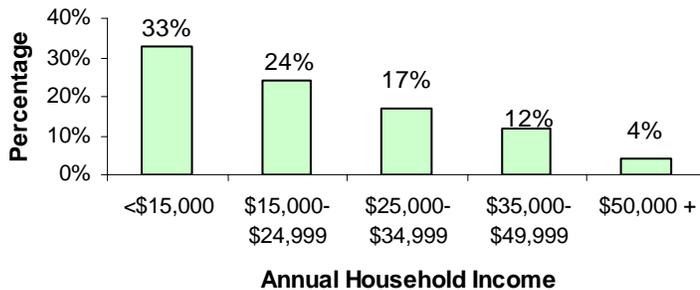


- 74% of Kansans ages 18-24 years have some type of health care coverage compared to 99% of Kansans ages 65 years and older who have some type of health care coverage.
- About 9 in 10 men and women ages 18 years and older have health care coverage.

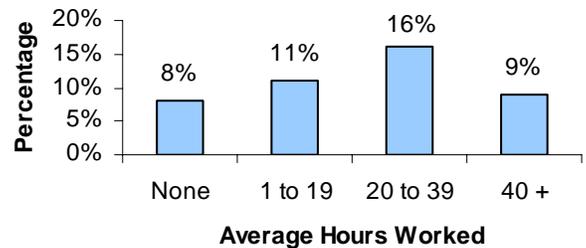
Medical Costs

In 2008, 11% of adult Kansans ages 18 years and older who needed to see a doctor in the past 12 months but could not because of the cost.

Percentage of Adults Ages 18 Years and Older Who Needed to See a Doctor But Could Not Because of the Cost by Annual Household Income

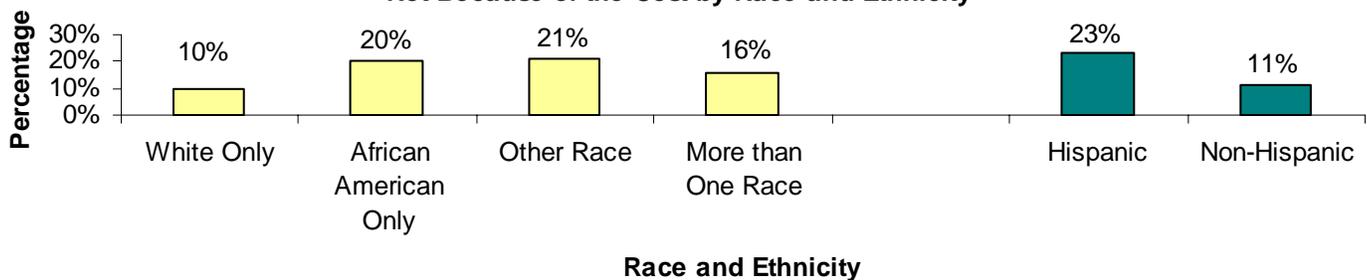


Percentage of Adults Ages 18 Years and Older Who Needed to See a Doctor But Could Not Because of Cost by Average Hours Worked



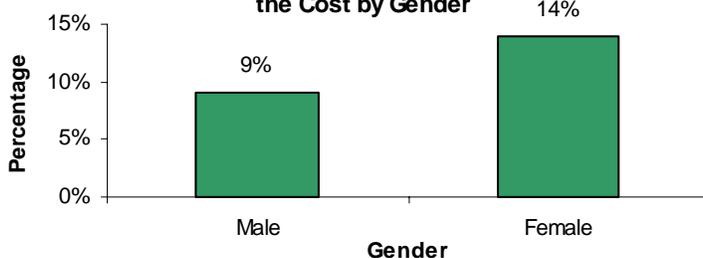
- 1 in 3 (33%) of Kansans ages 18 years and older with an annual income less than \$15,000 needed to see a doctor during the past 12 months but could not because of the cost.
- 8% of Kansans ages 18 years and older who reported not working any hours per week at a job or business needed to see a doctor during the past 12 months but could not because of the cost.

Percentage of Adults Ages 18 Years and Older Who Needed to See a Doctor But Could Not Because of the Cost by Race and Ethnicity



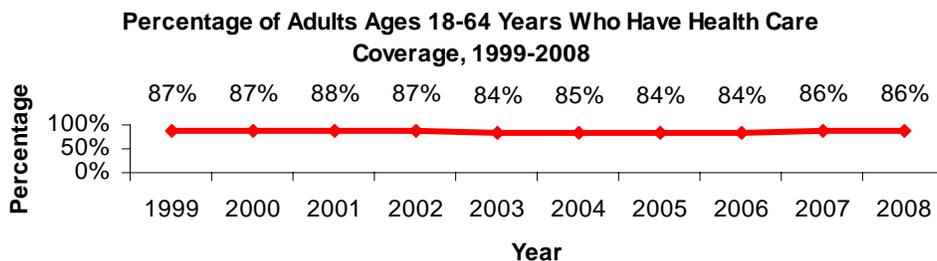
- One in five African Americans and more than 1 in 6 adults with more than one race needed to see a doctor during the past 12 months but could not because of the cost.
- About 1 in 4 (23%) Hispanics and 11% of Non-Hispanics needed to see a doctor during the past 12 months but could not because of the cost.

Percentage of Adults Ages 18 Years and Older Who Needed to See a Doctor But Could Not Because of the Cost by Gender



- 9% of males and 14% of females ages 18 years and older needed to see a doctor during the past 12 months but could not because of the cost.

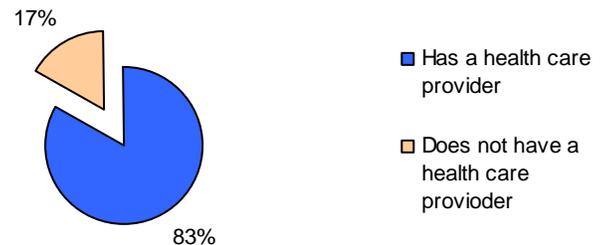
ACCESS TO HEALTH CARE AMONG ADULTS: 18 – 64 YEARS OLD:



- In 2008, 86% of adults ages 18-64 years had some type of health care coverage including health insurance, prepaid plans such as HMOs or governmental plan such as Medicare.

- In 2008, 83% of adults ages 18-64 years had at least one person they think of as their personal doctor or health care provider.

Health Care provider Status Among Adults Ages 18 - 64 Years

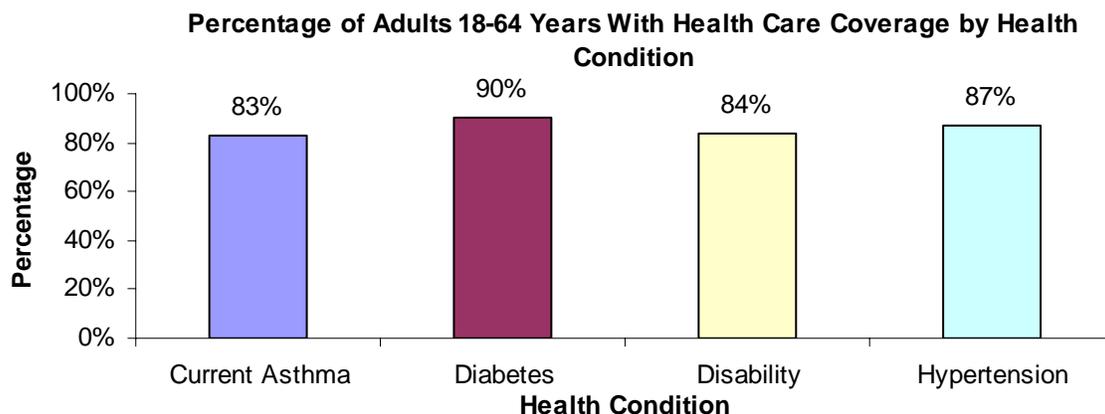


Medical Costs

In 2008, 13% of adult Kansans ages 18 - 64 years who needed to see a doctor in the past 12 months

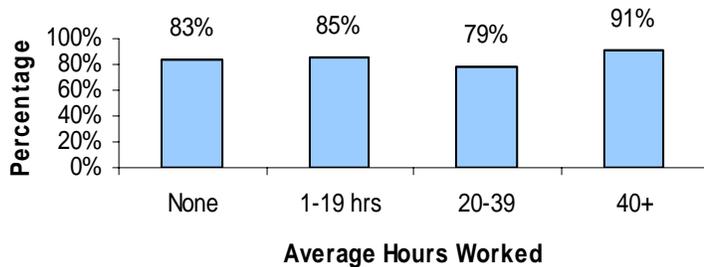
Health Care Access and Health Conditions

- About 9 in 10 adults ages 18 –64 years with diabetes and hypertension have health care coverage.
- Among adults ages 18-64 with a disability, 84% have health care coverage.

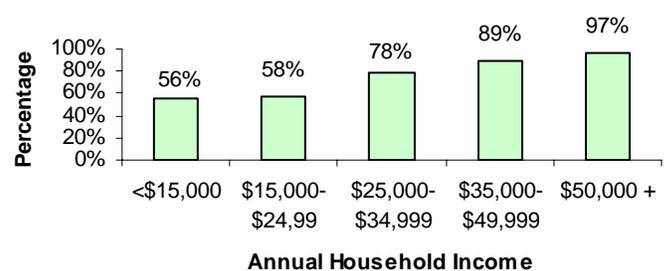


Health Care Access Among Certain Subpopulations

Percentage of Adults 18 - 64 Years Who Have Health Care Coverage by Average Hours Worked

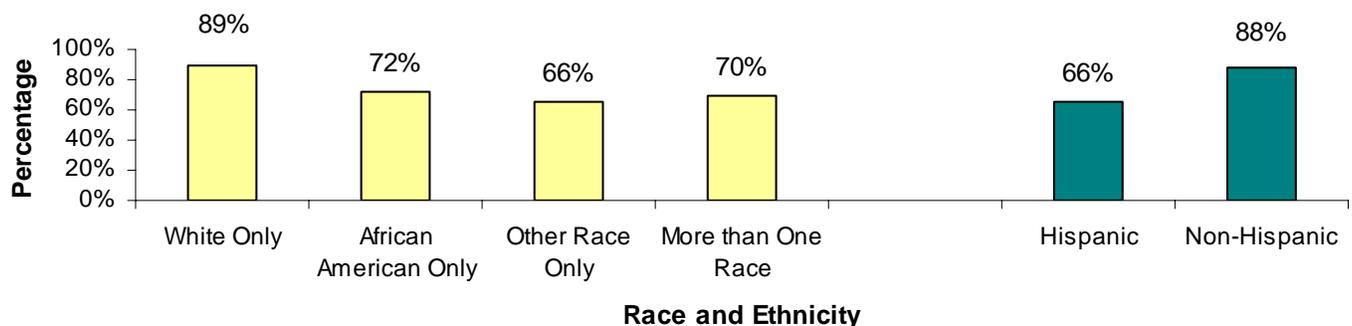


Percentage of Adults 18 - 64 Years Who Have Health Care Coverage by Annual Household Income



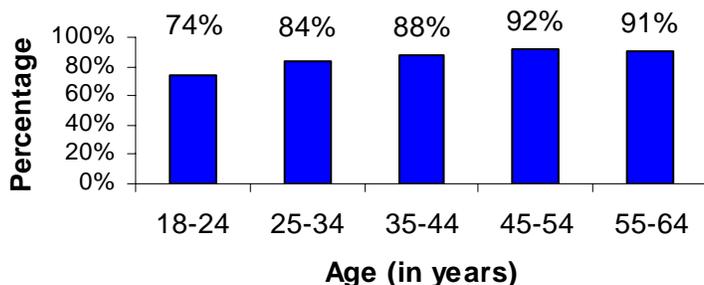
- Among adults ages 18 – 64 years who reported not working any hours at a job or business, 83% have health care coverage.
- 56% of adults ages 18 - 64 years with an annual household income level of less than \$15,000 have health care coverage.

Percentage of Adults Ages 18 - 64 Years With Health Care Coverage by Race and Ethnicity

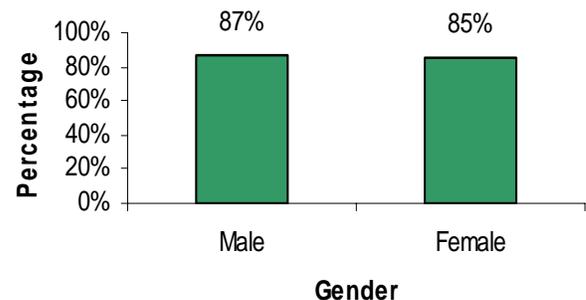


- About two-third (66%) adults ages 18 - 64 years who are Asian, Native Hawaiian or Pacific Islander, Alaska Native, American Indian or other have health care coverage.
- About two-third (66%) of Hispanics ages 18 - 64 years have health care coverage.

Percentage of Adults Ages 18 - 64 Years Who Have Health Care Coverage by Age



Percentage of Adults Ages 18 - 64 Years Who Have Health Care Coverage by Gender



- 74% of Kansans ages 18-24 years have some type of health care coverage compared to 91% of Kansans ages 55 – 64 years.
- About 4 in 5 men and women ages 18 - 64 years have health care coverage.

Summary

In 2008, 88% of adults ages 18 years and older had some type of health care coverage. Less percentage of health care coverage is seen among ages 18-24 years, African Americans, Hispanics, those with lower household income and those who worked for 20 to 39 hours.

11% of adults age 18 years and older could not see a doctor in the past twelve months because of cost. Higher percent of adults who could not afford to see a doctor because of cost were seen among African Americans, Hispanics, those with lower household income and those who worked for 20 to 39 hours.

86% of adults age 18-64 years had some type of health care coverage. Lower percentage of health care coverage was seen among adults aged 18-64 years in African Americans, Hispanics, and among adults with lower household income.

The Healthy People 2010 target for the access to health care objective is to increase the proportion of persons with health insurance to 100%. Also to increase the proportion of persons who have a specific source of ongoing primary care to 96%. As only 88% of adults in Kansas are with health insurance, and only 85% has a specific source of ongoing primary care therefore to reach this target, further public health efforts are needed.

Featured Issues in 2008

Featured issues are public health topics, which are not leading health indicators but are public health concerns in the state of Kansas. These issues were selected based on disease prevalence, public health impact, and availability of data in the 2008 Kansas BRFSS survey.

To view other health topics not featured in this report, please visit:

<http://www.kdheks.gov/brfss/Questionnaires/quest2008.html>

Natural Disasters and 2007 Greensburg Tornado

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. Tornadoes cause an average of 70 fatalities and 1,500 injuries in the U.S. each year (20). Kansas is known to have many tornadoes in a year, and the Greensburg Tornado that strike on May 4, 2007 was a EF5 (Enhanced Fujita Scale) intensity that killed 11 people and leveled at least 95 percent of the city.

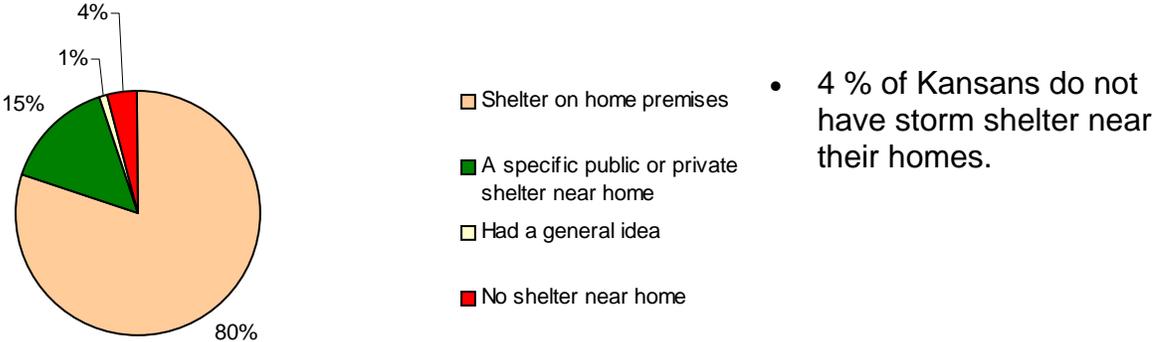
In 2008 Kansas BRFSS some questions were asked to understand how prepared is the population for a large scale disaster or emergency. A large scale disaster or emergency like hurricane, tornado, flood or ice storm, is an event that leaves people isolated in their homes or displaces from their homes for at least 3 days.

Percentage of Adults 18 Years and Older by their preparation status of household to handle a large-scale natural disaster

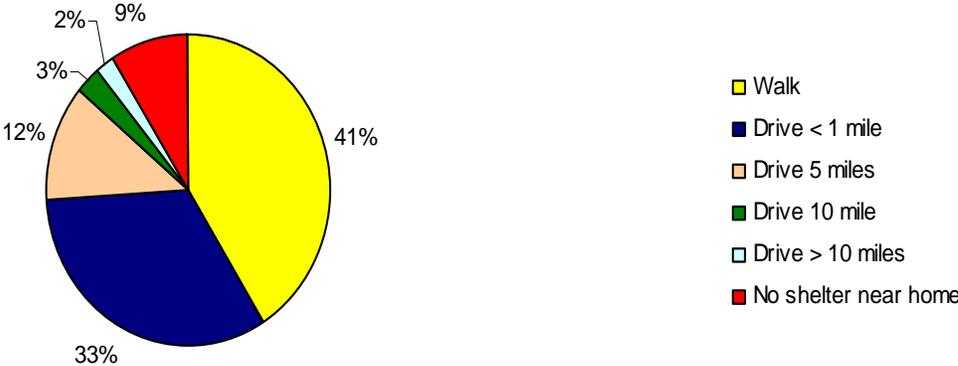


- One in five (18%) adults reported their household was not prepared for a large-scale natural disaster or emergency.
- Six out of ten (57%) adults reported their household was somewhat prepared for a large-scale natural disaster or emergency.
- One in four (25%) adults reported their household was well prepared for a large-scale natural disaster or emergency.

Percentage of Adults 18 Years and Older by Their Location of Storm Shelter

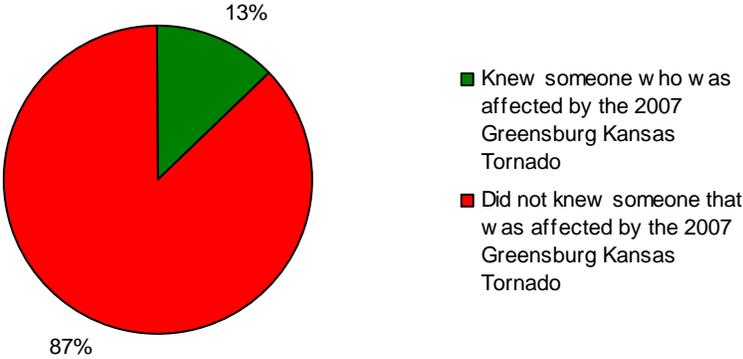


Percentage of Adults 18 Years and Older on How Would They Get To The Nearest Storm Shelter



- 4% of Kansans i.e., about 84,066 do not have a shelter on their home premises. Of those 84,066 adults who do not have a shelter on home premises, 9% do not have a shelter near their homes. Five percent have to drive for 10 or more miles, 12% have to drive 5 miles and 33% have to drive less than one mile to reach to a nearest shelter.

Percentage of Adults 18 Years and Older Who Knew Someone That was Affected By the Greensburg Kansas Tornado



- About 13% of Kansas age 18 years and older knew some person that was affected by the 2007 Greensburg Kansas Tornado.

Visual Impairment and Access to Eye Care

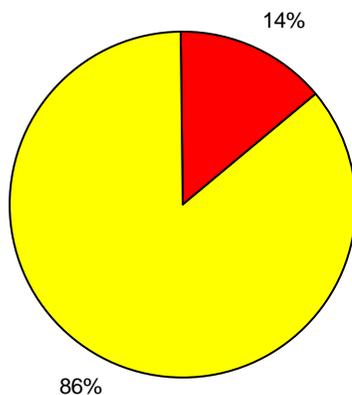
Distance visual impairment is difficulty in recognizing a friend across the street. Near visual impairment is difficulty in reading print in newspapers, magazines, recipes, menus, or numbers on the telephone. Blindness and visual impairment are among the ten leading causes of disability in the United States (22). Visual impairment is associated with reduced capacity for activities of daily living (23) and reduced quality of life (24). The most common causes of visual impairment among adults are cataract, glaucoma, age-related macular degeneration (AMD) and diabetic retinopathy (21). Cataract is a condition which causes clouding of the lens of the eye. Glaucoma is a disease in which fluid pressure within the eye increases leading to vision loss. AMD is characterized by gradual degeneration of the macula, the part of the eye necessary for sharp central vision. Diabetic retinopathy is a common complication of diabetes characterized by leakage or blockage of the small blood vessels in the retina leading to visual impairment (21).

Visual impairment can be prevented or corrected in many cases with timely diagnosis and treatment. Nevertheless, preventive eye care is underutilized (25). This is a particularly important issue for patients with systemic diseases such as diabetes and cardiovascular disease who are at higher risk of eye disease and visual impairment (26).

Visual impairment and access to eye care has not been previously assessed in Kansas on a state-wide basis. In 2008 survey nine questions were asked regarding visual impairment and access to eye care among adults ages 40 years and older.

Distance Visual Impairment

Percentage of Adults Ages 40 Years and Older Who
Reported Distance Visual Impairment

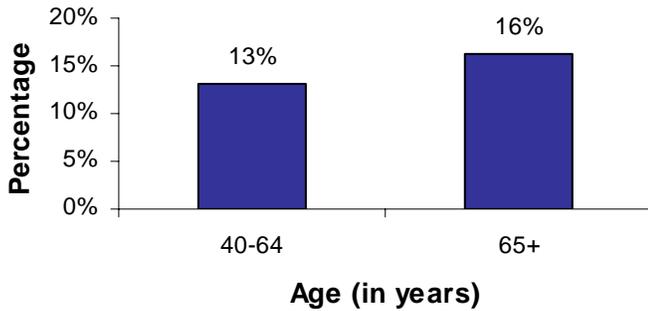


- Distance Visual Impairment
- No Distal Visual Impairment

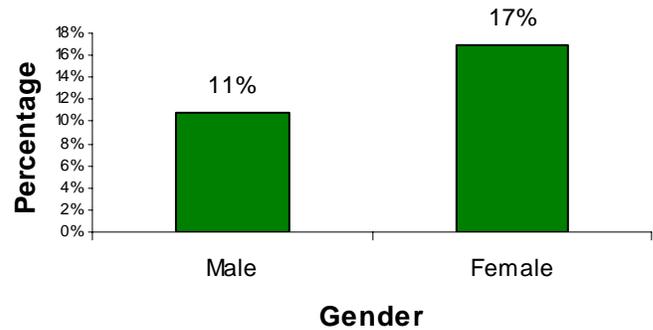
- 14% of adults 40 years and older reported having distance visual impairment.

Distance Visual Impairment Among Certain Subpopulations

Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Age

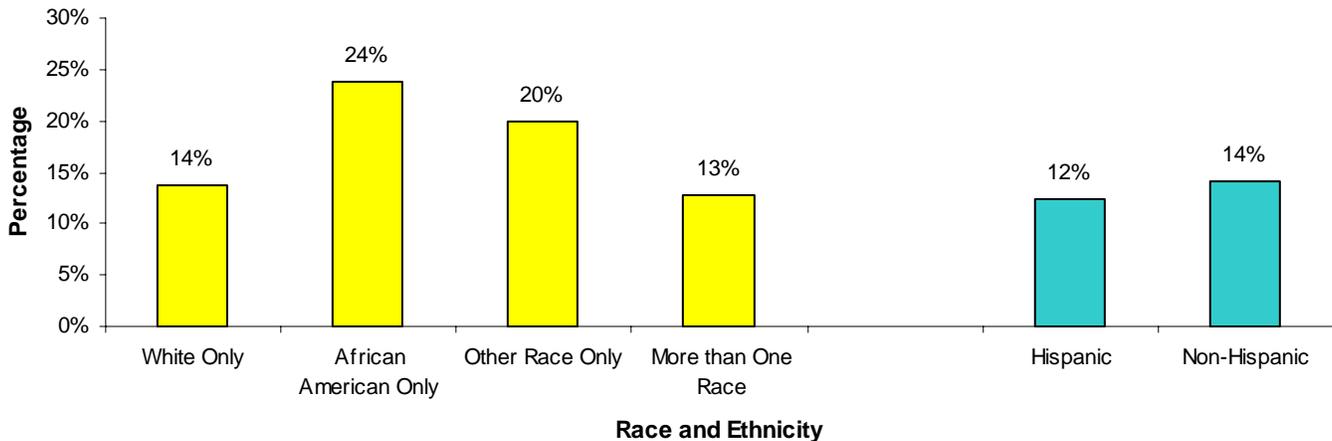


Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Gender



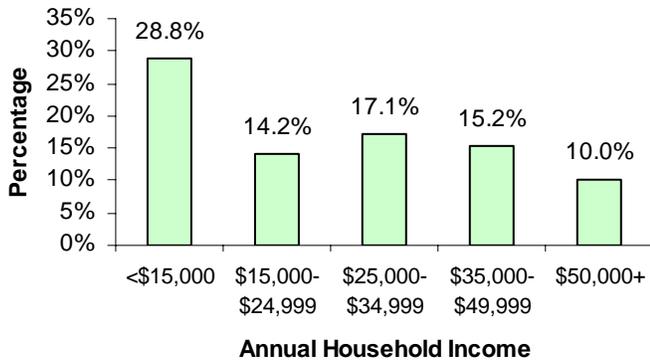
- Among adults ages 40-64 years, 13% reported having distance visual impairment.
- Among adults ages 65 years and older, 16% reported having distance visual impairment.
- One in ten males age 40 years and older and about one in six females age 40 years and older reported having distance visual impairment.

Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Race and Ethnicity

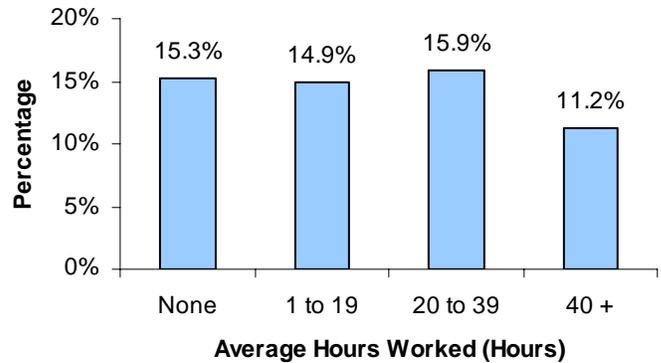


- 24% of African American adults age 40 years and older and 14% of White adults age 40 years and older reported having distance visual impairment.
- 12% of Hispanic adults 40 years and older and 14% of Non-Hispanic adults 40 years and older reported having distance visual impairment.

Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Annual Household Income

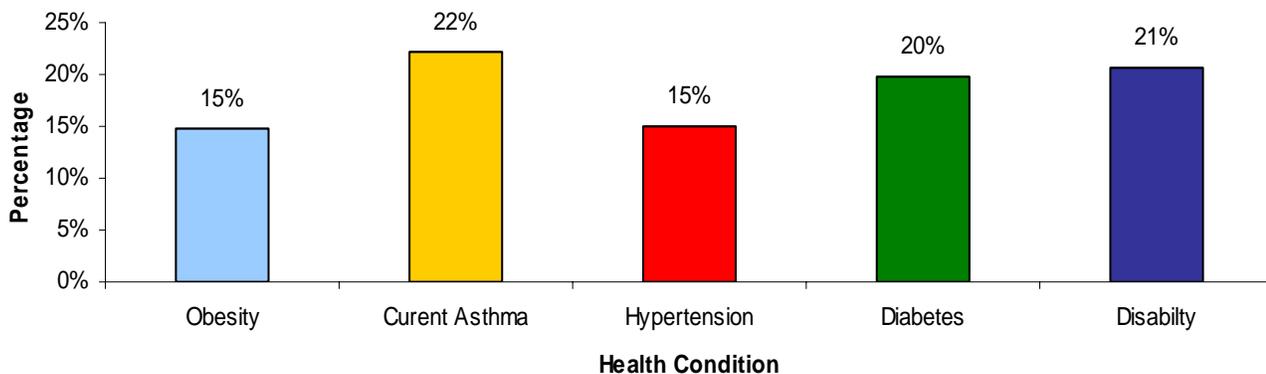


Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Average Hours Worked



- Among adults 40 years and older with an annual household income of less than \$15,000, 29% reported having distance visual impairment.
- Among adults 40 years and older who reported not working any hours at a job or business, 15% reported having distance visual impairment.

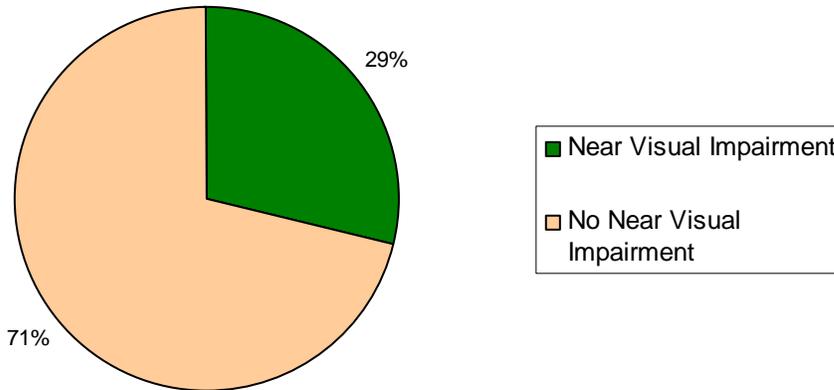
Percentage of Adults 40 Years and Older Who Reported Distance Visual Impairment by Health Condition



- One in five (20%) adults age 40 years and older with diabetes reported having distance visual impairment.
- One in five (21%) adults age 40 years and older with disability reported having distance visual impairment.
- One in five (22%) adults age 40 years and older with current asthma reported having distance visual impairment.
- One in seven (15%) adults age 40 years and older with hypertension reported having distance visual impairment.
- One in seven (15%) adults age 40 years and older who is obese reported having distance visual impairment.

Near Visual Impairment

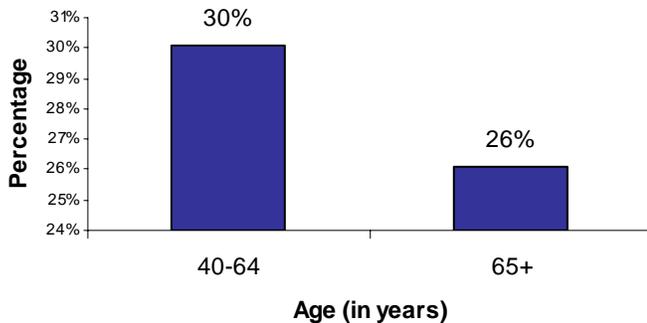
Percentage of Adults Ages 40 Years and Older Who Reported Near Visual Impairment



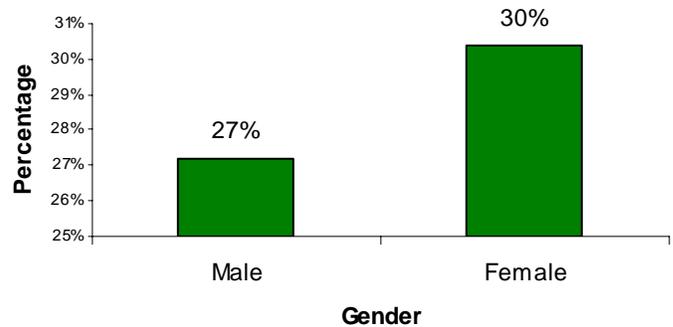
- 29% adults 40 years and older reported near visual impairment.

Near Visual Impairment Among Certain Subpopulations

Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Age

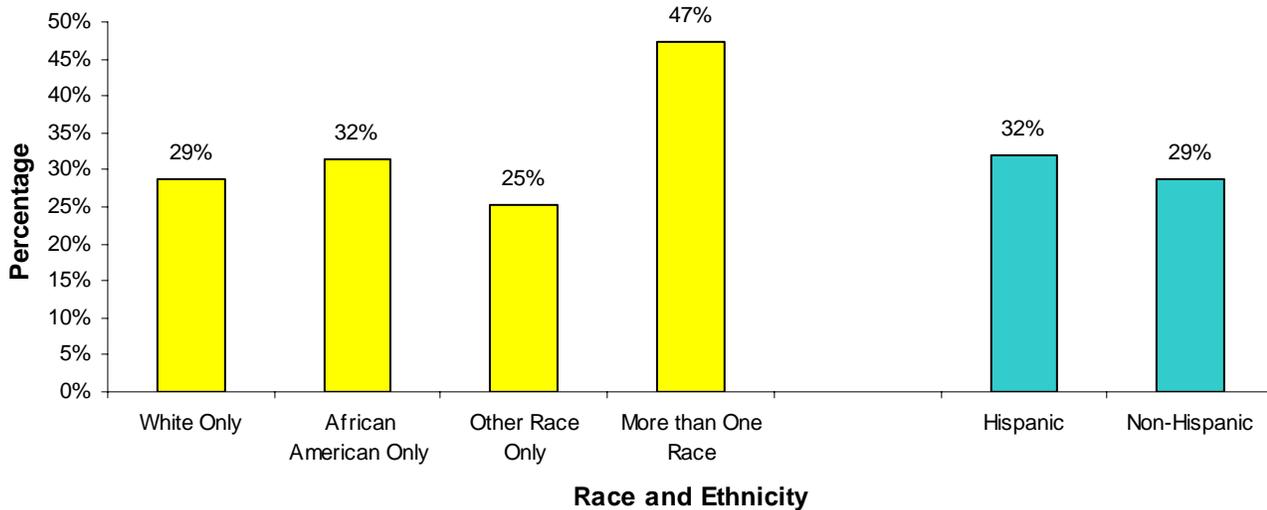


Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Gender



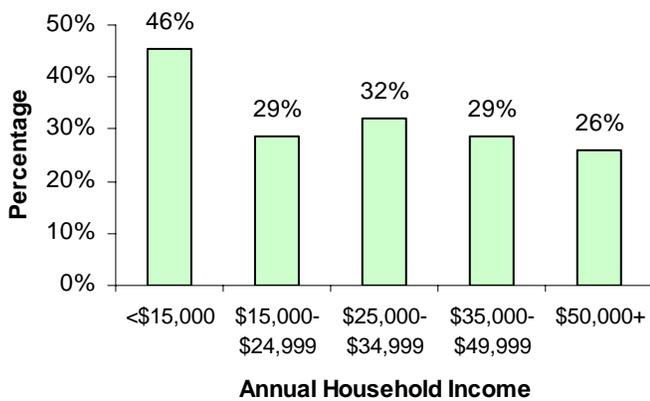
- Among adults ages 40-64 years, 30% reported having near visual impairment.
- Among adults ages 65 years and older, 26% reported having near visual impairment.
- One in four males age 40 years and older and about one in three females age 40 years and older reported having near visual impairment.

**Percentage of Adults 40 Years and Older Reporting Near Visual Impairment
by Race and Ethnicity**

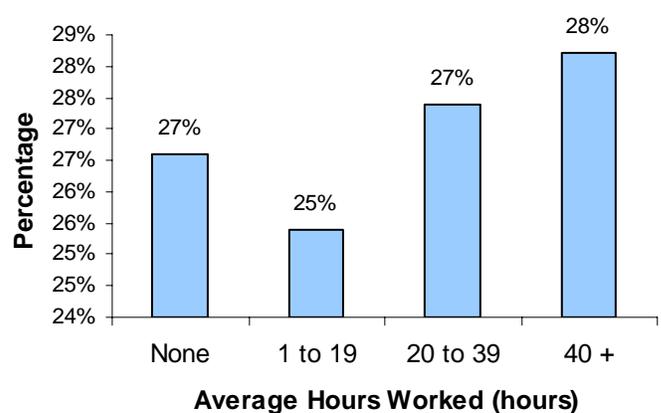


- 32% of African American adults age 40 years and older and 47% of multiracial adults age 40 years and older reported having near visual impairment.
- 32% of Hispanic adults 40 years and older and 29% of Non-Hispanic adults 40 years and older reported having near visual impairment.

**Percentage of Adults 40 Years and Older
Reporting Near Visual Impairment by
Annual Household Income**



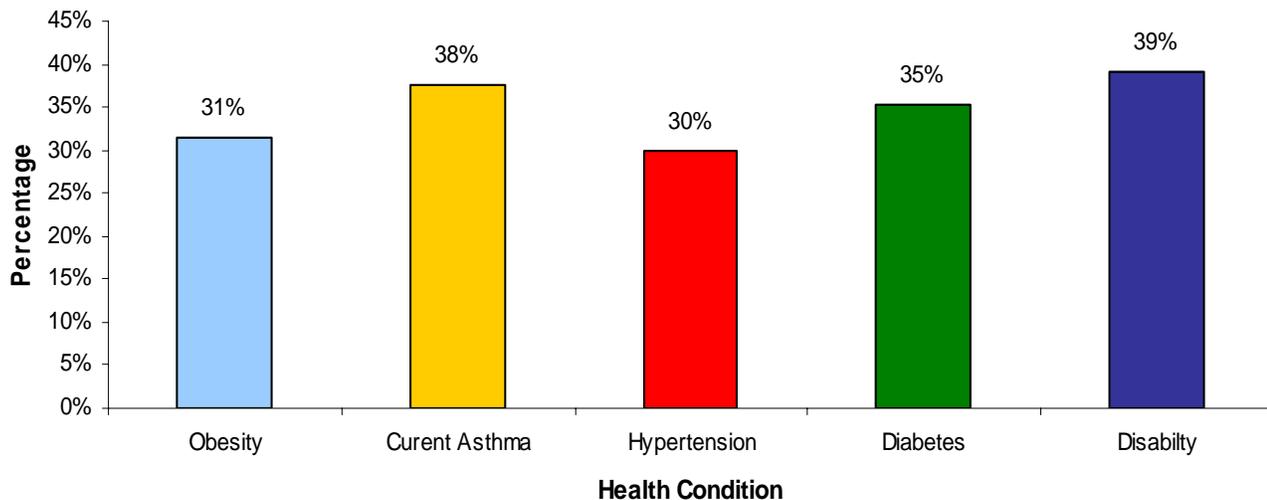
**Percentage of Adults 40 Years and Older
Reporting Near Visual Impairment by
Average Hours Worked**



- Among adults 40 years and older with an annual household income of less than \$15,000, 46% reported having near visual impairment.
- Among adults 40 years and older who currently work 40 or more hours per week at a job or business, 28% reported having near visual impairment.

Near Visual Impairment and Health Condition

Percentage of Adults 40 Years and Older Who Reported Near Visual Impairment by Health Condition



- About one-third (35%) of adults age 40 years and older with diabetes reported having near visual impairment.
- Two out of five (39%) adults age 40 years and older with disability reported having near visual impairment.
- Two out of five (38%) adults age 40 years and older with current asthma reported having distance visual impairment.
- One out of three (30%) adults age 40 years and older with hypertension reported having distance visual impairment.
- One out of three (31%) adults age 40 years and older who is obese reported having distance visual impairment.

Access to Eye Care

- About one out of three (33%) adults 40 years and older reported not having visited an eye-care provider in the past year. The most commonly cited reasons for not having visited an eye care provider in the past year were “no reason to go”, “cost/insurance” and “have not thought of it”.
- About one in two (48%) reported not taken dilated eye-exam in the past year and about 4 out of 10 (38%) of adults 40 years and older reported not having health insurance coverage for eye-care.

Eye Diseases

- About one in four (25%) adults ages 40 years and older reported having cataract.
- In 2008, 4 % of adults 40 years and older reported having glaucoma.
- In 2008, 5 % of adults 40 years and older reported having age-related Macular Degeneration.

Summary

In 2008, 14% of Kansas adults ages 40 years and older reported having distance visual impairment and 29% adults 40 years and older reported having near visual impairment. Higher percentage of distance visual impairment is seen among adults 65 years and older, females, African Americans, and those with lower annual household income. The percentage of distance visual impairment is higher among adults 40 years and older living with a disability, diabetes and current asthma.

Higher percentage of near visual impairment is seen among adults 40 to 64 years, females, Hispanics, multiracial and those with lower annual household income. The percentage of near visual impairment is higher among adults 40 years and older living with a disability, diabetes and current asthma.

A considerable number of adults 40 years and older reported not having visited an eye-care provider in the past year, not having a dilated eye-exam in the past year and not having health insurance coverage for eye-care.

Public Health efforts to educate Kansans to receive preventive eye care are needed. In addition, policy decisions are needed to improve the health insurance coverage for eye care.

Technical Notes

Questionnaire Design

The survey consists of three sections:

- Core questions are asked by all states. The order the questions appear and the wording of the questions are fairly consistent across all states. Types of core questions include fixed, rotating, and emerging health issues.
 - Fixed core: contains questions that are asked every year. Fixed core topics include health status, health care access, healthy days, life satisfaction, emotional satisfaction, disability, tobacco use, alcohol use, exercise, immunization, HIV/AIDS, diabetes, asthma, and cardiovascular disease.
 - Rotating core: contains questions asked every other year.
 - Odd years (2005, 2007, 2009, etc): fruits and vegetables, hypertension awareness, cholesterol awareness, arthritis burden, and physical activity.
 - Even years (2006, 2008, 2010, etc): women's health, prostate screening, colorectal cancer screening, oral health and injury.
 - Emerging Health Issues: contains late breaking health issue questions. At the end of the survey year, these questions are evaluated to determine if they should be a part of the fixed core.
- Optional Modules include questions on a specific health topic. The CDC provides a pool of questions from which states may select. States have the option of adding these questions to their survey. The CDC's responsibilities regarding these questions include development of questions, cognitive testing, and financial support to states to include these questions on the questionnaire, data management, limited analysis and quality control.
- State added questions are based on public health needs of each state. State added questions include questions not available as supported optional modules in that year or emerging health issues that are specific to each state. Any modifications made to the CDC support modules available in that year make the module a state added module. The CDC has no responsibilities regarding these questions.

Each year, stakeholders are invited to attend an annual planning meeting and propose optional modules and state added questions to be added to the survey. Then, the Kansas BRFSS Steering Committee consisting of the BRFSS Coordinator, Director of Science and Surveillance/Health Officer II, Office of Health Promotion Director and Research Analyst meet to determine the questionnaire content. The Kansas BRFSS Steering Committee uses a specific set of criteria to determine the questionnaire's content.

Sampling

The 2008 BRFSS was conducted using a disproportionate stratified sampling method. This method of probability sampling involved assigning sets of one hundred telephone numbers with the same area code, prefix and first two digits of suffix and all possible combinations of the last two digits (“hundred blocks”) into two strata. Those hundred blocks that have at least one known listed household number are designated high density (also called “one-plus block”); hundred blocks with no known listed household numbers are designated low density (“zero blocks”). The high-density stratum is sampled at a higher rate than the low-density stratum resulting in greater efficiency. Approximately the same number of households is called each month throughout the calendar year to reduce bias caused by seasonal variation of health risk behaviors.

Potential working telephone numbers were dialed during three separate calling periods (daytime, evening, and weekends) for a total of 15 call attempts before being replaced. Upon reaching a valid household number, one household member ages 18 years and older was randomly selected. If the selected respondent was not available, an appointment was made to call at a later time or date. Because respondents were selected at random and no identifying information was solicited, all responses to this survey were anonymous. In 2008, 8,628 residents of Kansas were interviewed.

Response Rate

The CASRO (Council of American Survey Research Organizations) response rate for the 2008 Kansas BRFSS survey was 59.7%. The CASRO formula is based on the number of interviews completed, the number of households reached, and the number of household with unknown eligibility status. The CASRO response rate is used because in addition to those persons who refused to answer questions, lack of response can also arise because household members were not available despite repeated call attempts, or household members refused to pick up the phone based on what they discern from caller ID.

Limitations

As with any research method, the BRFSS has limitations.

- BRFSS is conducted among non-institutionalized adults residing in the private residences with land lines for telephones, therefore it excludes individuals without telephone service, those on military bases, and individuals in institutions.
- All information is self reported which may introduce bias such as recall bias, reporting bias, etc.
- Due to the sampling and population rate, it is often difficult to obtain subpopulation data such as county level data or data on minorities.

- BRFSS is not ideal for low prevalence conditions.

Weighting Procedures

Weighting is a process by which the survey data are adjusted to account for unequal selection probability and response bias and to more accurately represent the population from which the sample was drawn (to generate population-based estimates for the states and counties. The response of each person interviewed were assigned a weight which accounted for the density stratum, the number of telephones in the household, the number of adults in the household, non-response, non-coverage of households without telephones and the demographic distribution of the sample.

Estimates

Data results from the BRFSS are estimates of the real population prevalence. To account for sampling error and for the accuracy of the estimate, we calculate 95% confidence intervals. A confidence interval contains an upper and lower limit. We are 95% confident that the true population percentage is between the lower limit and the upper limit. The smaller the range between the lower limit and upper limit, the more precise the estimated percentage is. In other words, the narrower the confidence interval, the better.

Split Questionnaire

To accommodate increasing data needs, the Kansas BRFSS used a split questionnaire in 2008. CDC optional modules and state added questions are organized by topics into two sections: questionnaire A and questionnaire B. All 8,628 respondents answered questions from the core section. Then each telephone number was randomly assigned to questionnaire A and questionnaire B prior to being called. 4,334 respondents received questionnaire A and 4,294 respondents received questionnaire B.

Advantages of a split questionnaire:

- Collect data on numerous topics within one data year
- Collect in-depth data on one specific topic
- Ability to keep questionnaire time and length to a minimum

Disadvantages of a split questionnaire:

- Complexity of data weighting; additional weighting factors are needed
- Variables on questionnaire A cannot be analyzed with variables on questionnaire B

Analysis of split questionnaire:

The sample size for each split of the questionnaire is approximately half of the total sample size. As mentioned above, each respondent is randomly assigned to

questionnaire A or to questionnaire B. The questions regarding certain conditions are included in the core section (e.g., asthma, disability, high blood pressures, etc.). State added questions and optional modules for these conditions are included on questionnaire A or questionnaire B. Therefore, these additional questions on a specific health condition are asked from respondents who are assigned to that particular split questionnaire. This resulted in approximately half of the respondents who were identified with a particular condition from the core section responding to additional questions on the specific condition. Also, the number of adults with the specific health condition may vary on each question due to respondents terminating at various points in the survey.

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