Health Risk Behaviors of Kansans:

Results from 2006 Kansas Behavioral Risk Factor Surveillance System

Kansas BRFSS
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www.kdheks.gov/brfss/index.html

Health Risk Behaviors of Kansans 2006

State of Kansas
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Kansas Department of Health and Environment
Office of Health Promotion
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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.

www.kdheks.gov

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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, and Kansas has conducted the BRFSS survey annually since 1992.

The 2006 survey consisted of 162 questions and took an average of 17 minutes to complete. Survey topics on the 2006 Kansas BRFSS included: health status, healthy days health related quality of life, health care access, exercise, diabetes, oral health, cardiovascular disease prevalence, asthma, disability, tobacco use, demographics, veteran's status, alcohol consumption, immunization/adult influenza supplement, falls, seatbelt use, drinking and driving, women's health, prostate cancer screening, colorectal cancer screening, HIV/AIDS, emotional support and life satisfaction, random child selection, childhood asthma prevalence, asthma call back survey information, diabetes accessory, diabetes assessment, folic acid, folic acid awareness, pregnancy and smoking, other tobacco products, COPD, anxiety and depression, disability and quality of life and oral health.

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

- Monitor the leading contributors to morbidity and premature death
- Track health status and assess trends
- Measure knowledge, attitudes, and opinions
- Program planning
    - Needs assessment
    - Development of goals and objectives
    - Identification of target groups
- Policy development
- Evaluation

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 2006 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/

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. Leisure time physical activity can be a combination of moderate and/or vigorous.

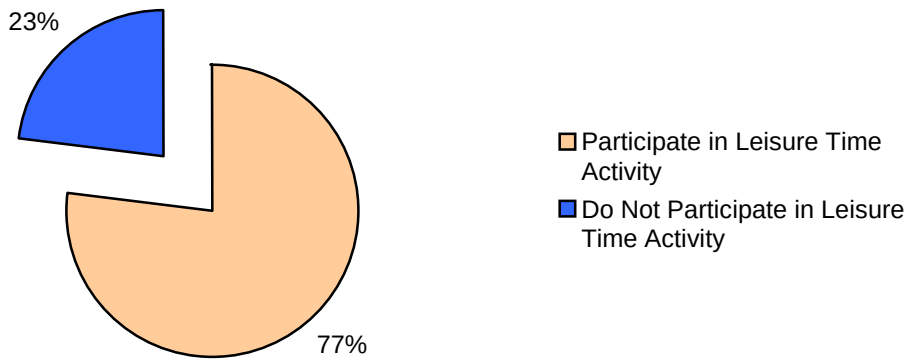
Recommendations For Physical Activity

Recommendations for physical activity have evolved over the years. The first 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

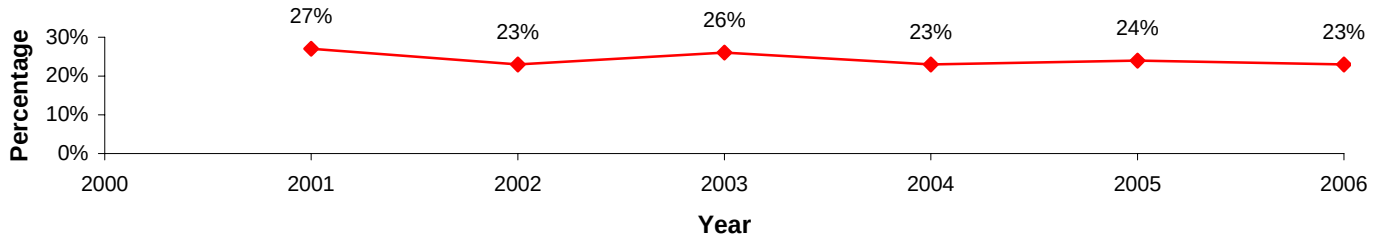
- **Recommendation:** Moderate physical activity 30 minutes or more per day, 5 or more days per week OR vigorous physical activity 20 minutes or more per day, 3 or more days per week.
- **Insufficient:** Some activity but not enough to meet the recommendation.
- **Inactive:** No physical activity.

Leisure Time Physical Activity Status Among Adults 18 Years and Older



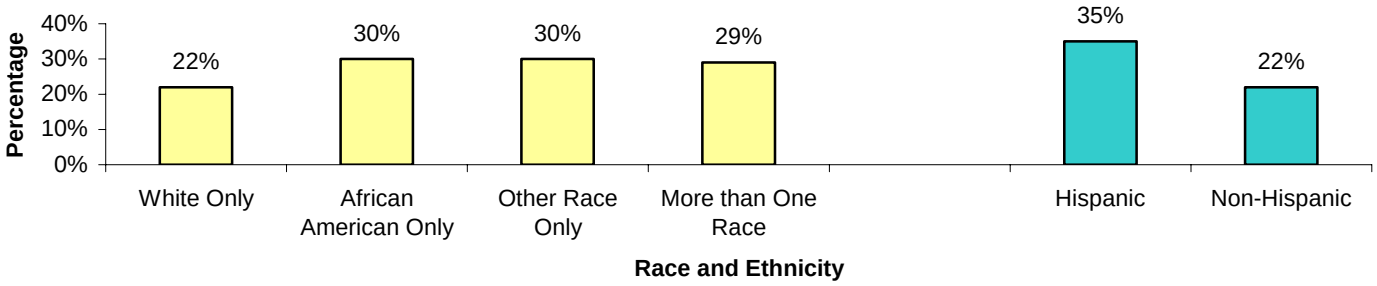
- About 1 in 4 (23%) adults do not participate in leisure time physical activity.

Percentage of Adults Not Participating in Leisure Time Physical Activity 2001-2006



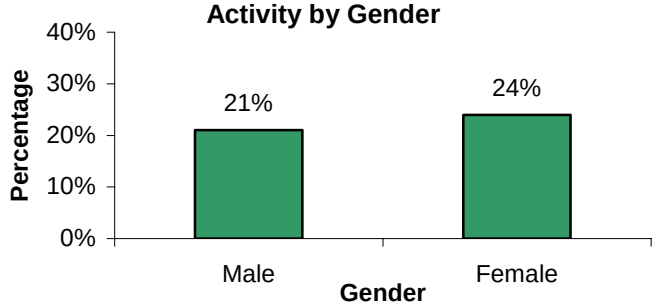
Leisure Time Physical Activity Among Certain Subpopulations

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



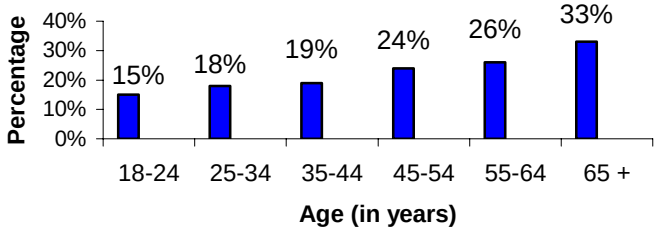
- About 1 in 3 (30%) African American adults and 1 in 4 (22%) of White adults do not participate in leisure time physical activity.
- About 1 in 3 (35%) of Hispanic adults do not participate in leisure time physical activity.

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



- About one in five (21%) adult males and one in four (24%) adult females do not participate in leisure time physical activity.

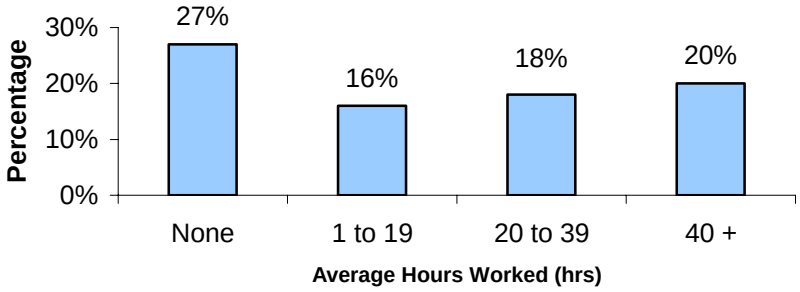
Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Age



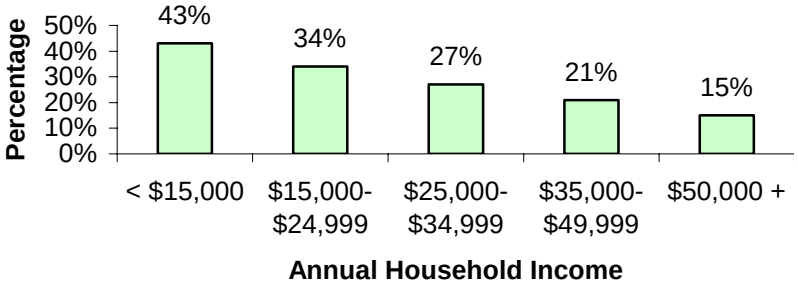
- Among adults ages 18-24 years, about 1 in 6 (15%) do not participate in leisure time physical activity.
- Among adults ages 65 years and older, about 1 in 3 (33%) do not participate in leisure time physical activity.

- About 1 in 4 (27%) adults who reported not working any hours per week at a job or business reported they do not participate in leisure time physical activity.

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



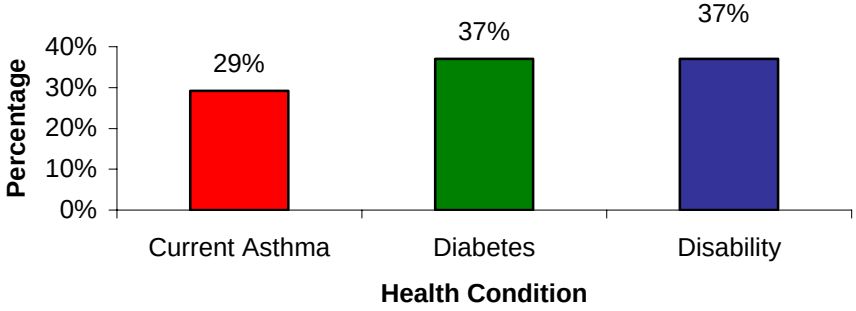
Percentage of Adults Who Do Not Participate in Leisure Time Physical Activity by Annual Household Income



- Among adults with an annual household income of less than $15,000, 43% 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 1 in 4 (29%) adults with current Asthma do not participate in leisure time physical activity.
- More than one-third (37%) of adults with diabetes do not participate in leisure time physical activity.
- More than one-third (37%) of adults living with a disability do not participate in leisure time physical activity.

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 associated with obesity (5).

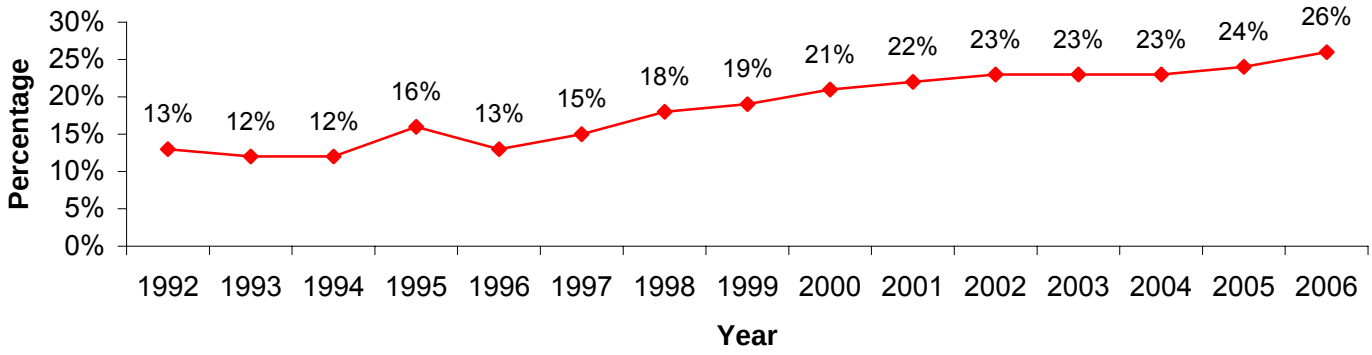
There are many measurements to assess obesity including body mass index (BMI) and waist circumference. BMI is a weight status indicator which measures weight for height in adults and correlates with total body fat content. While BMI is used in population assessment, BMI is not ideal to assess obesity 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/m^2
- **Overweight:** BMI 25 to less than 30 kg/m^2
- **Normal/Underweight:** BMI less than 25 kg/m^2

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

Percentage of Adults Who Are Obese, 1992-2006

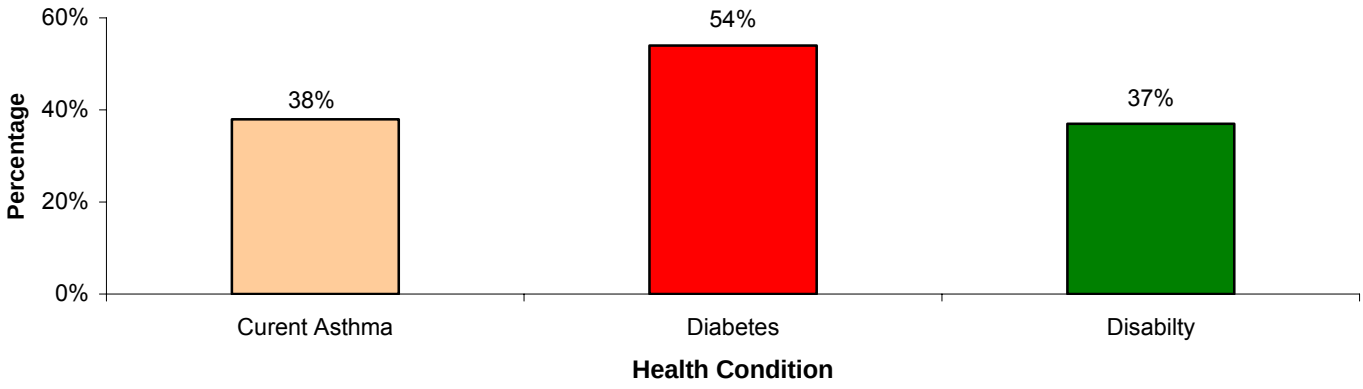


- The prevalence of obesity in Kansas has doubled since 1992.
- In 2006, approximately 1 out of 4 adult Kansans are obese.

Obesity and Health Conditions

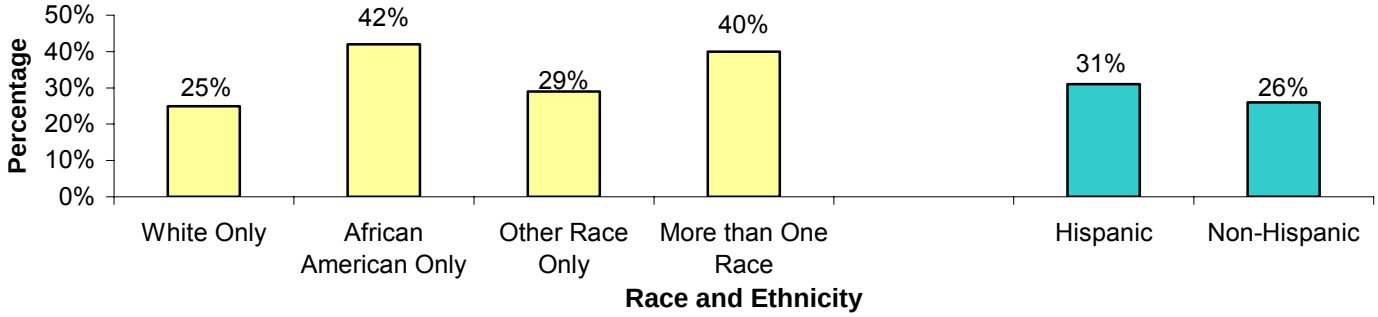
- One in two adults with diabetes are obese.

Percentage of Adults Who Are Obese by Health Conditions



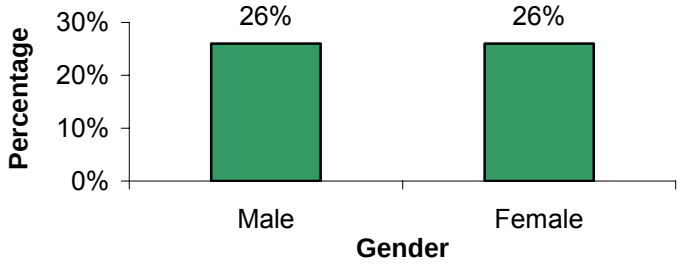
Obesity Among Certain Subpopulations

Percentage of Adults Who Are Obese by Race and Ethnicity



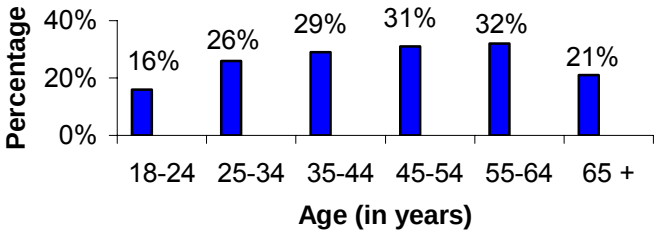
- About 2 in 5 (42%) African American adults are obese (BMI ≥ 30).
- About 1 in 3 (31%) of Hispanic adults and 1 in 4 (26%) Non-Hispanic adults are obese.

Percentage of Adults Who Are Obese by Gender



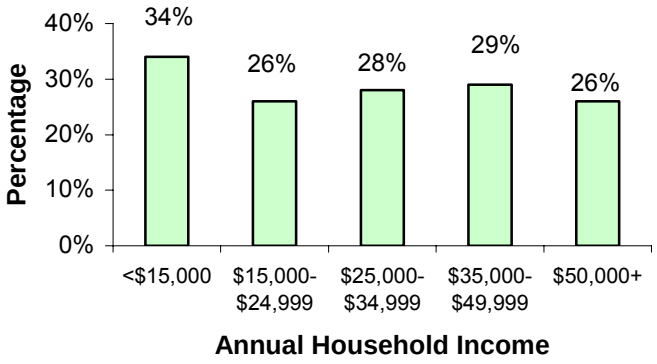
- About 1 in 4 adult males and 1 in 4 adult females in Kansas are obese.

Percentage of Adults Who Are Obese by Age



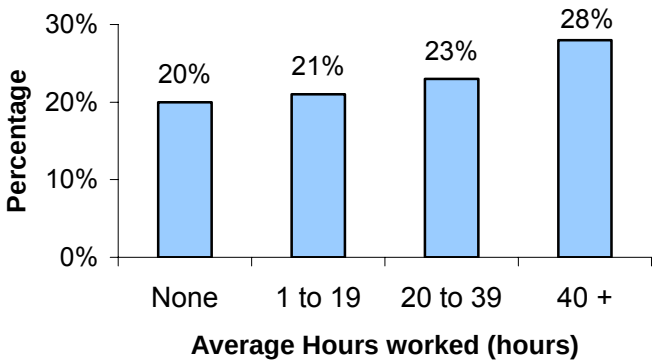
- About one in three (32%) adults ages 55-64 years old are obese.

Percentage of Adults Who Are Obese by Annual Household Income



- About one-third (34%) of adults with an annual household income less than $15,000 are obese.

Percentage of Adults Who Are Obese by Average Hours Worked



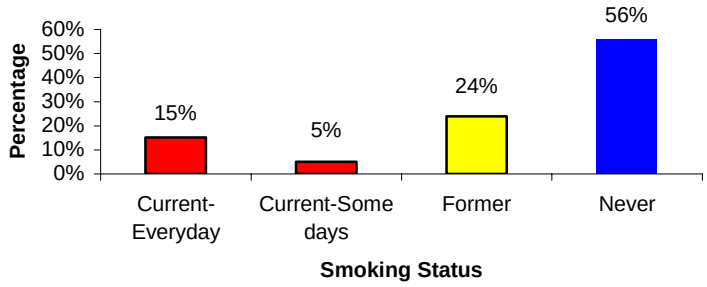
- About 1 in 4 (28%) adults who work 40 or more hours per week at a job or business are obese.

TOBACCO USE

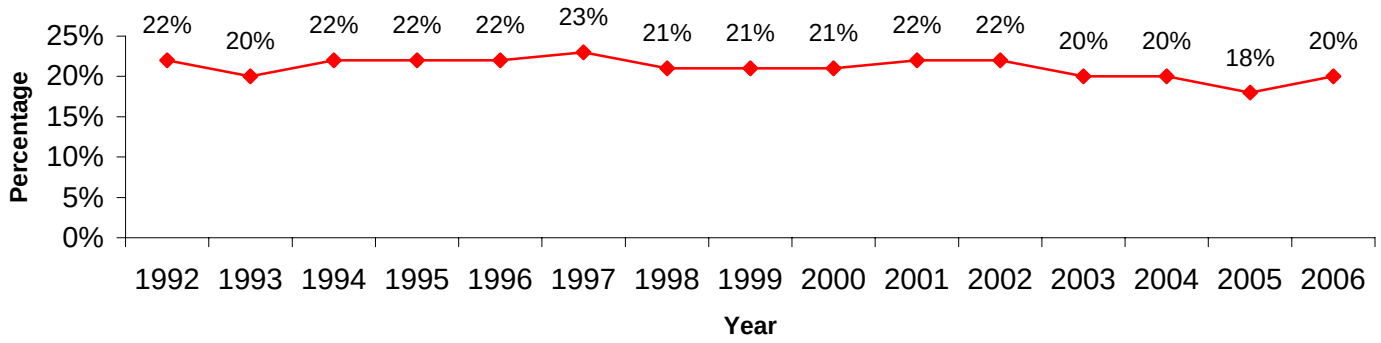
As estimated in 2000, the leading preventable cause of death in the United States was tobacco, resulting in an estimated 430,000 deaths per year (3). Smoking may complicate health problems and is a risk factor for numerous health problems including coronary heart disease, peripheral vascular disease, 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 is associated with smoking (8).

- In 2006, 20% of adult Kansans currently smoke cigarettes.

Percentage of Adults by Smoking Status



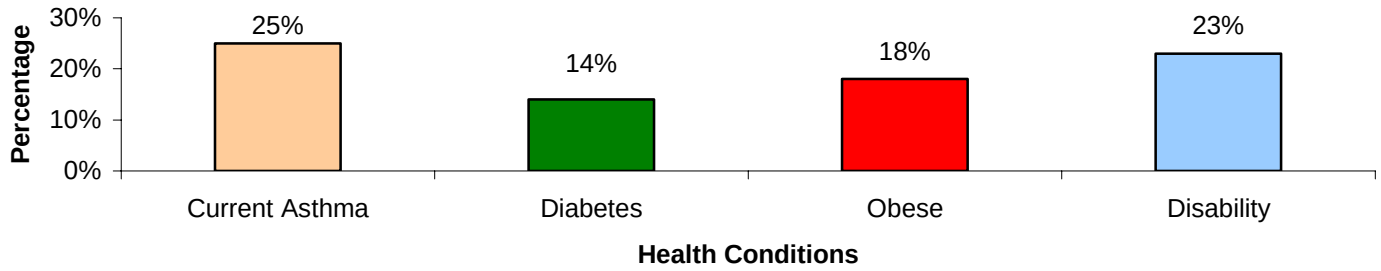
Current Smoking Trend, 1992-2006



Current Smoking and Health Conditions

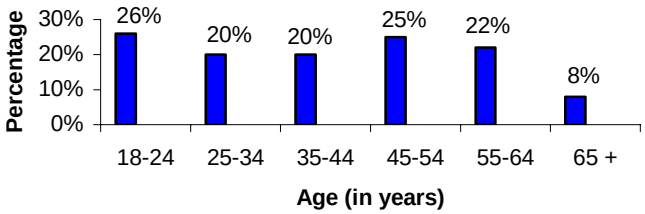
- One in five (20%) adults with current asthma currently smoke cigarettes.

Percentage of Current Cigarettes Smokers by Health Conditions

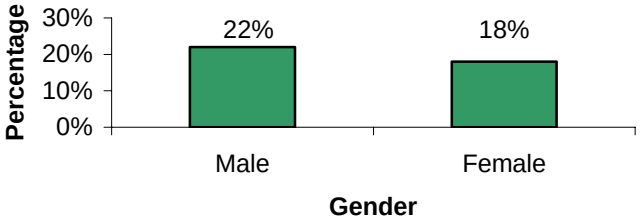


Current Smoking Among Certain Subpopulations

Percentage of Current Smokers by Age

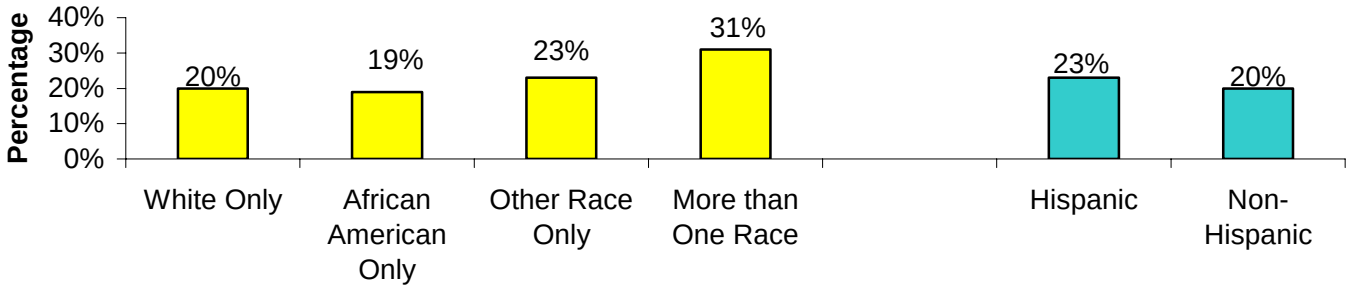


Percentage of Current Smokers by Gender



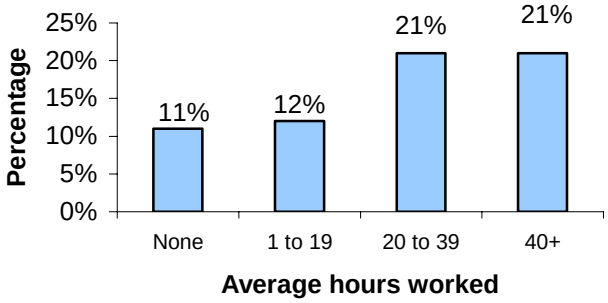
- About one in four adults ages 18-24 years currently smoke cigarettes.
- About 1 in 4 (22%) adult males and 1 in 5 (18%) females currently smoke cigarettes.

Percentage of Current Smokers by Race and Ethnicity

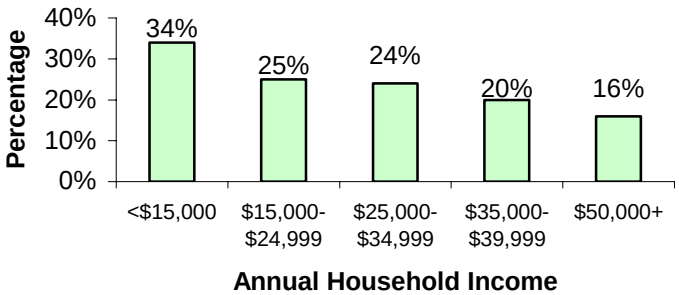


- About 1 in 3 (31%) adult Kansans who are multi-racial currently smoke cigarettes.
- About 1 in 4 (23%) adult Hispanics and 1 in 5 (20%) adult Non-Hispanics currently smoke cigarettes.

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, about 1 in 5 (21%) currently smoke cigarettes.
- About one-third (34%) of adults with an annual household income less than $15,000 currently smoke cigarettes.

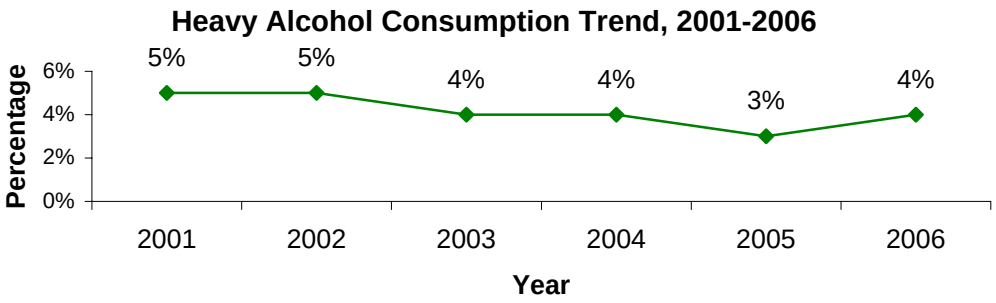
SUBSTANCE ABUSE: ALCOHOL

Alcohol is the third leading 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).

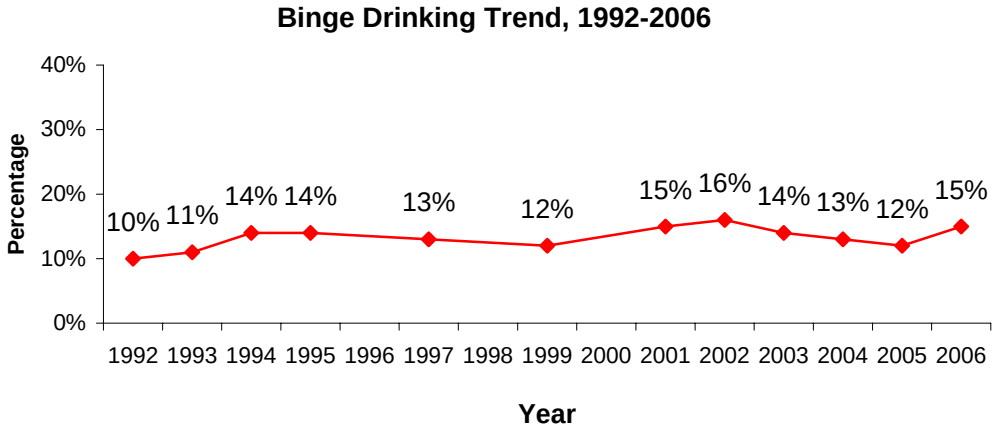


- In 2006, 4% of Kansas adults reported heavy consumption of alcohol in the past 30 days.

Binge Drinking

Binge drinking is defined as consumption of five or more drinks on an 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).

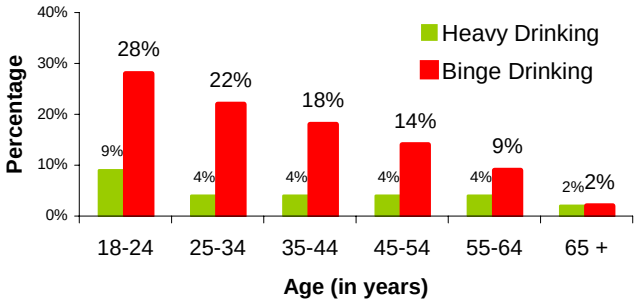


- In 2006, 15% of Kansas adults reported consuming five or more drinks on occasion in the past 30 days.

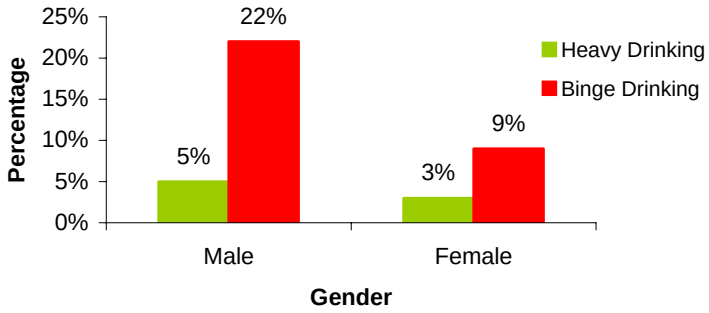
Heavy Alcohol Consumption and Binge Drinking Among Certain Subpopulations

- About 9% of 18-24 year old Kansans reported heavy alcohol consumption during the past 30 days.
- About one in four adults (28%) ages 18-24 years reported binge drinking on an occasion in the past 30 days.

Heavy Alcohol Consumption and Binge Drinking by Age

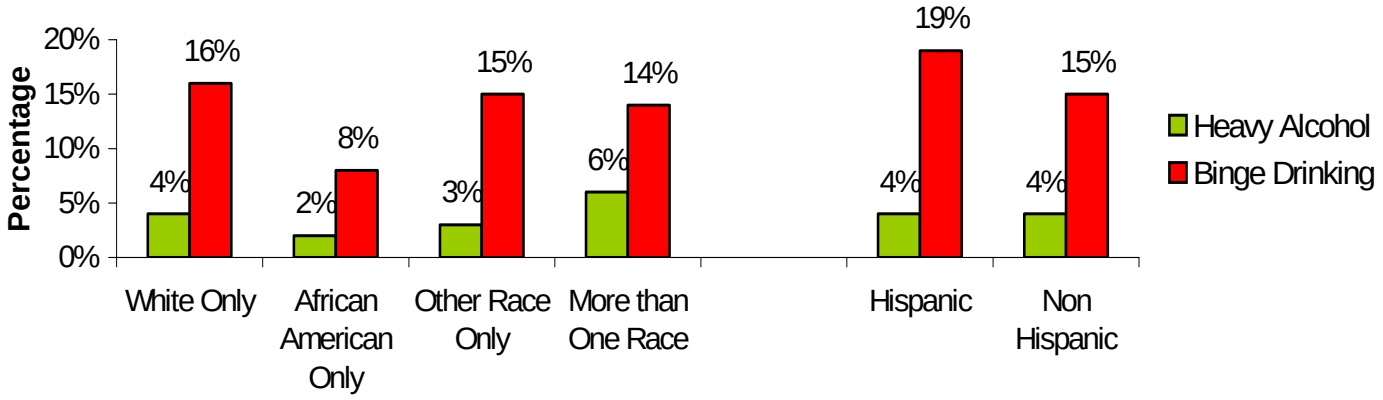


Heavy Alcohol Consumption and Binge Drinking by Gender



- About 5% of males ages 18 years and older reported heavy alcohol consumption in the past 30 days.
- About one in five (22%) 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 was reported by 6% of multiracial and by 4% of white adults.
- Binge drinking within the past 30 days was reported by 14% multiracial adults.
- Binge drinking was reported by 19% of Hispanic and 15% of non-Hispanic adults.

IMMUNIZATIONS

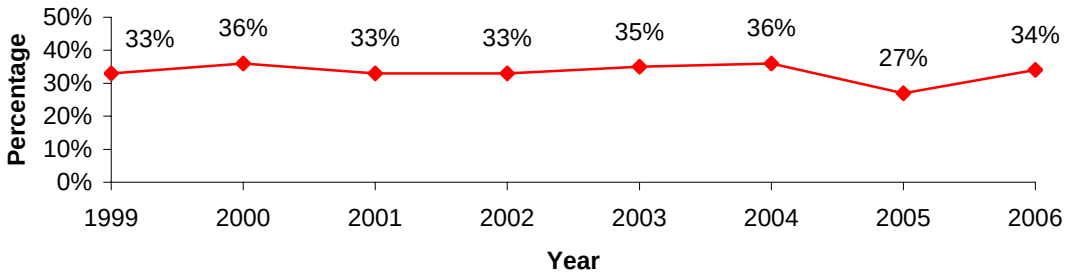
In 2004, influenza and pneumonia were the 8th leading cause of death in the United States (13). Most of these deaths could have been prevented with proper vaccination. Influenza vaccination is 70-90% effective in preventing illness among healthy adults less than 65 years old. Among healthy adults 65 years and older, the influenza vaccination is 30-40% effective in preventing illness and 85% effective in preventing influenza related death (14).

Influenza Vaccination (Also Known as Flu Shot)

It is recommended that the following adult groups receive an influenza vaccination every year: (14):

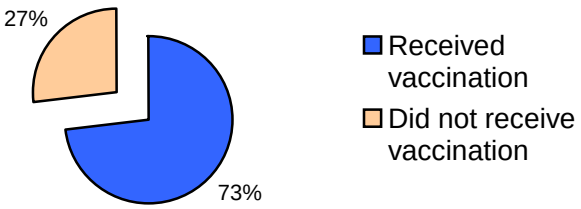
- Adults ages 50 years and older
- Persons ages 2-64 years with underlying chronic medical conditions such as asthma, diabetes, and heart problems
- Pregnant females
- Adults with children < 6 months in their home
- Residents of nursing homes and other chronic care facilities
- Health care workers who 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 an Influenza Vaccination During the Past 12 Months, 1999-2006



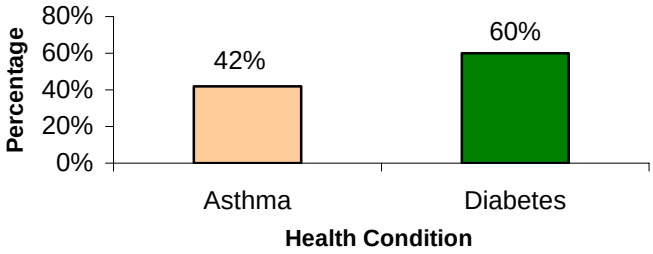
- In 2006, about 1 in 3 (34%) adults in Kansas received an influenza vaccination within the past 12 months.

Percentage of Adults Ages 65 Years and Older Who Received an Influenza Vaccination During Past 12 Months



- About 3 in 4 (73%) adults ages 65 years and older received an influenza vaccination during the past 12 months.

Percentage of Adults Who Received An Influenza Vaccination in the Past 12 Months by Health Conditions



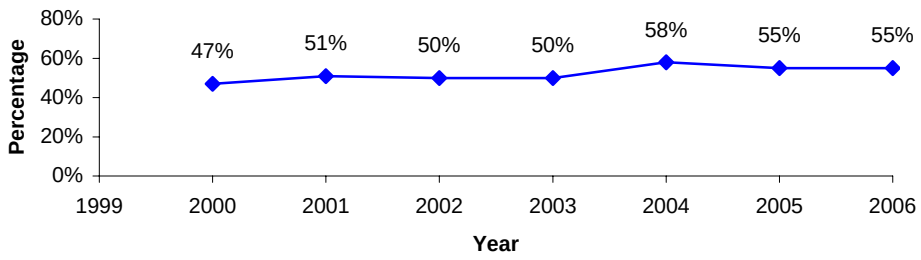
- About 2 in 5 (42%) adults with asthma received an influenza vaccination in the past 12 months.
- About two-thirds (60%) of adults with diabetes received an influenza vaccination in the past 12 months.

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

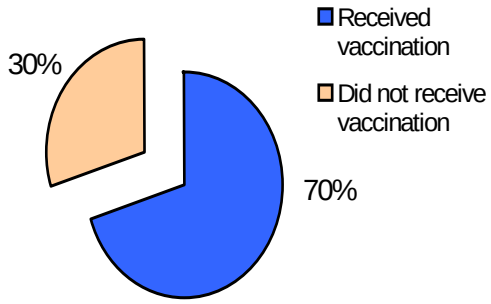
Percentage of At Risk Adults* Who Have Received a Pneumococcal Vaccination in Kansas, 2000 - 2006



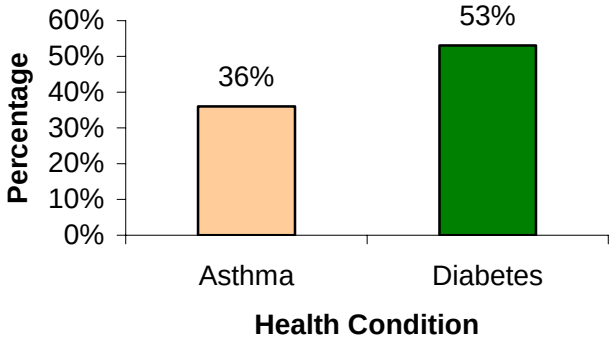
* At risk adults are those who have diabetes, asthma or who are 65 years of age or older.

- In 2006 about more than half (55%) 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

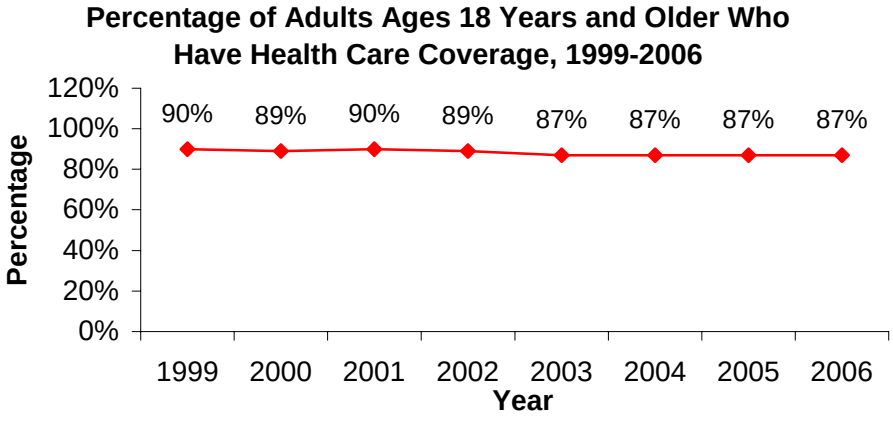


- More than two-thirds (70%) of adult Kansans ages 65 years and older reported that they have ever received a pneumococcal vaccination.

- About one-third (36%) of adults with asthma have ever received a pneumococcal vaccination.
- Among adults with diabetes, I in 2 (53%) have ever received a pneumococcal vaccination.

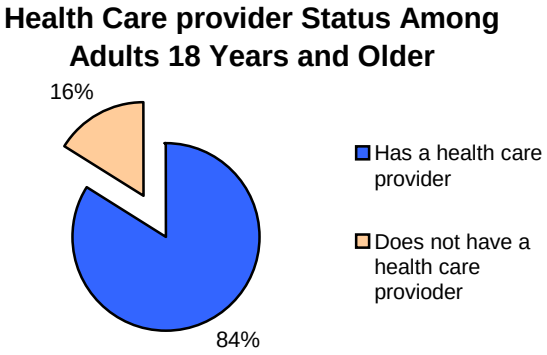
ACCESS TO HEALTH CARE:

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 (15). Access to quality care is necessary to eliminate health disparities, increase the number of years of life and increase the quality of life.



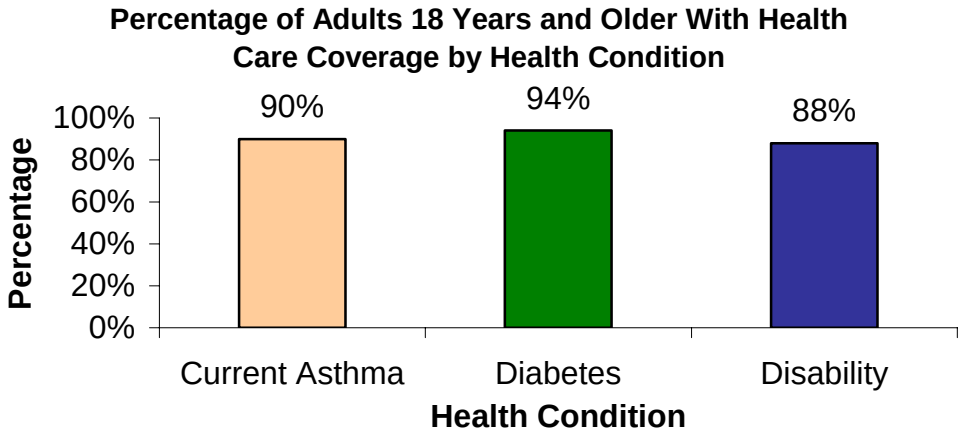
- In 2006, 87% of adults ages 18 years and older had some type of health care coverage including health insurance, prepaid plans such as HMOs or governmental plan such as Medicare.

- In 2006, 84% of adults ages 18 years and older had at least one person they think of as their personal doctor or health care provider.



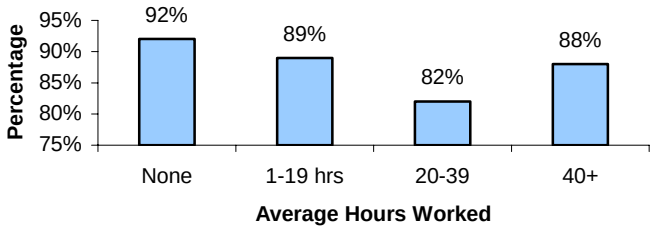
Health Care Access and Health Conditions

- About 90% adults with asthma and 94% of adults with diabetes have health care coverage.
- Among adults with a disability, 88% have health care coverage.



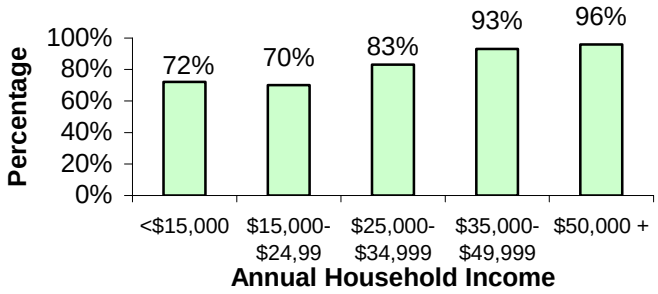
Health Care Access Among Certain Subpopulations

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



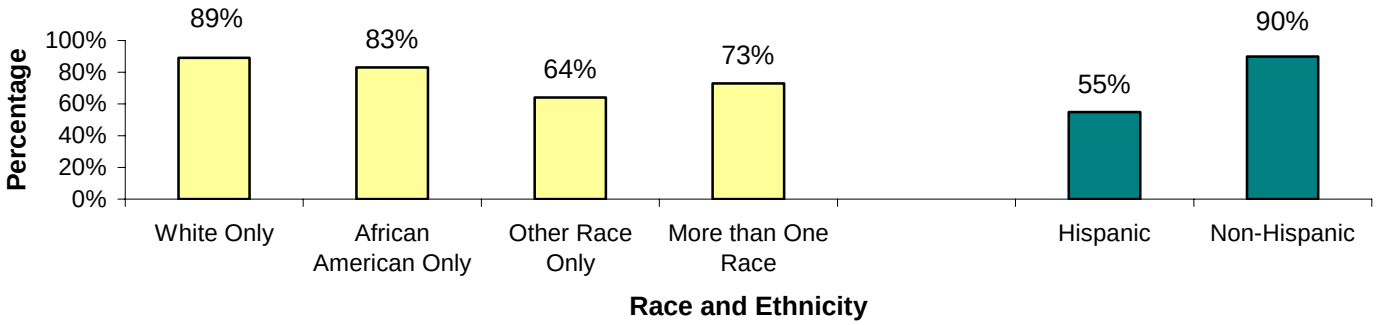
- Among adults ages 18 years and older who reported not working any hours at a job or business, 92% have health care coverage.

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



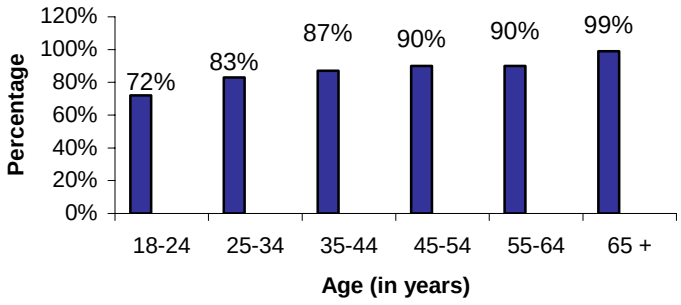
- 72% of adults ages 18 years and older with an annual household income level of less than $15,000 have health care coverage.

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



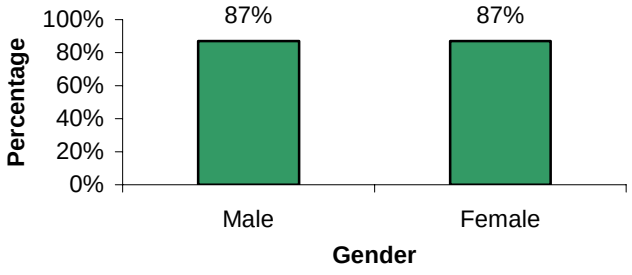
- About two-thirds (64%) of adults ages 18 years and older who are Asian, Native Hawaiian or Pacific Islander, Alaska Native, American Indian or other have health care coverage.
- 55% of Hispanics ages 18 years and older have health care coverage.

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



- 72% 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.

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

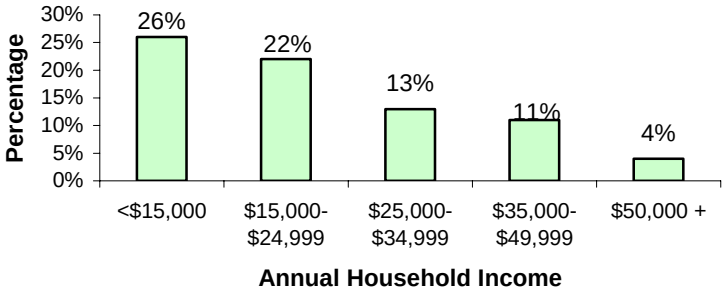


- About 9 in 10 men and women ages 18 years and older have health care coverage.

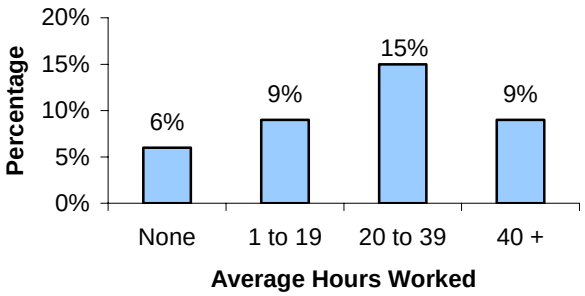
Medical Costs

In 2006, 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

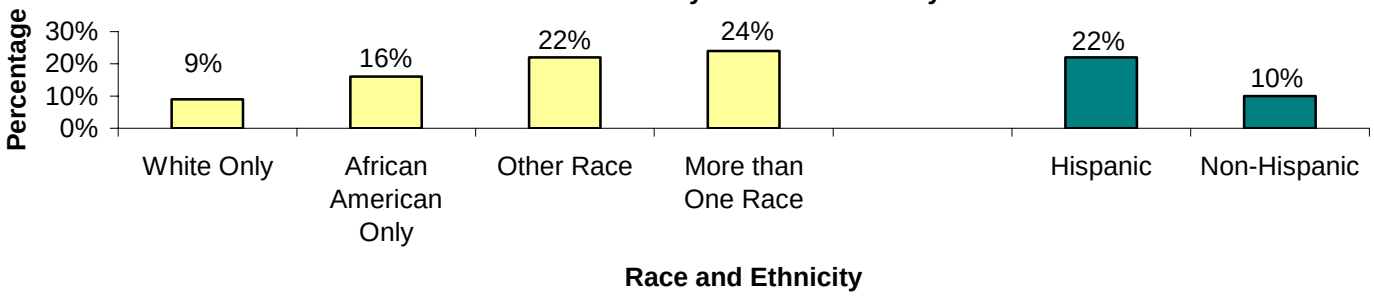


Percentage of Adults Ages 18 Years and Older Who Needed to See a Doctor But Could Not Because of Cost by Average Hours Worked



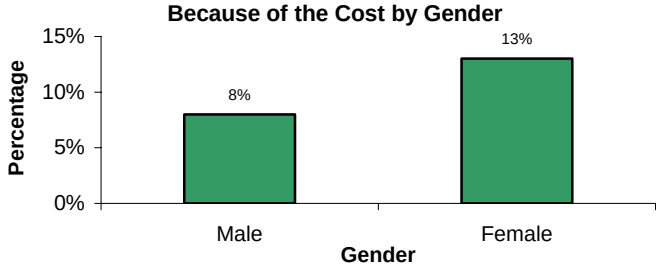
- About 1 in 4 (26%) of Kansans ages 18 years and older with an annual income less than $15,000 needed to see a doctor during the past 12 months but could not because of the cost.
- 6% of Kansans ages 18 years and older who reported not working any hours per week at a job or business needed to see a 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



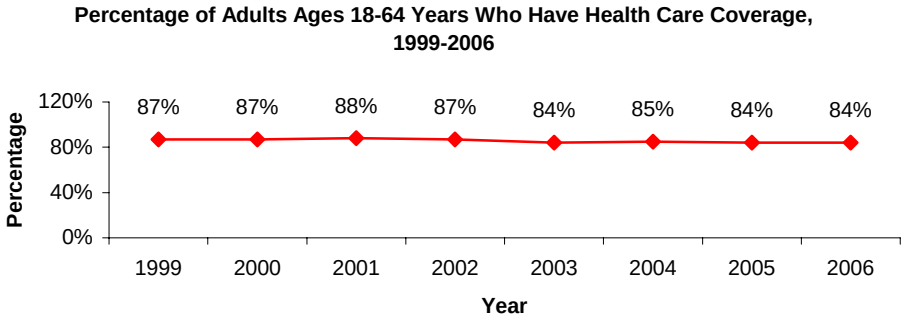
- About 1 in 6 African Americans and 1 in 4 adults with more than one race needed to see a doctor during the past 12 months but could not because of the cost.
- About 1 in 5 (22%) Hispanics and 10% of Non-Hispanics needed to see a doctor during the past 12 months but could not because of the cost.

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



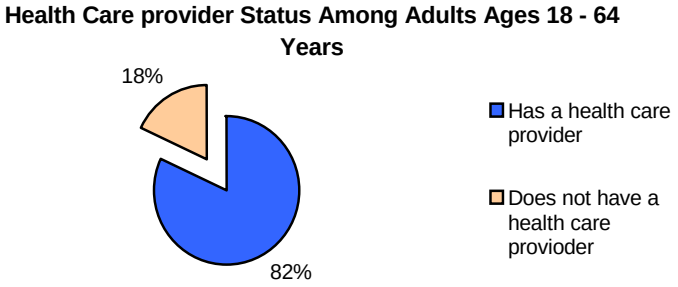
- 8% of males and 13% of females ages 18 years and older needed to see a doctor during the past 12 months but could not because of the cost.

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



- In 2006, 84% 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 2006, 82% of adults ages 18-64 years had at least one person they think of as their personal doctor or health care provider.

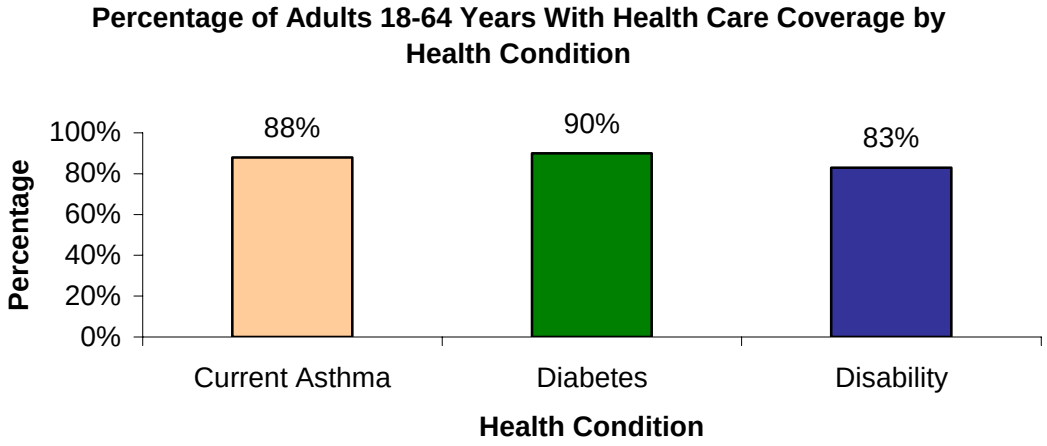


Medical Costs

In 2006, 12% of adult Kansans ages 18 - 64 years who needed to see a doctor in the past 12 months but could not because of the cost.

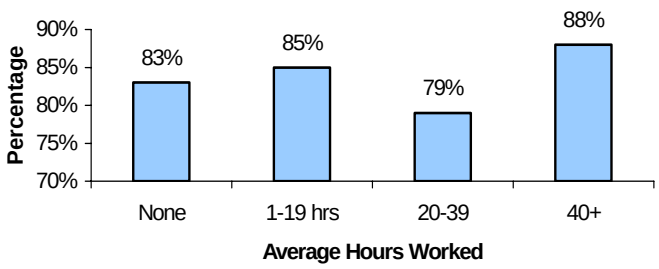
Health Care Access and Health Conditions

- About 9 in 10 adults ages 18 –64 years with diabetes and current asthma have health care coverage.
- Among adults ages 18-64 with a disability, 83% have health care coverage.

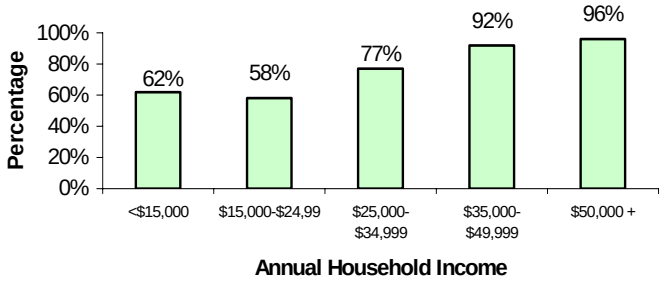


Health Care Access Among Certain Subpopulations

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

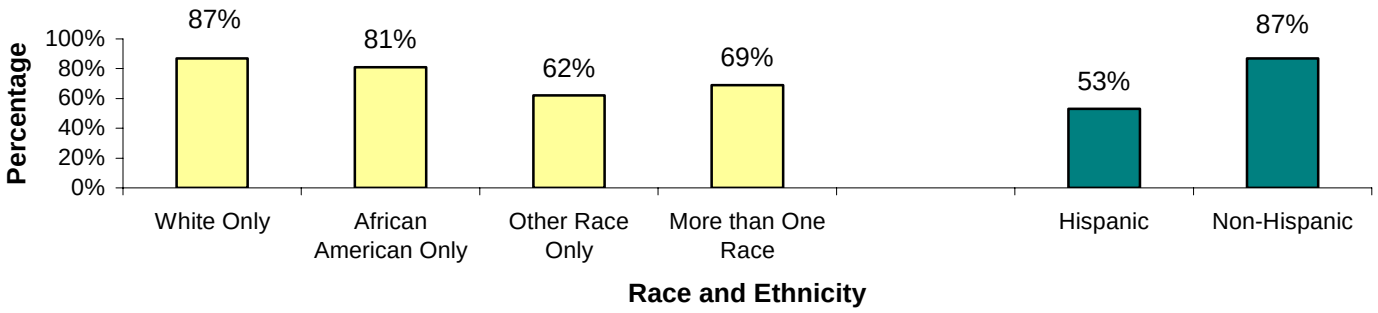


Percentage of Adults 18 - 64 Years Who Have Health Care Coverage by Annual Household Income



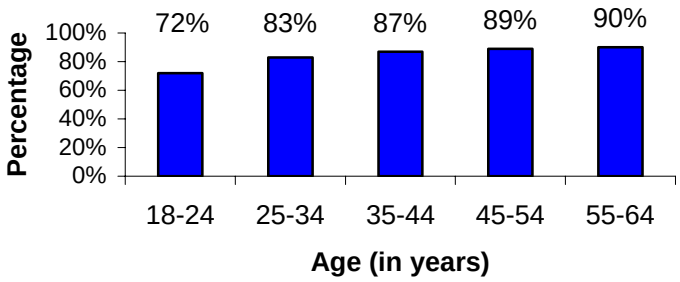
- Among adults ages 18 – 64 years who reported not working any hours at a job or business, 83% have health care coverage.
- About two-thirds (62%) of adults ages 18 - 64 years with an annual household income level of less than $15,000 have health care cover-

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

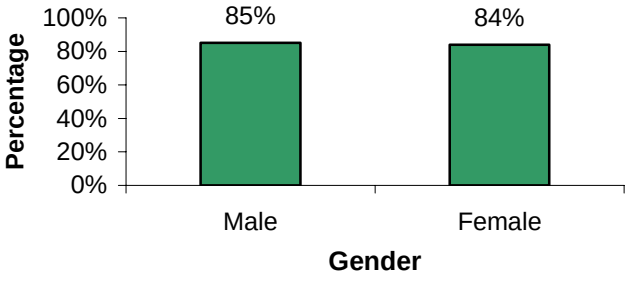


- About two-thirds (62%) of adults ages 18 - 64 years who are Asian, Native Hawaiian or Pacific Islander, Alaska Native, American Indian or other have health care coverage.
- About half (53%) of Hispanics ages 18 - 64 years have health care coverage.

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



- 72% of Kansans ages 18-24 years have some type of health care coverage compared to 90% of Kansans ages 55 – 64 years.
- About 4 in 5 men and women ages 18 - 64 years have health care coverage.

Featured Issues in 2006

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 2006 Kansas BRFSS survey.

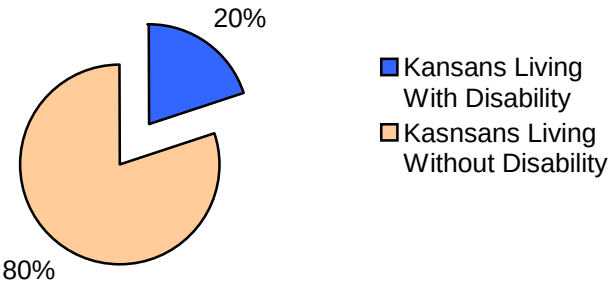
To view other health topics not featured in this report, please visit:
http://www.kdheks.gov/brfss/Questionnaires/quest2006.html

DISABILITY

The U.S. Census Bureau has reported that about 50 million Americans have some type of disability, such as hearing loss, mental disability, physical limitation, or vision loss (16). The importance of promoting the health and well-being of people living with disabilities has been identified by the public health community (17). In 2006, the Office of Injury and Disability Prevention at the Kansas Department of Health and Environment in collaboration with the Research and Training Center on Independent Living at the University of Kansas proposed inclusion of a set of questions on 2006 Kansas BRFSS to understand the extent of disability related issues in Kansas. This set of questions serves as a supplement to the two core questions asked in the Kansas BRFSS. The Kansans living with disability are those who reported an activity limitation due to physical, mental or emotional problems or who reported a health problem that requires them to use special equipment such as a cane, a wheelchair, a special bed, or a special telephone (18). Some salient results from disability module are being reported here:

- In Kansas, one in five adults ages 18 years and older reported living with a disability.

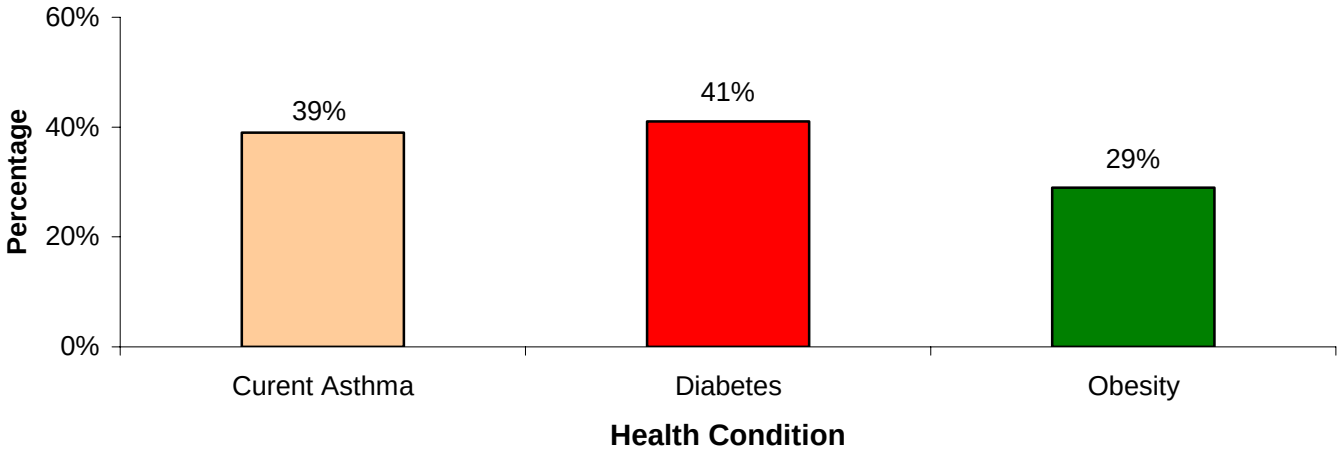
Percentage of Adults 18 Years and Older Living With and Without Disability, 2006



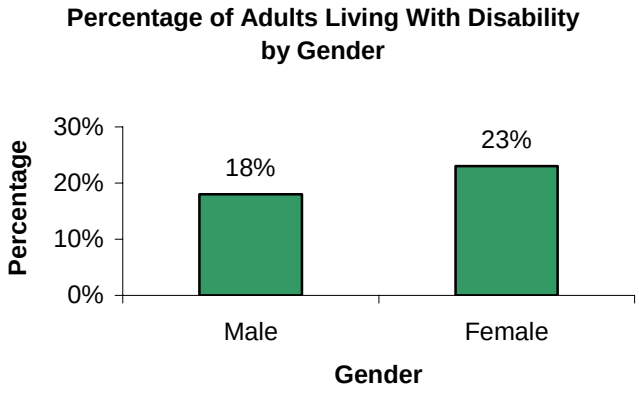
Disability and Health Conditions

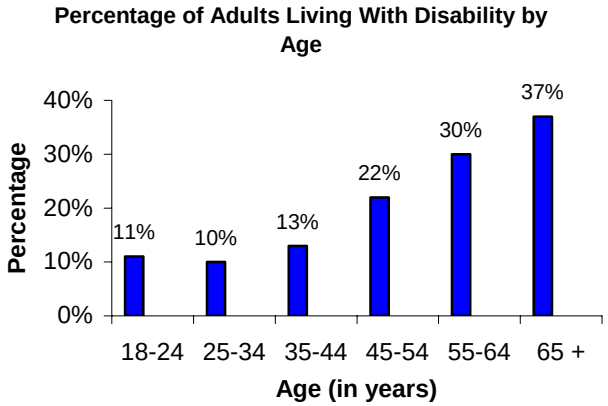
- About two in five (39%) adults with current asthma are living with disability.
- About two in five (41%) adults with diabetes are living with disability.
- About one in three (29%) adults who are obese are living with disability.

Percentage of Adults Who Are Obese by Health Conditions

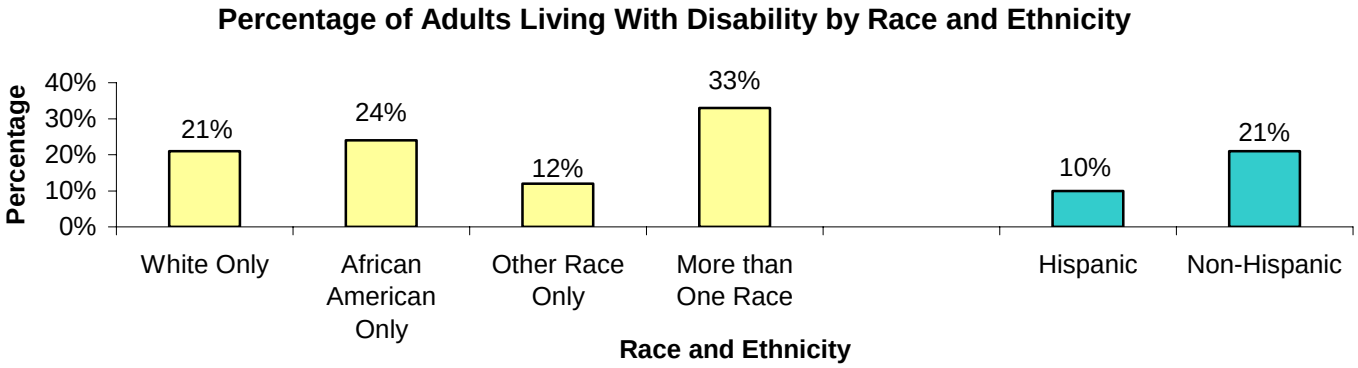


Disability Among Certain Subpopulations

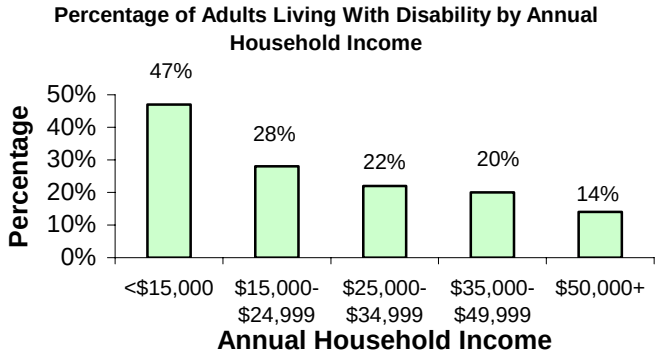


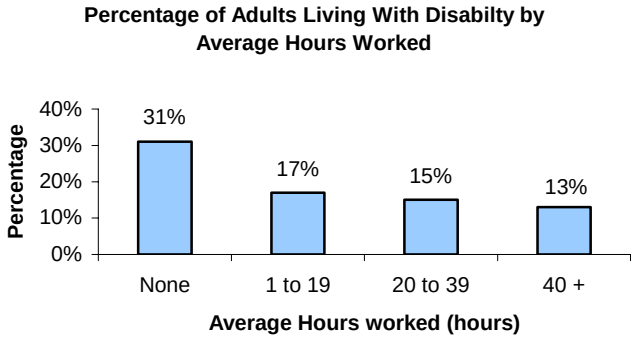


- About 1 in 5 adult males and 1 in 4 adult females in Kansas are living with disability.
- The prevalence of disability increases with age. More than one-third of adults ages 65 years and older are living with disability.



- About 1 in 3 adults who are multi-racial and 1 in 4 African Americans reported living with disability.
- Higher percentage of Non-Hispanic adults reported living with disability as compared to Hispanic adults. This difference was seen even after age-adjustment.

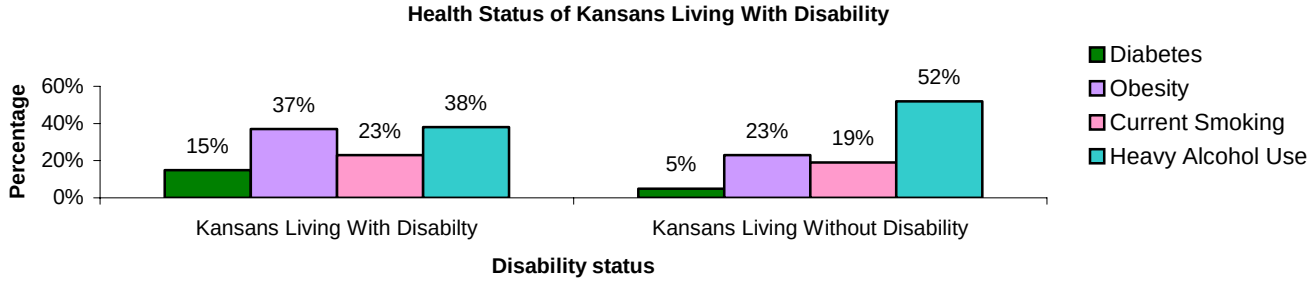




- Almost one in two (47%) adults with an annual household income less than $15,000 are living with disability.
- About one-third (31%) of adults who did not work at a job or business are living with a disability.

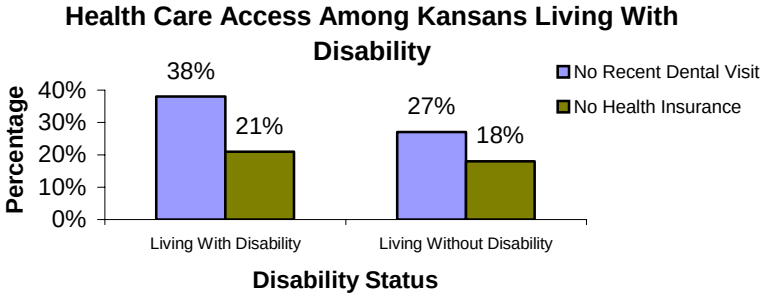
Health Status of Kansans (Ages 18 Years and Older) Living With Disability

- About 1 in 6 (15%) adults living with disability have diabetes.
- About one-third (37%) of adults living with disability are obese.
- About 1 in 4 adults living with disability are current smokers and more than one-third are heavy alcohol users.



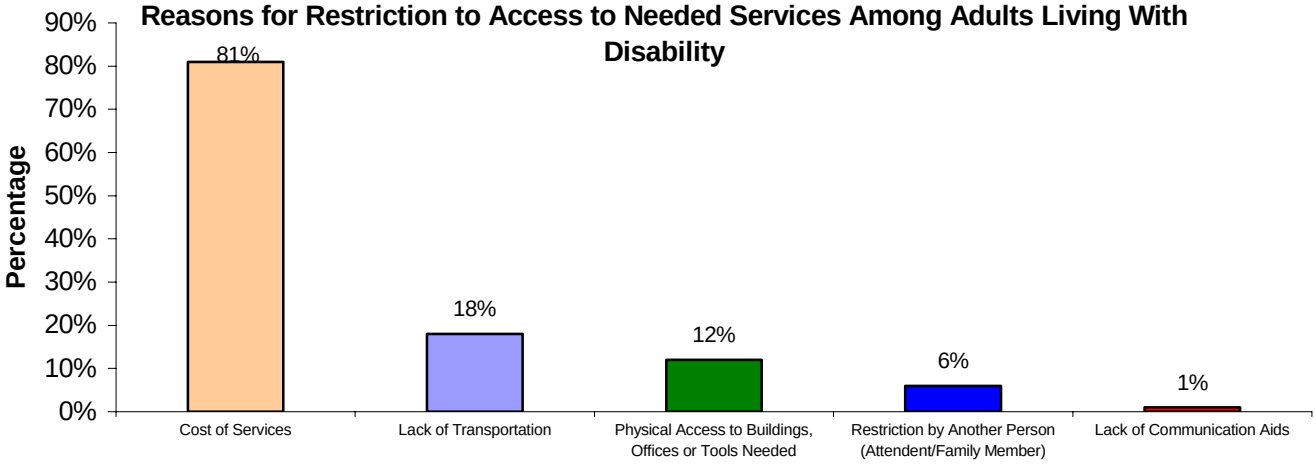
Disability and Health Care Access

- About 2 in 5 (38%) adults living with disability do not receive dental care.
- About 1 in 5 (27%) of adults living with disability do not have any type of health insurance.



Restrictions in Receiving Needed Services Among Kansans Living With Disability

- About 1 in 7 adults living with disability reported they are restricted from needed services.
- About 4 in 5 adults who reported facing restrictions in receiving needed services attributed their restrictions to cost of services.
- About 1 in 4 the adults who reported facing restrictions in receiving needed services attributed their restrictions to lack of transportation.



ANXIETY AND DEPRESION

Mental health plays a vital role in a person's well being, family and interpersonal relationships, and a person's involvement in society (19). 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 (20, 21). Depression is one of the leading mental health disorders (22). It affects on average about 20.9 million (9.6%) of the adults, ages 18 years and older in the United States (21).

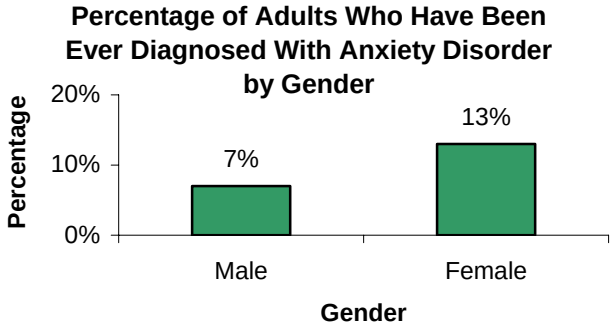
Types of Anxiety and Depression

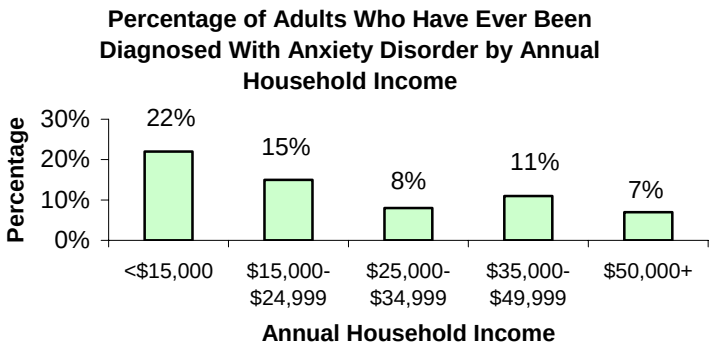
The types of Anxiety include acute stress disorder, generalized anxiety disorders, obsessive-compulsive disorders, panic disorders, posttraumatic stress disorder, social anxiety disorder and specific phobias (22).

The types of Depression include major depression disorder, minor depression, dysthymia, and bipolar disorder (23).

Anxiety in Kansas

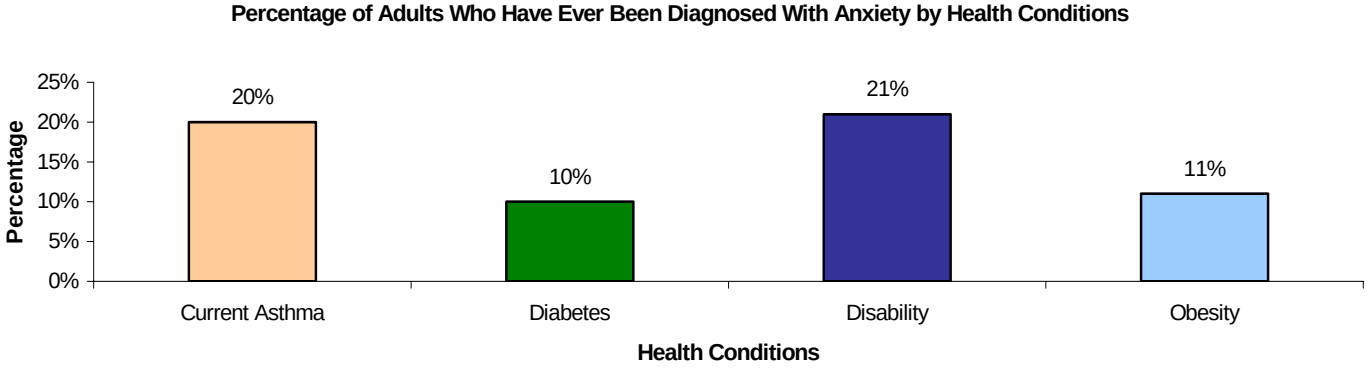
- An estimated 205,326 (10%) Kansas adults ages 18 years and older have ever been diagnosed with anxiety disorder (life type) by a doctor or other health care provider.
- About 7% of males and 13% of females have ever been diagnosed with anxiety.
- About 1 in 4 (22%) adults with annual household income of less than $15,000 have ever been diagnosed with anxiety.
- About 1 in 6 (16%) divorced or separated adults have ever been diagnosed with anxiety.





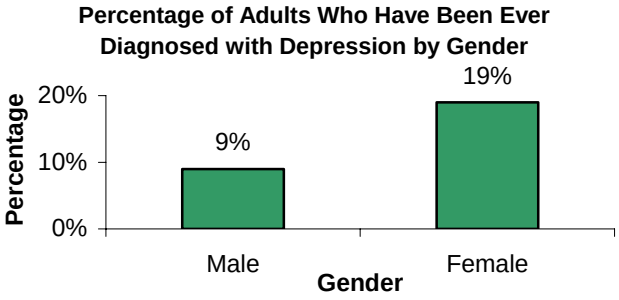
Anxiety and Health Conditions

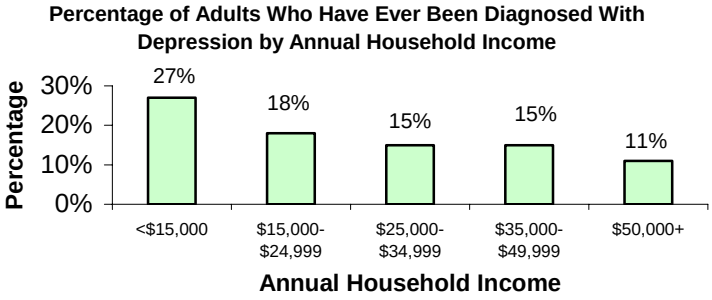
- About 1 in 5 (20%) adults with current asthma have ever been diagnosed with anxiety disorder.
- About 1 in 5 (21%) adults living with disability have ever been diagnosed with anxiety disorder.



Depression in Kansas

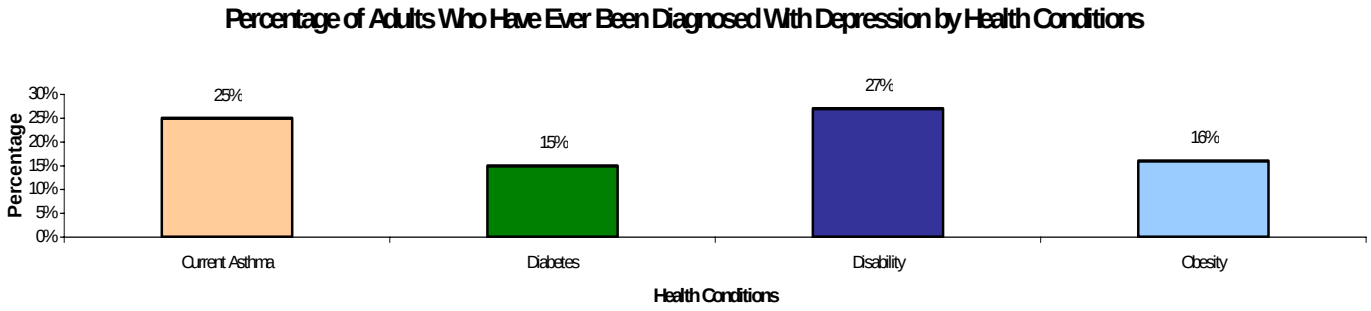
- An estimated 292,126 (14%) Kansas adults ages 18 years and older have ever been diagnosed with depression disorder (life type) by a doctor or other health care provider.
- About 9% of males and 19% of females have ever been diagnosed with depression.
- About 1 in 4 (27%) adults with annual household income of less than $15,000 have ever been diagnosed with depression.
- About 1 in 4 (25%) divorced or separated adults have ever been diagnosed with depression.





Depression and Health Conditions

- About 1 in 4 (25%) adults with current asthma have ever been diagnosed with depression.
- About 1 in 4 (27%) adults living with disability have ever been diagnosed with depression.



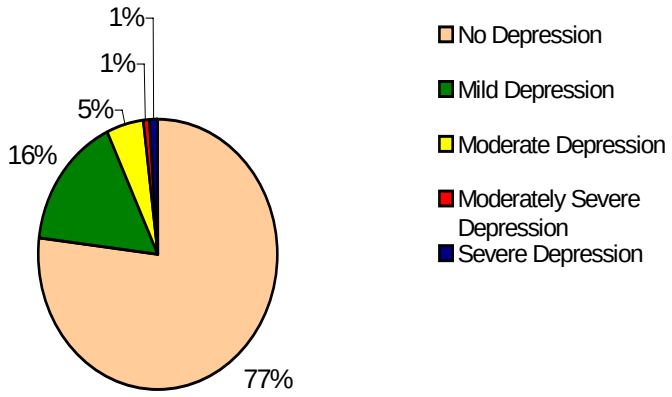
Severity of Depression Based on the Patient Health Questionnaire (PHQ-8)

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 (24). 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 BRFSS. This module included 8 questions from PHQ-9 , hence referred as PHQ-8. The Kansas BRFSS data for these 8 questions were analyzed 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 (23%) respondents received a score showing some level of depression.
- About 1 in 6 (16%) adults have mild depression and about 5% of adults have moderate depression, where as 2% 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 was identified with depression as compared to the percentage of adults who reported that they have ever been told by a doctor or other health professional that they have depression (23% vs. 14%).

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



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, a survey selection committee consisting of the BRFSS Coordinator, Director of Science and Surveillance/Health Officer II, and Office of Health Promotion Director meet to determine the questionnaire content. The survey selection committee uses a specific set of criteria to determine the questionnaire's content.

Sampling

The 2006 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 2006, 8,304 residents of Kansas were interviewed.

Response Rate

The CASRO (Council of American Survey Research Organizations) response rate for the 2006 Kansas BRFSS survey was 65.05%. 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 2006. CDC optional modules and state added questions are organized by topics into two sections: questionnaire A and questionnaire B. All 8,304 respondents answered questions from the core section. Then each telephone number was randomly assigned to questionnaire A and questionnaire B prior to being called. Approximately half of the respondents received questionnaire A and the remaining receive questionnaire B, (i.e. approximately 4,000 respondents for each questionnaire).

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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