



# Kentucky Behavioral Risk Factor Survey

## 2011 Annual Report



Kentucky Department for Public Health  
Division of Prevention and Quality Improvement  
Chronic Disease Prevention & Control Branch  
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**Kentucky Public Health**  
Prevent. Promote. Protect.

## ACKNOWLEDGMENTS

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## Executive Summary

The 2011 KyBRFS Annual Data Report presents a snapshot of the health behaviors and health status indicators, that place Kentucky adults at risk for chronic diseases, injuries, and preventable infectious diseases. The report is based on a sample of non-institutionalized residents aged 18 years or older from over 10,000 households in the Commonwealth of Kentucky throughout 2011. The results are weighted to obtain representative estimates for all adults in the state.

In 2011, two major changes were made in BRFSS Protocol: the incorporation of cell phone interviews and the adoption of a more advanced weighting method. Due to these significant changes, estimates of prevalence from 2011 and subsequent years cannot be directly compared to estimates from previous years. Some key findings from the 2011 survey include:

### **Alcohol Consumption:**

In 2011, prevalence of binge drinking among adults in Kentucky (16.1%) was lower than the national estimate of 18.3%. In Kentucky, binge drinking was significantly higher among men than women (22.6% vs. 10.2%).

### **Arthritis**

About 31.9% of Kentucky adults have been told by a health professional that they have arthritis; this estimate is higher compared to the 24.4% reported among adults in the United States. In Kentucky, prevalence of arthritis was significantly higher among women than men (35.9 vs. 27.6%).

### **Asthma:**

In 2011, about 10.5% of Kentucky adults reported that they currently have asthma; this was higher than the United States prevalence of 9.1%. Prevalence of current asthma in Kentucky was significantly higher among women compared to men (13.5% vs. 7.2%).

### **Cardiovascular Diseases:**

About 6.1% of Kentucky adults have been told by a health professional that they had a heart attack, 5.9% have coronary heart disease, and 3.9% have been told they had a stroke. These Kentucky estimates are all higher than the national estimates for heart attack (4.4%), coronary heart disease (4.1%), and stroke (2.9%).

### **High Blood Pressure**

An estimated 38% of Kentucky adults have been told by a health professional that they have high blood pressure; this estimate is higher compared to 30.8% in the United States.

### **Diabetes:**

About 10.8% of adults in Kentucky have been told by a doctor that they have diabetes; this is higher compared to 9.7% in the United States. Diabetes prevalence in Kentucky was significantly higher among adults with household income under \$25,000 a year, compared to adults with annual household income of \$50,000 or more (16.5% vs. 6.8%).

### **Health Care Access/Coverage:**

The estimated proportion of Kentucky adults without health care coverage or health insurance was 18.6% in 2011; this was slightly higher than the estimate of uninsured adults in the United States (17.9%). In Kentucky, a significantly higher proportion of black adults compared to white adults did not have health insurance (27.8% vs. 17.5%).

### **Obesity:**

In 2011, about 30.4% of Kentucky adults were classified as obese based on Body Mass Index (BMI); in the same year, 27.8% of adults in the United States were classified as obese. Obesity prevalence in Kentucky was significantly higher among black adults (43.2%) than among white adults (29.5%).

### **Tobacco Use:**

About 29% of Kentucky adults reported that they currently smoke cigarettes; this estimate is higher compared to the 21.2% reported among adults in the United States. In Kentucky, about 44.2% of adults with less than a high school education are current smokers; smoking prevalence decreased significantly with increasing levels of educational attainment.

## Introduction

### What is KyBRFS?

The Kentucky Behavioral Risk Factor Survey (KyBRFS) is a statewide telephone health survey jointly sponsored by the Centers for Disease Control and Prevention (CDC) and the Kentucky Department for Public Health (KDPH). The KyBRFS has been conducted continuously since 1985. KyBRFS data contributes to the CDC Behavioral Risk Factor Surveillance System (BRFSS) that is conducted within every state, the District of Columbia, and within several U.S. territories. The survey is administered to randomly selected non-institutionalized adults who live in a household with a telephone. Participation in the survey is strictly voluntary. Personal identifying information, such as a person's name or address, is not collected.

### New Changes in BRFSS Protocol

*In 2011, two major changes were made in BRFSS Protocol:* The incorporation of cell phone interviews and the adoption of a more advanced weighting method called iterative proportional fitting or raking (raking replaced the post-stratification weighting method used with previous BRFSS data sets). Due to these significant changes, estimates of prevalence from 2011 and subsequent years cannot be directly compared to estimates from previous years. Comparing 2011 BRFSS data with BRFSS data from previous years may cause misinterpretation of trend line shifts in prevalence estimates.

The changes in BRFSS protocol are discussed in detail in the June 8, 2012, MMWR Policy Note, "Methodologic Changes in the Behavioral Risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates." This note is available online at the CDC Surveillance resource Center <http://www.cdc.gov/surveillancepractice/reports/brfss/brfss.html>.

### How is the survey conducted?

Kentucky currently uses disproportionate stratified sampling to obtain a random sample of Kentucky telephone numbers. Once an interviewer reaches a household, a member of the household 18 years of age or older is randomly selected to be interviewed. Surveyors conduct interviews seven days a week, January through December. The number of completed interviews has increased each year.

### How can this report be used?

Data from this report can be used in many of the following ways:

- To document health trends
- To provide information related to the development of policies and legislation
- To plan and measure the progress of health initiatives
- To educate the public about risk behaviors and preventive health practices
- To monitor health goals, such as those stated in *Healthy Kentuckians 2020*

### Race

Beginning in 2001, the BRFSS race question allowed reporting of more than one race. Therefore, data users should be cautious when comparing race data from the year 2001 onward to race data from previous years due to the change in race categories. Since Kentucky's population is predominantly white, survey respondents are predominantly white and the low number of non-white populations tend to make data regarding those populations statistically unstable. Race data, therefore, may be excluded from this report due to the small nature of the sample size. *In this report, we are unable to include data on Hispanics and sometimes cannot include data on Blacks.*

## Introduction (continued)

### How is the data analyzed?

Data is analyzed using the following statistical analysis software: SAS 9.3, SAS Callable SUDAAN, and SPSS Complex Samples. A pre-calculated weighting variable provided by the CDC is used to weight the data. Weighting adjusts for over-sampling or under-sampling of certain subgroups and allows the survey data to be representative of the Kentucky population. Factors in weighting include the number of telephone numbers per household, the number of adults per household, and the demographic distribution of the sample. BRFSS raking includes categories of age by gender, detailed race and ethnicity groups, education levels, marital status, regions within states, gender by race and ethnicity, telephone source, renter/owner status, and age groups by race and ethnicity.

The data are not age-adjusted. Data estimates for fewer than 50 respondents are considered statistically unreliable by the CDC and are not included in this report. Respondents who answered that they did not know or refused to answer a question were excluded from the calculation of prevalence estimates related to that question. Therefore, the sample sizes used to calculate the estimates in this report vary.

### What are the limitations to the data?

There are two main limitations to BRFSS data: non-coverage bias and self-report bias. These limitations should not hinder the use of BRFSS data, but should be considered.

**Non-coverage bias:** Since the BRFSS is a telephone survey, adults who live in households without a telephone are not included in the sample. The BRFSS only surveys adults living in households. Therefore, individuals living in a group setting, such as a nursing home, the military, or prison are not surveyed.

**Self-report bias:** The BRFSS survey relies on self-reporting, which means that the prevalence estimates are strictly based on the respondents answers to the survey questions. The tendency to report a more healthy lifestyle may occur.

### Small sample size for subgroups

Producing accurate prevalence estimates for different subgroups (men, women, Whites, Blacks, women aged 40+, etc.) requires a minimum number of 50 respondents per question. In some cases, the KyBRFS does not reach enough people in certain categories to produce statistically reliable estimates. Small sample sizes produce large variances (i.e. a deviation from the mean), resulting in a large confidence interval (CI). The same problem of small numbers of responses occurs at the county level. In order to provide locally relevant estimates, KyBRFS data is reported by Area Development District (ADD). In this report, if the un-weighted sample size for the denominator is < 50 or if the confidence interval for a subgroup is too large (i.e. CI half width > 10), the data are not reported.

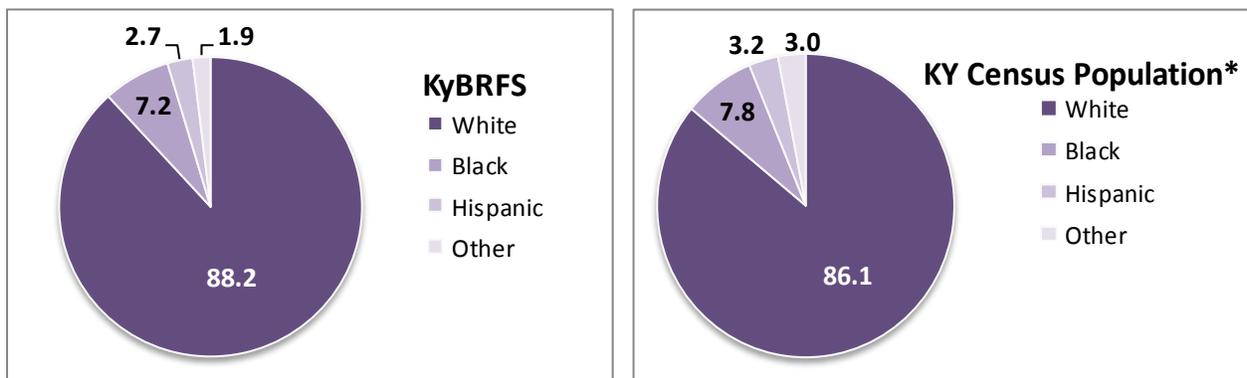
## Introduction (continued)

### Demographic Characteristics: Race/Ethnicity and Gender

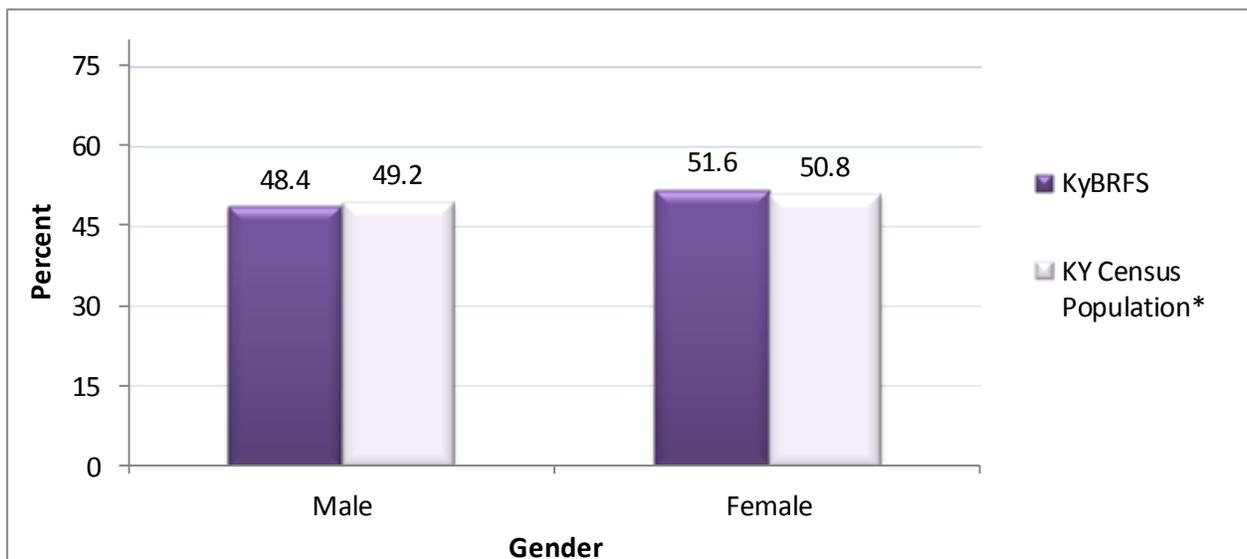
A total of 10,894 Kentucky residents (18 years or older) participated in the 2011 Behavioral Risk Factor Survey. The initial sample of 10,894 residents was used to “weight” these survey data in order to obtain representative estimates for the state of Kentucky.

The distribution of respondents by race and by gender on the 2011 KyBRFS was similar to the 2011 Kentucky census population (as indicated in the charts below). The race/ethnicity categories used for this comparison are: Non-Hispanic White, Non-Hispanic Black, Hispanic, and Other/Non-Hispanic.

### Distribution of KyBRFS Adult Population vs. KY Census Population, by Race/Ethnicity, 2011



### Distribution of KyBRFS Adult Population vs. KY Census Population, by Gender, 2011



\*Note: KY Census Population includes all age groups.

KY Census Population estimates obtained from CDC Sortable Stats website: <http://wwwn.cdc.gov/sortablestats>.

# ALCOHOL CONSUMPTION: BINGE DRINKING

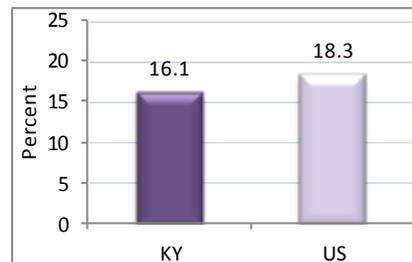
**Question:** Considering all types of alcoholic beverages, how many times during the past month did you have four or more drinks on one occasion?

**At Risk:** Adult males who reported having five or more drinks on one occasion and adult females who reported having four or more drinks on one occasion (in the past month) are considered at risk.

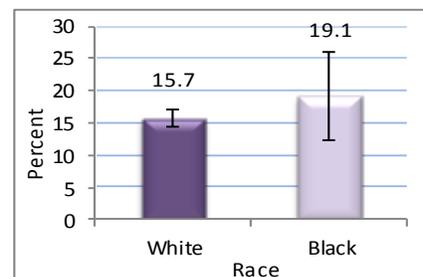
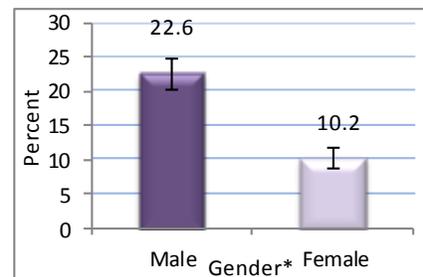
## Who is at risk in Kentucky?

- In 2011, 16.1% of Kentucky adults reported binge drinking; the estimate was lower compared to 18.3% in the United States.
- Prevalence of binge drinking was significantly higher among men compared to women (22.6% versus 10.2%).
- There were no statistically significant differences in reported binge drinking by race.
- Prevalence of reported binge drinking significantly decreased with age.
- Binge drinking increased with increasing levels of educational attainment; however, the differences were not statistically significant.
- A higher proportion of binge drinking was reported by adults who had an annual household income over \$25,000 compared to those whose income was under \$25,000.

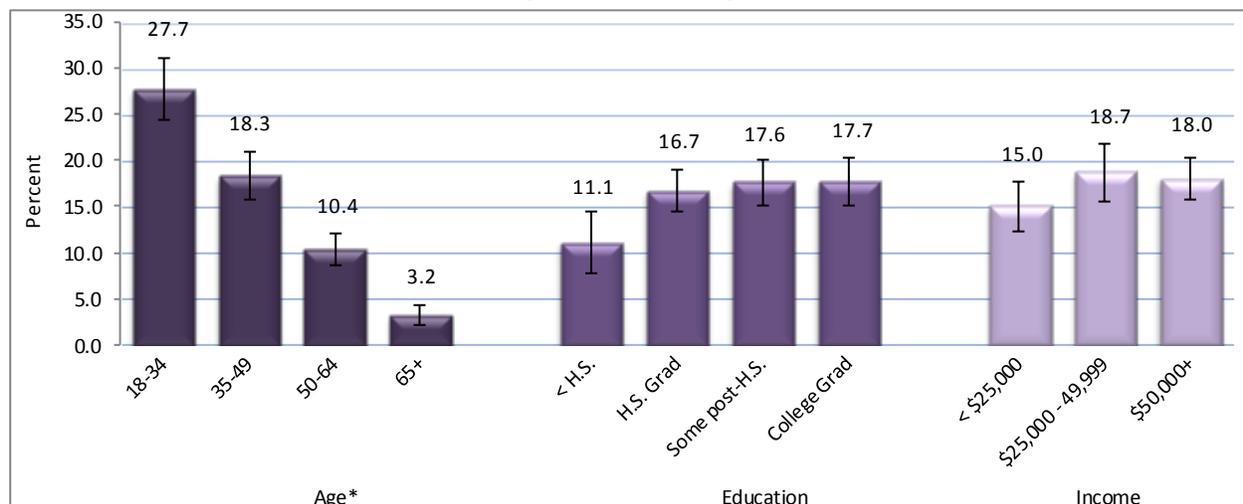
**Percent of Adults Classified as Binge Drinkers: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults Classified as Binge Drinkers, by Gender\*, and by Race, 2011**



**Percent of Kentucky Adults Classified as Binge Drinkers, by Age\*, Education, and Income, 2011**



\* Denotes a statistically significant difference among the values.

In this report, the term 'significant' only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# PHYSICAL ACTIVITY

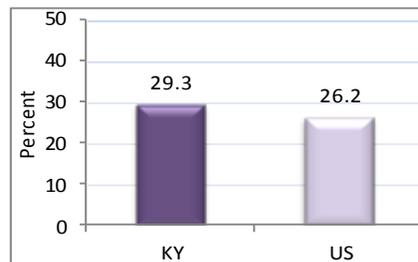
**Question:** During the past 30 days, other than your regular job, did you participate in any physical activity or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

**At Risk:** Adults who did not participate in any physical activity or exercise during the last 30 days are considered at risk.

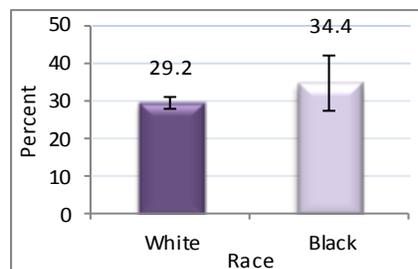
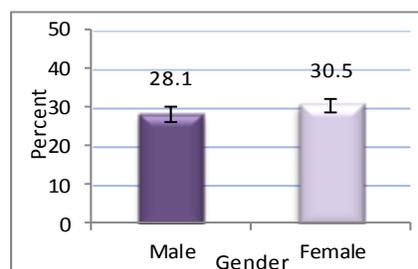
## Who is at risk in Kentucky?

- In 2011, 29.3% of Kentucky adults reported not participating in any physical activity or exercise during the past month; this estimate is higher compared to 26.2% in the United States.
- There were no significant differences between men and women who reported not participating in any physical activity.
- There were no significant differences between white and black adults who reported not participating in any physical activity.
- Lack of physical activity increased with age, with the highest proportion among adults aged 65 and above (38.6%).
- Adults with lower levels of education were more likely to report a lack of physical activity.
- A higher proportion of adults earning less than \$50,000 a year reported not participating in any physical activity compared to adults with income over \$50,000 a year.

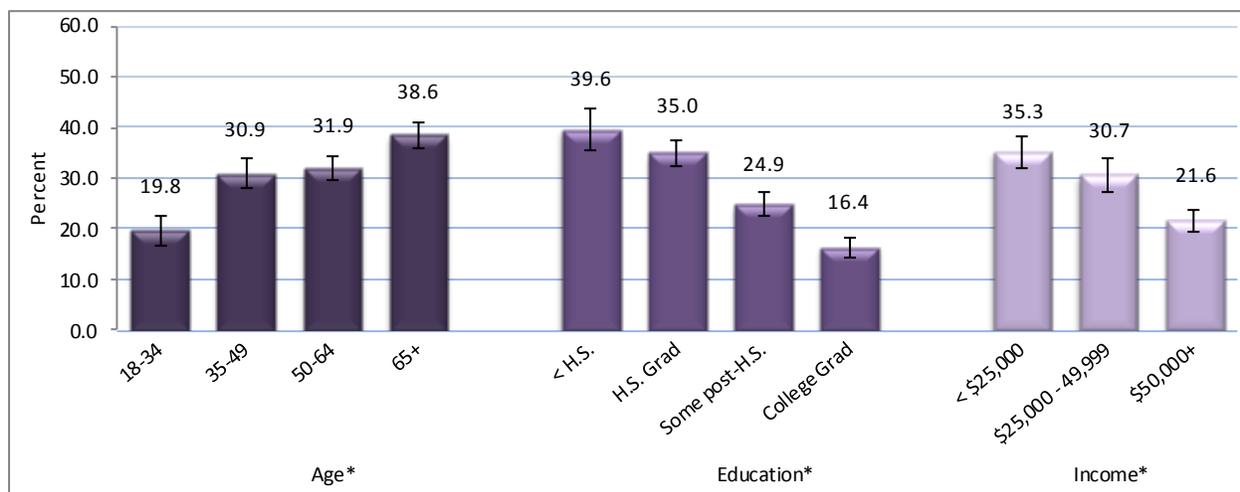
**Percent of Adults who did not Participate in any Physical Activity in the Past 30 Days: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

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## TOBACCO USE

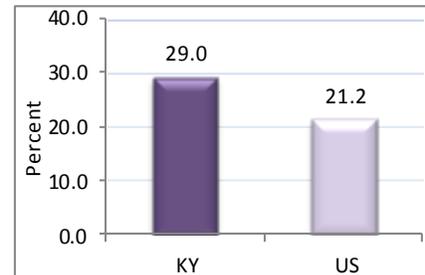
**Question:** If you have smoked at least 100 cigarettes in your entire life, are you now smoking everyday, some days, or not at all?

**At Risk:** Adults who are Current Smokers (i.e. smoke “every day” or “some days”) are considered at risk.

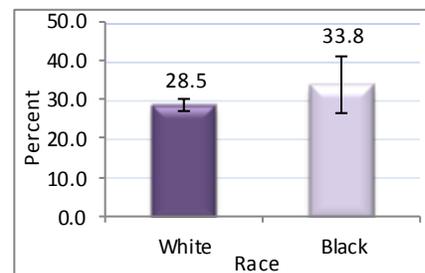
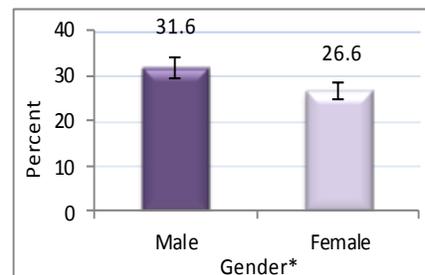
### Who is at risk in Kentucky?

- In 2011, 29% of Kentucky adults reported that they currently smoke cigarettes every day or some days; this was a higher estimate compared to 21.2% in the United States.
- Smoking prevalence was significantly higher among men compared to women (31.6% vs. 26.6%).
- There were no statistically significant differences in smoking prevalence between white and black adults.
- Among age groups, smoking prevalence was highest among adults 18 to 34 years old (36.4%).
- About 44% of Kentucky adults who have less than a high school education are current smokers; smoking prevalence decreased significantly with increasing levels of educational attainment.
- Nearly 42% of Kentucky adults with household income less than \$25,000 a year are current smokers; smoking prevalence decreased significantly with increasing annual household income.

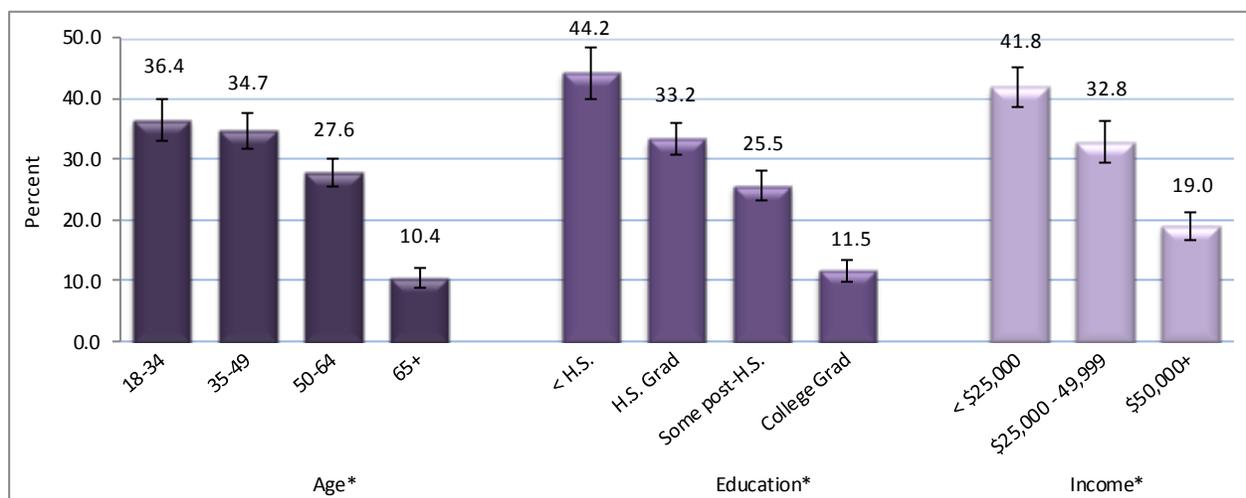
**Percent of Adults who are Current Smokers: Kentucky vs. Nationwide (States, and DC), 2011**



**Percent of Kentucky Adults who are Current Smokers, by Gender\*, and by Race, 2011**



**Percent of Kentucky Adults who are Current Smokers, by Age\*, Education\*, and Income\*, 2011**



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# ARTHRITIS

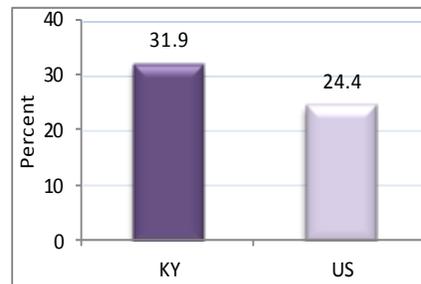
**Questions:** Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?

**At Risk:** Adults who answered “Yes” are considered at risk.

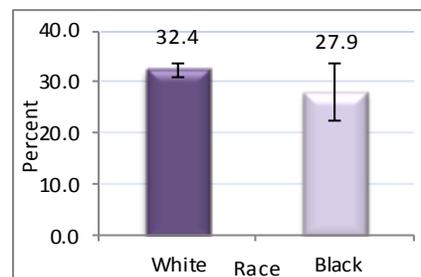
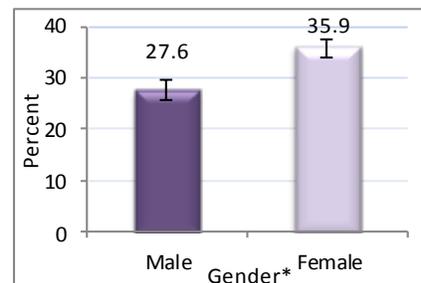
## Who is at risk in Kentucky?

- About 31.9% of Kentucky adults have been told by a health professional that they have arthritis; this estimate was higher compared to 24.4% in the United States.
- Prevalence of arthritis was significantly higher among women (35.9%) compared to men (27.6%).
- There were no statistically significant differences in the prevalence of arthritis between white and black adults.
- As would be expected, the proportion of adults with arthritis increased significantly with age.
- About 46.5% of adults with less than a high school education have arthritis; prevalence of arthritis decreased significantly with increasing levels of educational attainment.
- Prevalence of arthritis was significantly higher among adults with annual household income under \$25,000 compared to adults with annual household income of \$50,000 or more (43.6% vs. 22.2%).

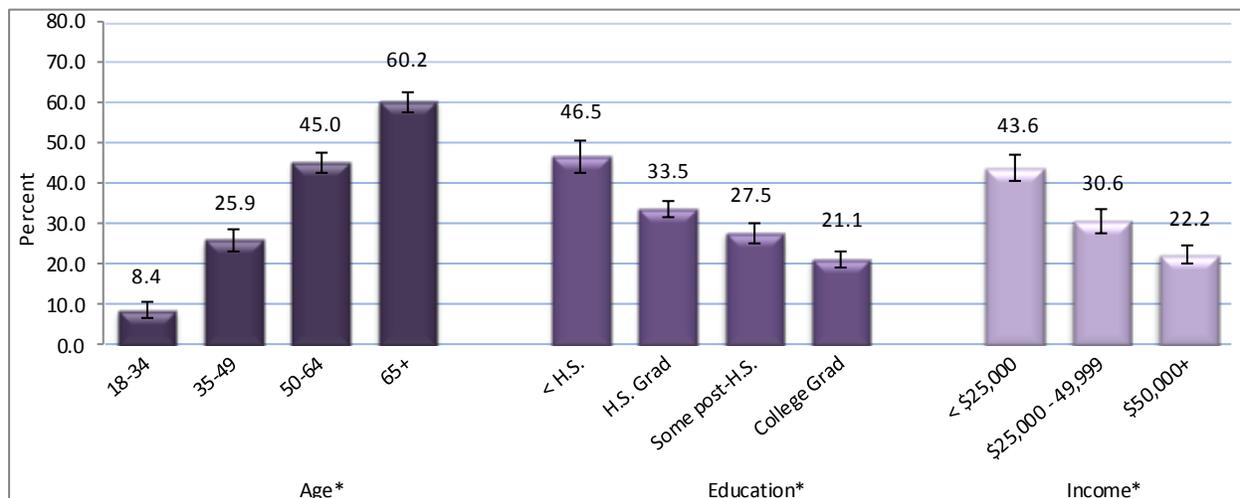
**Percent of Adults who have Arthritis, Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have Arthritis, by Gender\*, and by Race, 2011**



**Percent of Kentucky Adults who have Arthritis, by Age,\* Education\*, and Income\*, 2011**



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# ASTHMA

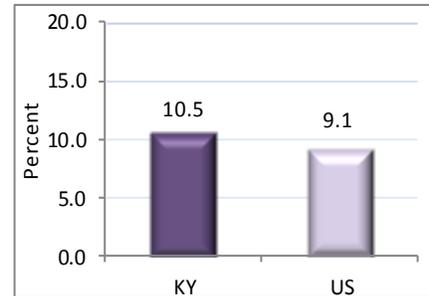
**Questions:** 1. Have you ever been told by a doctor, nurse, or other health professional that you had asthma? (lifetime)  
 2. Do you still have asthma? (current)

**At Risk:** Adults who answered “Yes” to both questions (i.e. currently have asthma) are considered at risk.

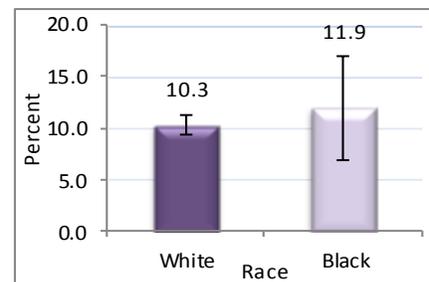
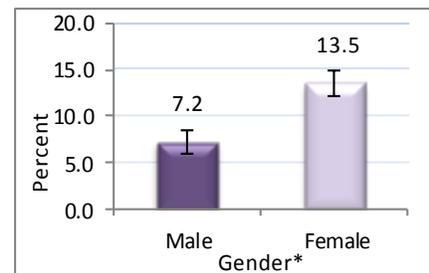
## Who is at risk in Kentucky?

- About 10.5% of Kentucky adults reported that they currently have asthma; this estimate was higher compared to 9.1% in the United States.
- Prevalence of current asthma among women in Kentucky was significantly higher than among men (13.5% versus 7.2%).
- There were no statistically significant differences in current asthma prevalence between white and black adults.
- Current asthma prevalence did not differ significantly across age groups.
- Nearly 17% of adults with less than a high school education reported that they currently have asthma.
- Prevalence of current asthma was significantly higher among adults with an annual household income of less than \$25,000 compared to adults with household income of \$50,000 or more a year (14.2% vs. 6.9%).

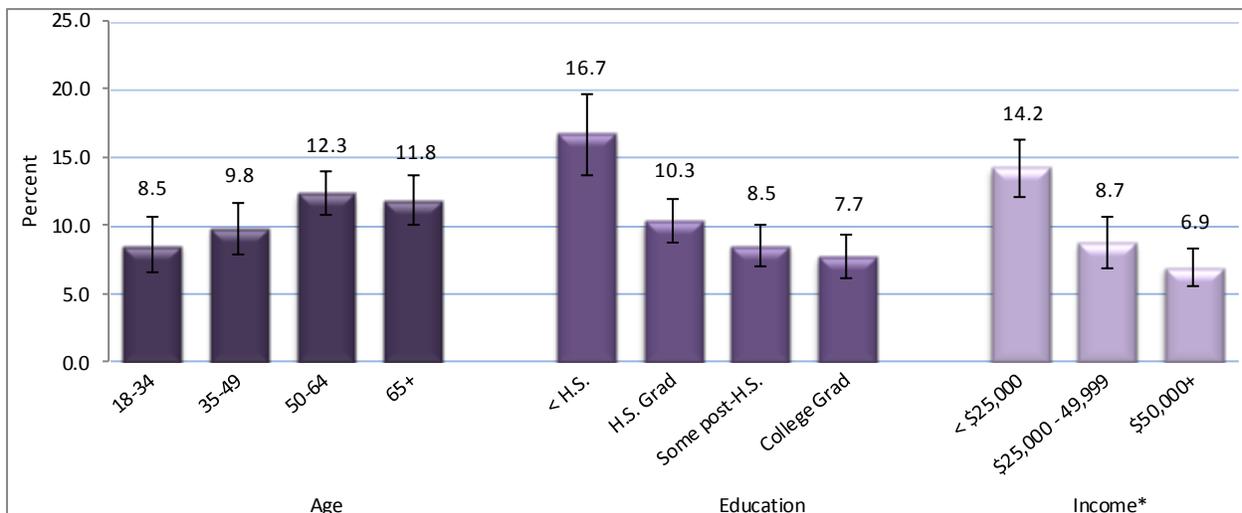
**Percent of Adults who have Current Asthma: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have Current Asthma, by Gender\*, and by Race, 2011**



**Percent of Kentucky Adults who have Current Asthma, by Age\*, Education, and Income\*, 2011**



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## CORONARY HEART DISEASE

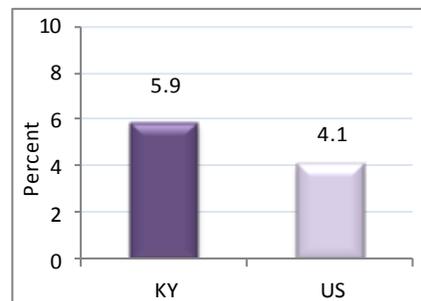
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you had angina or coronary heart disease?

**At Risk:** Adults who answered “Yes” are considered at risk.

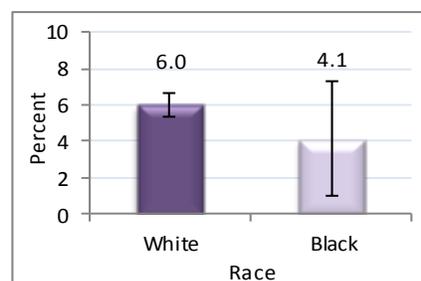
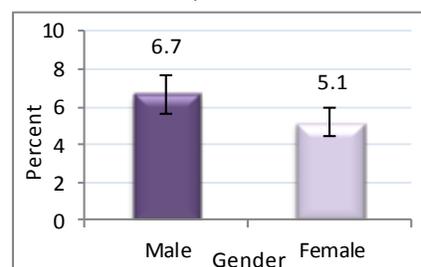
### Who is at risk in Kentucky?

- About 5.9% of Kentucky adults have been told by a health professional that they have coronary heart disease; this estimate is higher compared to 4.1% in the United States.
- The percentage of men who had coronary heart disease (6.7%) was higher compared to women who had the disease (5.1%); however, the difference was not statistically significant.
- There were no statistically significant differences in the prevalence of coronary heart disease between white and black adults.
- Prevalence of coronary heart disease increased significantly with age.
- Coronary heart disease was significantly more prevalent among adults with less than a high school education (11.7%) compared to adults who graduated from high school (6%) or adults who graduated from college (3%).
- Prevalence of coronary heart disease was significantly higher among adults with annual household income under \$25,000, compared to adults with annual household income of \$50,000 or more (9.6% vs. 3.1%).

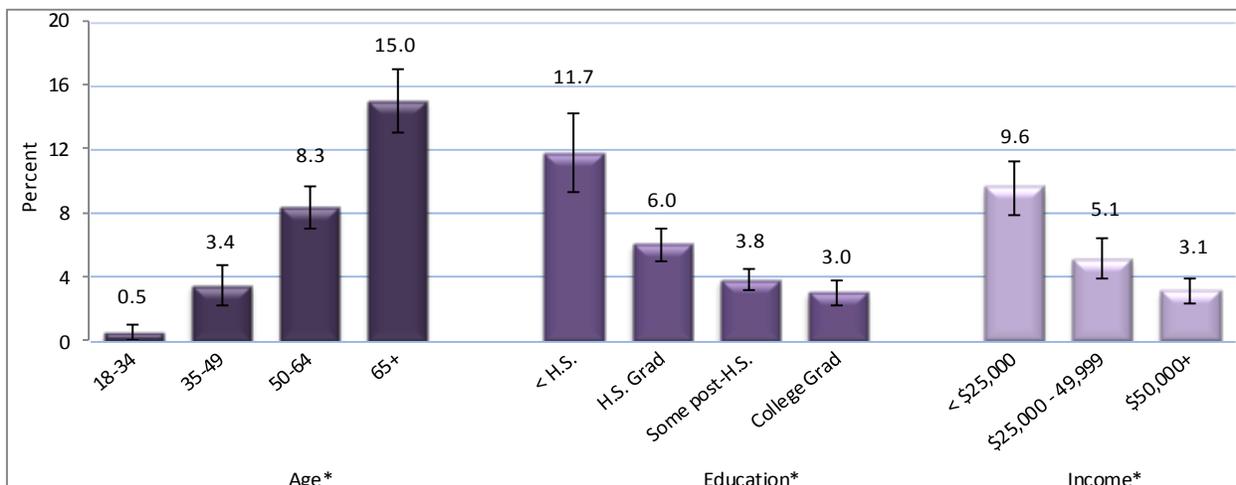
**Percent of Adults who have Coronary Heart Disease: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have Coronary Heart Disease, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who have Coronary Heart Disease, by Age\*, Education\*, and Income\*, 2011**



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# DIABETES

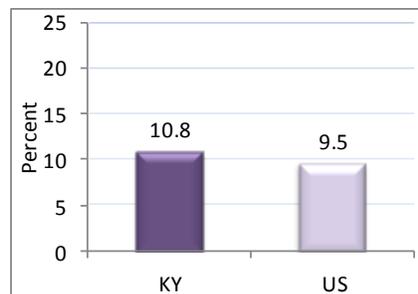
**Question:** Have you ever been told by a doctor that you have diabetes?

**At Risk:** Adults who answered “Yes” are considered at risk. Those who had gestational diabetes, pre-diabetes or borderline diabetes are excluded.

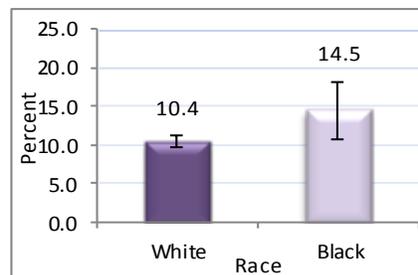
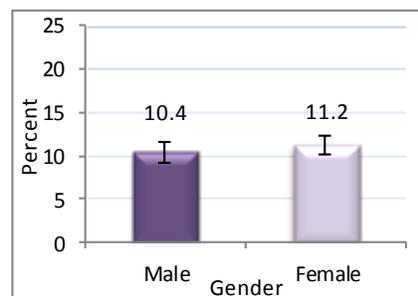
## Who is at risk in Kentucky?

- About 10.8% of Kentucky adults reported that they have been told by a doctor that they have diabetes compared to 9.5% of the U.S.
- There were no statistically significant differences in diabetes prevalence between men and women in Kentucky.
- A higher percentage of black adults in Kentucky have diabetes compared to white adults (14.5% vs. 10.4%); however, the difference is not statistically significant.
- Diabetes prevalence increased significantly with age; the highest prevalence was among adults aged 65 years or older (21.9%).
- Prevalence of diabetes was significantly higher among adults with less than a high school education (16.3%) compared to adults with a college degree (6.9%).
- Diabetes prevalence was significantly higher among adults with household income under \$25,000 a year, compared to adults with household income of \$50,000 or more a year (16.5% vs. 6.8%).

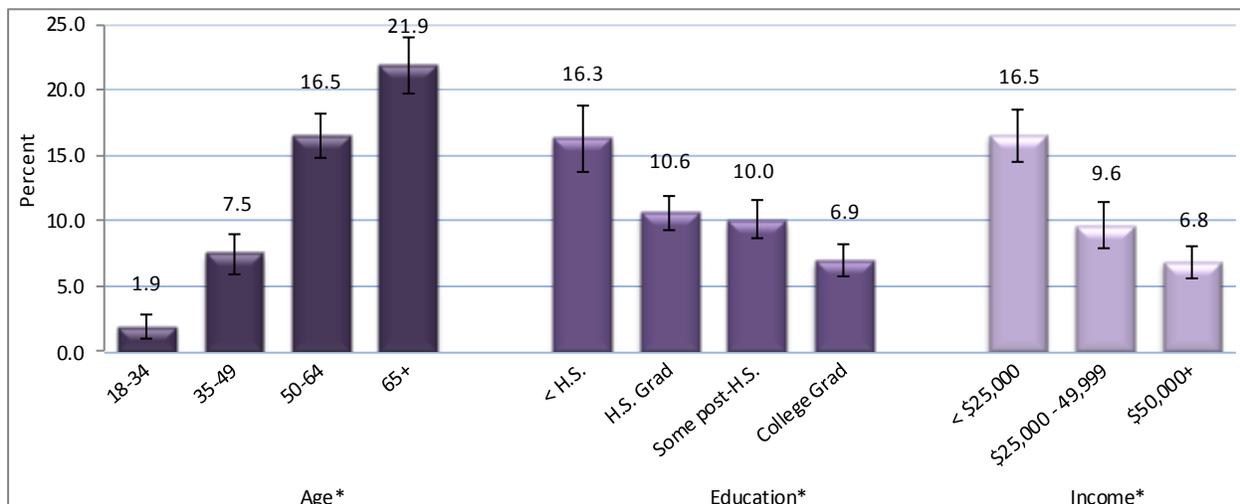
**Percent of Adults who have Diabetes: Kentucky vs. Nationwide (States, and DC), 2011**



**Percent of Kentucky Adults who have Diabetes, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who have Diabetes, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

In this report, the term ‘significant’ only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# HEART ATTACK

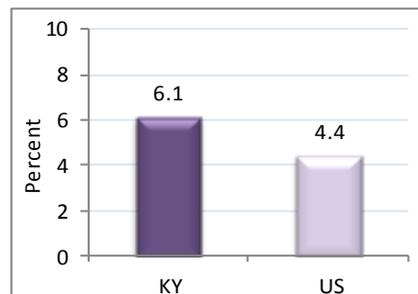
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you had a heart attack, also called a myocardial infarction?

**At Risk:** Adults who answered “Yes” are considered at risk.

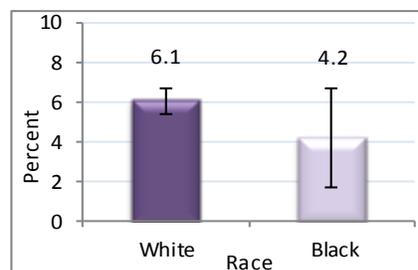
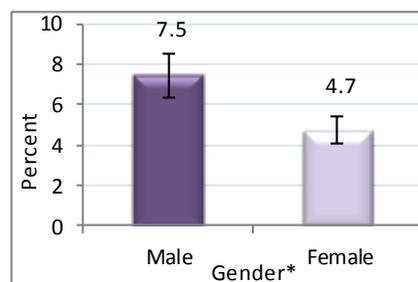
## Who is at risk in Kentucky?

- About 6.1% of adults in Kentucky have been told by a health professional that they had a heart attack; this estimate is higher compared to 4.4% in the United States.
- Heart attack prevalence was significantly higher among men compared to women (7.5% vs. 4.7%).
- There were no statistically significant differences in the prevalence of heart attack between white and black adults.
- Prevalence of heart attack decreased significantly with increasing levels of educational attainment; the highest prevalence was among adults with less than a high school education (13.8%).
- Heart attack prevalence was significantly higher among adults with annual household income under \$25,000, compared to adults with household income of \$50,000 or more a year (10.2% vs. 2.4%).

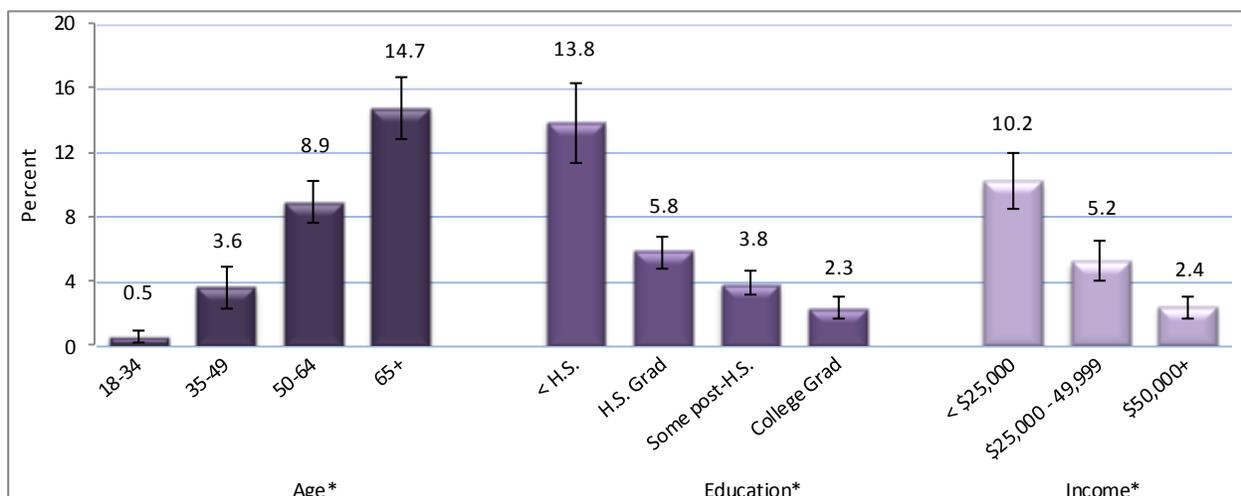
**Percent of Adults who have ever been told that they had a Heart Attack: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have ever been told that they had a Heart Attack, by Gender\*, and by Race, 2011**



**Percent of Kentucky Adults who have ever been told that they had a Heart Attack, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

In this report, the term ‘significant’ only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# HIGH BLOOD CHOLESTEROL

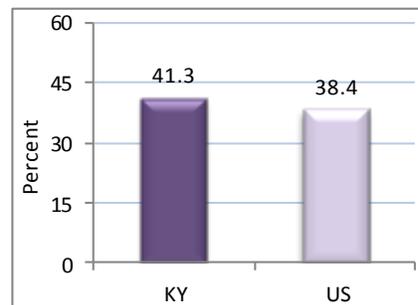
**Question:** Have you ever been told by a doctor, nurse, or other health professional that your blood cholesterol is high?

**At Risk:** Adults who answered “Yes” are considered at risk.

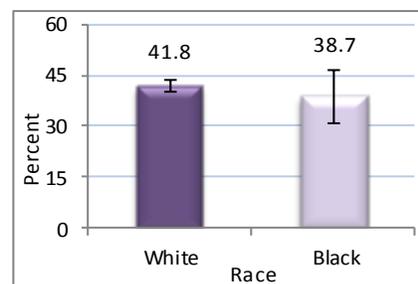
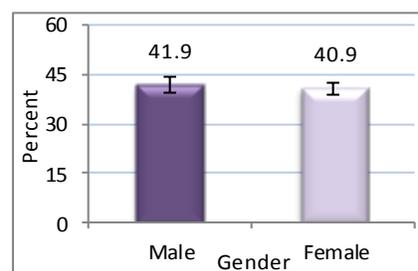
## Who is at risk in Kentucky?

- An estimated 41.3% of Kentucky adults have been told by a health professional that they have high blood cholesterol; this estimate is higher compared to 38.4% in the United States.
- Prevalence of high blood cholesterol did not vary significantly by gender.
- There were no statistically significant differences in the prevalence of high blood cholesterol between white and black adults.
- Prevalence of high blood cholesterol increased significantly with age; over 50% of adults aged 50 years or older have high blood cholesterol.
- High blood cholesterol was significantly more prevalent among adults with less than a high school education compared to adults who graduated from college (50.5% vs. 34.7%).
- Prevalence of high blood cholesterol was significantly higher among adults with household income under \$25,000 a year compared to adults with household income of \$50,000 or more a year (49.4% vs. 34.8%).

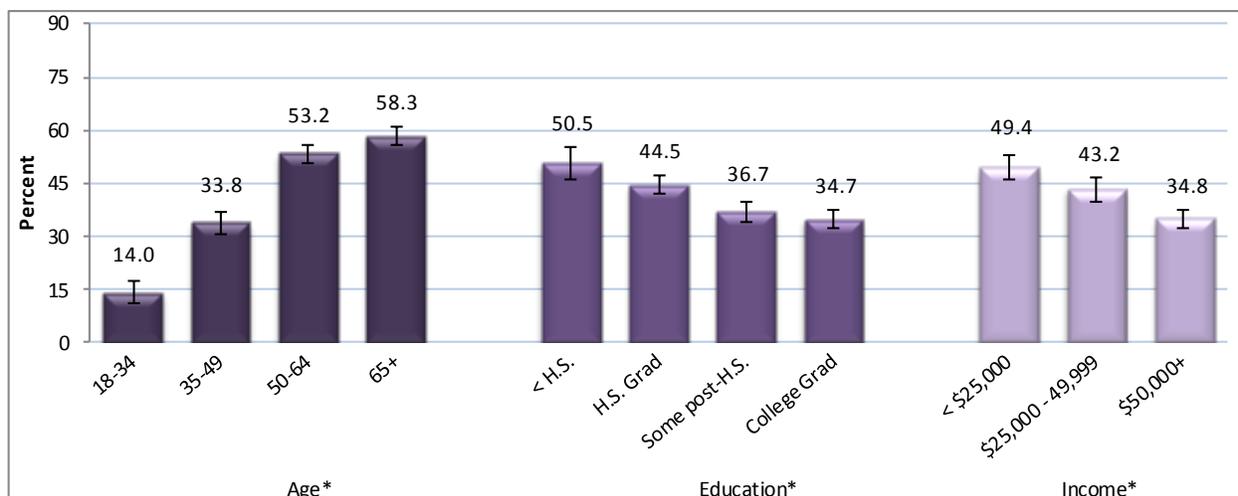
**Percent of Adults who have High Blood Cholesterol: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have High Blood Cholesterol, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who have High Blood Cholesterol, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

In this report, the term ‘significant’ only refers to statistically significant differences in prevalence.

Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# HIGH BLOOD PRESSURE

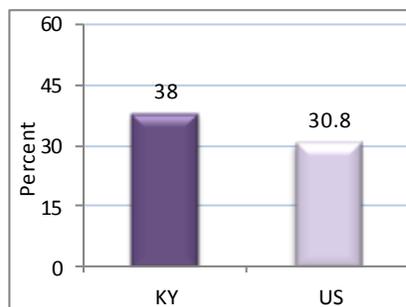
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?

**At Risk:** Adults who answered “Yes” are considered at risk. Those who were borderline hypertensive and women who had high blood pressure only during pregnancy are excluded.

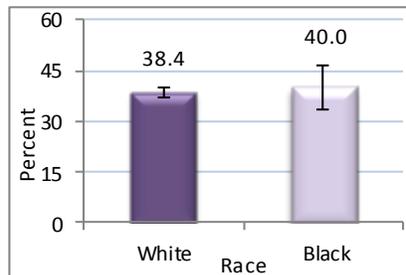
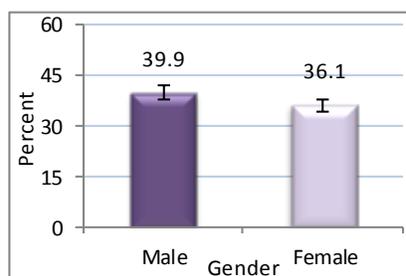
## Who is at risk in Kentucky?

- An estimated 38% of Kentucky adults have been told by a health professional that they have high blood pressure; this estimate is higher compared to 30.8% in the United States.
- Prevalence of high blood pressure did not vary significantly by gender.
- There were no statistically significant differences in the prevalence of high blood pressure between white and black adults.
- As would be expected, the prevalence of high blood pressure increased significantly with age.
- About 51% of adults with less than a high school education reported that they have high blood pressure; prevalence of high blood pressure decreased significantly with increasing levels of educational attainment.
- Prevalence of high blood pressure was significantly higher among adults with household income under \$25,000 a year, compared to adults with household income of \$50,000 or more a year (44.6% vs. 30.9%).

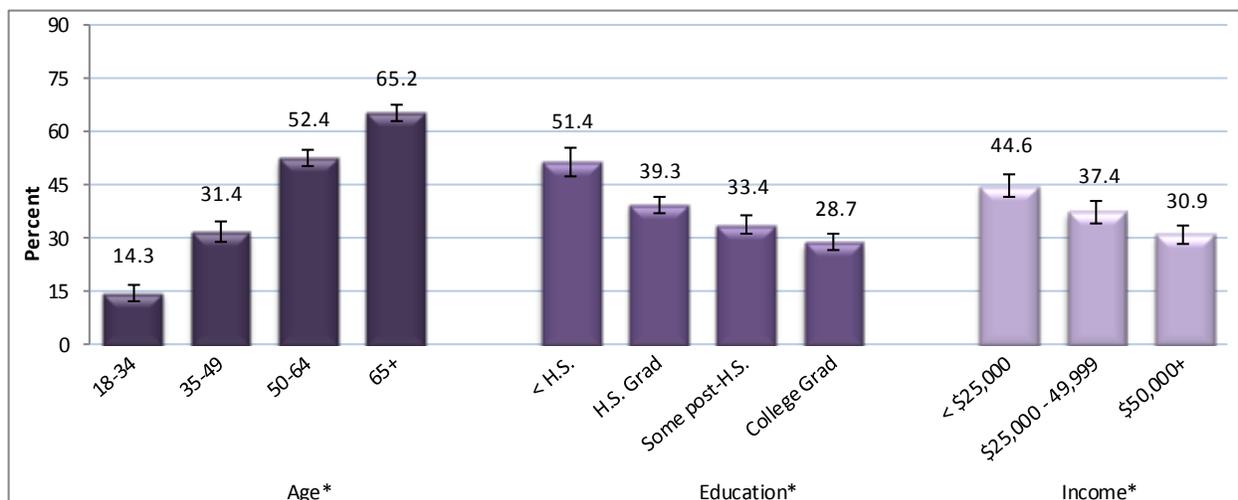
**Percent of Adults who have High Blood Pressure: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have High Blood Pressure, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who have High Blood Pressure, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

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# OBESITY

**Questions:** Body Mass Index (BMI) was calculated based on data collected from:
 

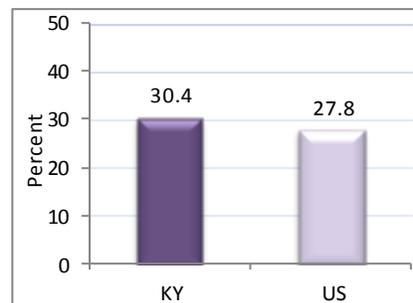
- 1) How much do you weigh without shoes?
- 2) How tall are you without shoes?

**At Risk:** Adults with BMI scores greater or equal to 30.0 are considered obese.

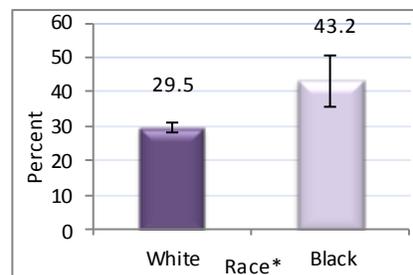
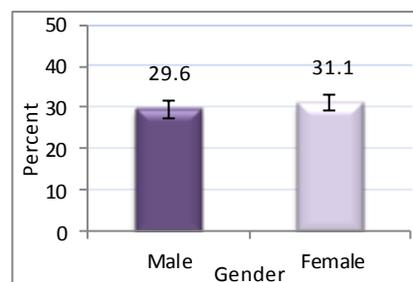
## Who is at risk in Kentucky?

- In 2011, about 30.4% of Kentucky adults were classified as obese (i.e. Body Mass Index greater or equal to 30); this was a higher estimate compared to 27.8% in the United States.
- There were no statistically significant differences in obesity prevalence between men and women.
- Obesity prevalence among black adults was significantly higher compared to white adults (43.2% vs. 29.5%).
- Among the different age groups used in this report, obesity prevalence was highest among adults aged 50-64 years (35.7%).
- Obesity prevalence was significantly higher among adults with less than a high school education compared to adults who graduated from college (34% vs. 24.4%).
- Obesity prevalence was significantly higher among adults with annual household income under \$25,000, compared to adults with household income of \$50,000 or more a year (36.2% vs. 28.1%).

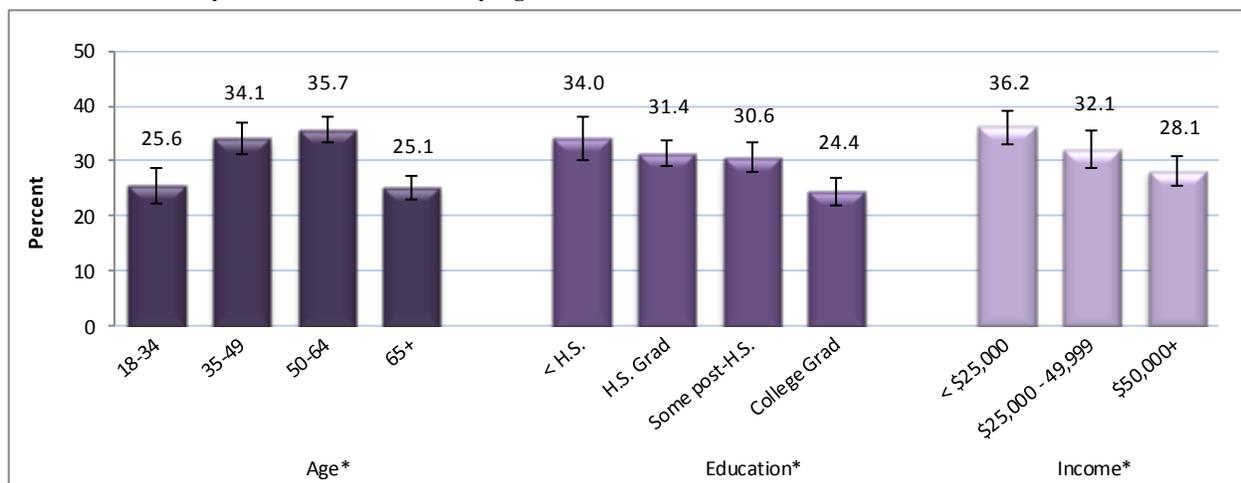
**Percent of Adults who are Obese: Kentucky vs. Nationwide (States and DC,) 2011**



**Percent of Kentucky Adults who are Obese, by Gender, and by Race\*, 2011**



**Percent of Kentucky Adults who are Obese, by Age\*, Education, and Income, 2011**



\* Denotes a statistically significant difference among the values. In this report, the term 'significant' only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# STROKE

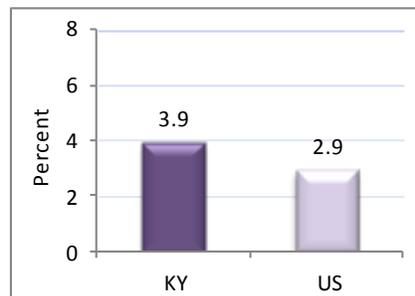
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you had a stroke?

**At Risk:** Adults who answered “Yes” are considered at risk.

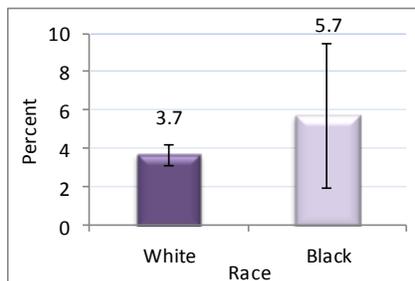
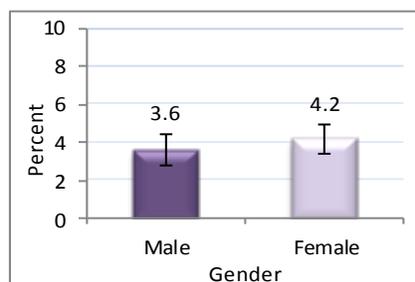
## Who is at risk in Kentucky?

- About 3.9% of adults in Kentucky have been told by a health professional that they had a stroke; this estimate is higher compared to 2.9% in the United States.
- There were no statistically significant differences between men and women who reported ever having a stroke.
- There were no statistically significant differences in the prevalence of stroke between white and black adults.
- Prevalence of stroke increased significantly with age; the highest prevalence was among adults 65 years or older (9.2%).
- Adults with less than a high school education reported a significantly higher prevalence of stroke compared to adults who graduated from college (7.7% vs. 2%).
- Prevalence of stroke was significantly higher among adults with household income under \$25,000 a year, compared to adults with household income of \$50,000 or more a year (7.8% vs. 1.1%).

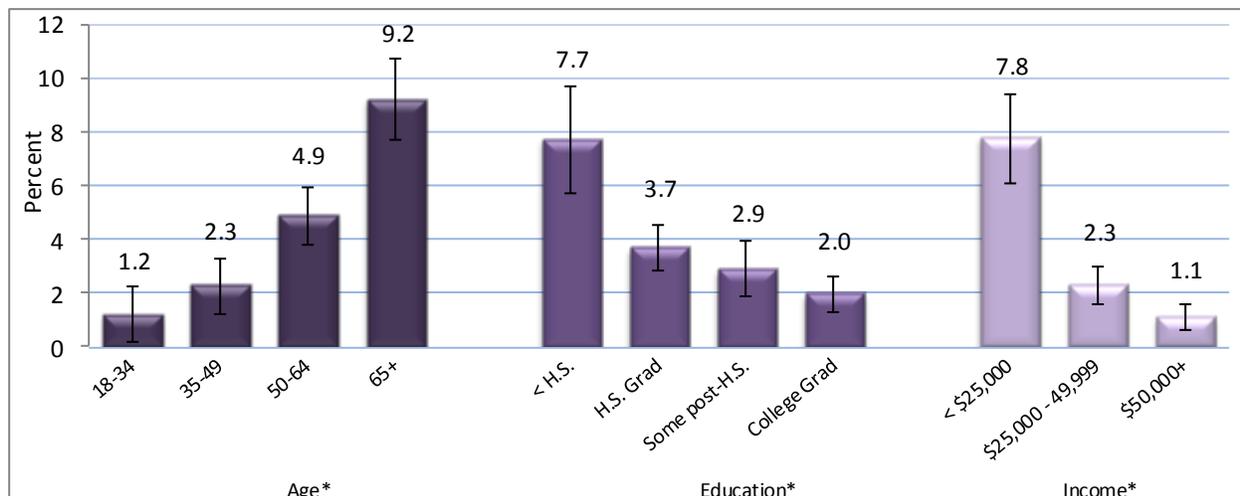
**Percent of Adults who have ever been told that they had a Stroke: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who have ever been told that they had a Stroke, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who have ever been told that they had a Stroke, by Age\*, Education\*, and Income\*, 2011**



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# DISABILITY

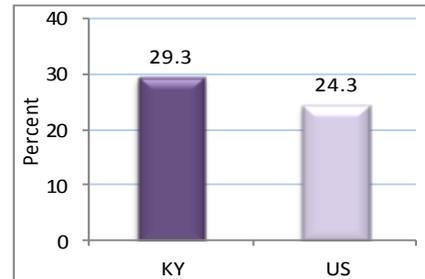
**Question:** Are you limited in any way in any activities because of physical, mental, or emotional problems?

**At Risk:** Adults who answered “Yes” are considered at risk.

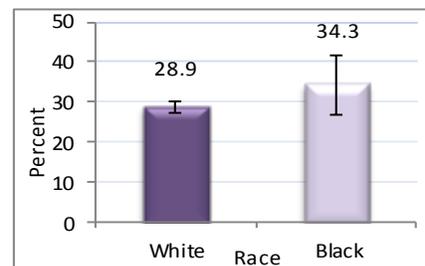
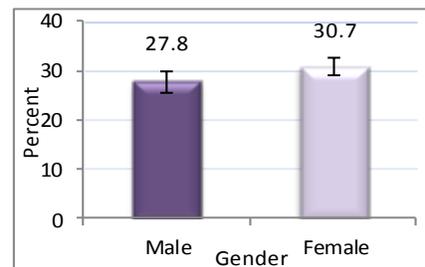
## Who is at risk in Kentucky?

- About 29.3% of Kentucky adults reported that they have activity limitations due to physical, mental, or emotional problems; this is a higher estimate compared to 24.3% in the United States.
- Activity limitations were not significantly different between men and women.
- There were no statistically significant differences between white and black adults who reported activity limitations.
- As would be expected, adults 50 years or older reported significantly higher activity limitations compared to younger adults.
- Activity limitations were significantly higher among adults with less than a high school education (42.8%) compared to adults who graduated from college (21.3%).
- Activity limitations were significantly higher among adults with household income under \$25,000 a year, compared to adults with household income of \$50,000 or more a year (43.7% vs. 18.2%).

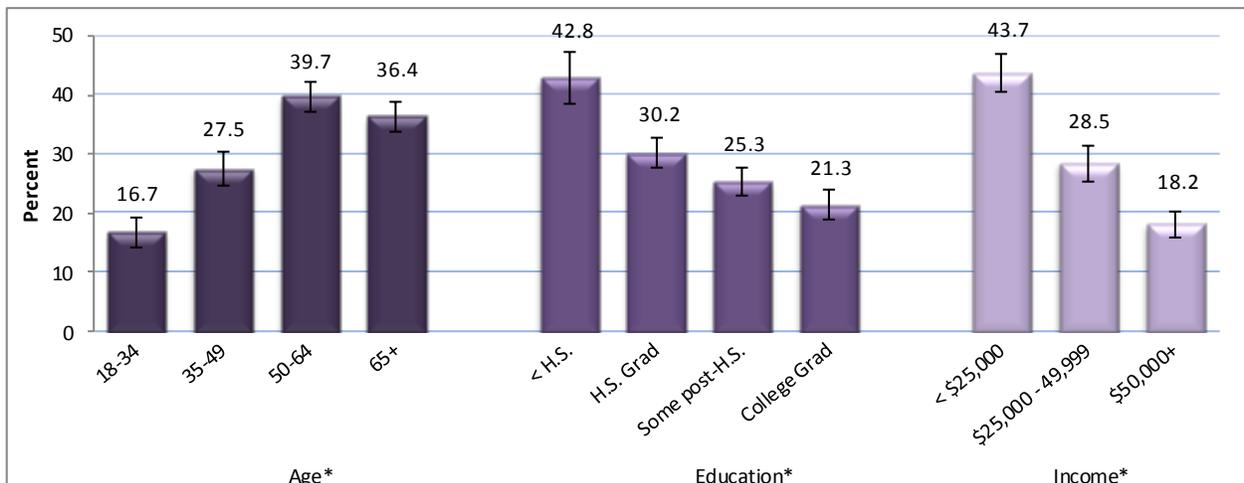
**Percent of Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Age\*, Education\*, and Income\*, 2011**



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## GENERAL HEALTH

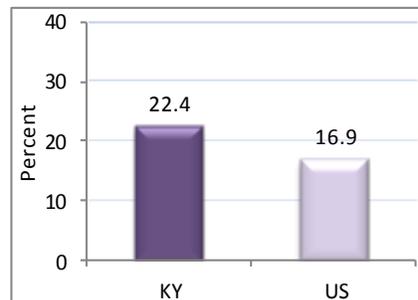
**Question:** Would you say that your general health is “Excellent”, “Very good”, “Good”, “Fair”, or “Poor”?

**At Risk:** Adults who answered “Fair” or “Poor” are considered at risk.

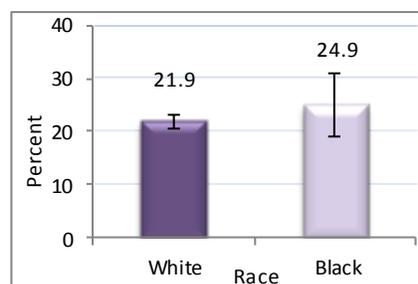
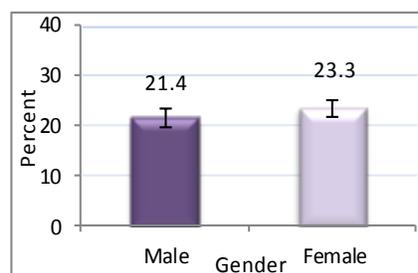
### Who is at risk in Kentucky?

- An estimated 22.4% of Kentucky adults rated their general health as fair or poor; this was a higher estimate compared to 16.9% in the United States.
- There were no significant differences between men and women who rated their general health as fair or poor.
- There were no statistically significant differences between white and black adults who rated their general health as fair or poor.
- Fair or poor general health ratings increased significantly with age.
- Fair or poor general health ratings significantly decreased with increasing levels of educational attainment; about 43.4% of adults with less than a high school education rated their general health as fair or poor.
- Almost 40% of adults with household income under \$25,000 a year rated their general health as fair or poor, compared to only 8.8% of adults with annual household income of \$50,000 or more.

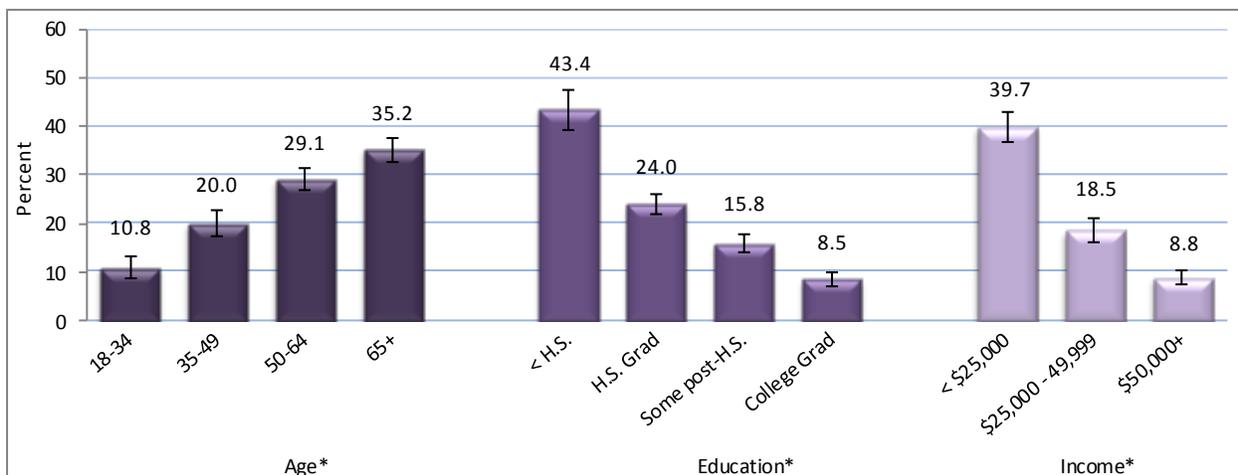
**Percent of Adults who reported their General Health as Fair or Poor: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Gender, and by Race, 2011**



**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Age\*, Education\*, and Income\*, 2011**



\* Denotes a statistically significant difference among the values.

In this report, the term ‘significant’ only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

# HEALTH CARE ACCESS/COVERAGE

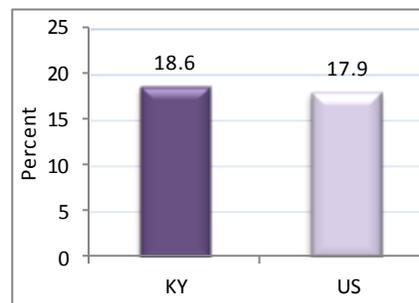
**Question:** Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or governmental plans such as Medicare?

**At Risk:** Adults who answered “No” are considered at risk.

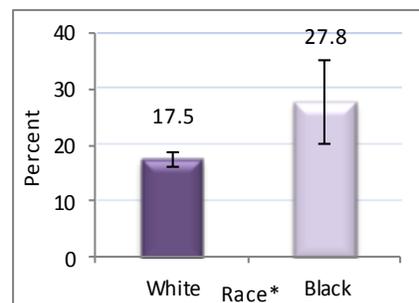
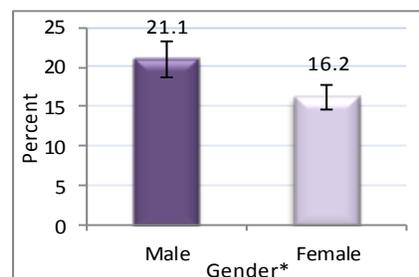
## Who is at risk in Kentucky?

- About 18.6% % of Kentucky adults did not have any form of health insurance in 2011; this was a slightly higher estimate compared to about 17.9% in the United States.
- The percentage of men who did not have health insurance (21.1%) was significantly higher compared to the percentage of women who did not have health insurance (16.2%).
- A significantly higher percentage of black adults did not have health insurance compared to white adults (27.8% vs. 17.5%).
- About 31.7% of adults aged 18-34 years did not have health insurance; lack of health insurance decreased significantly with age.
- More than a quarter of adults with less than a high school education (26.7%) did not have health insurance; lack of health insurance decreased significantly with increasing educational attainment.
- About 31.6% of adults with household income under \$25,000 a year did not have health insurance; this was a significantly higher estimate compared to only 6.5% of adults with annual household income of \$50,000 or more who did not have health insurance.

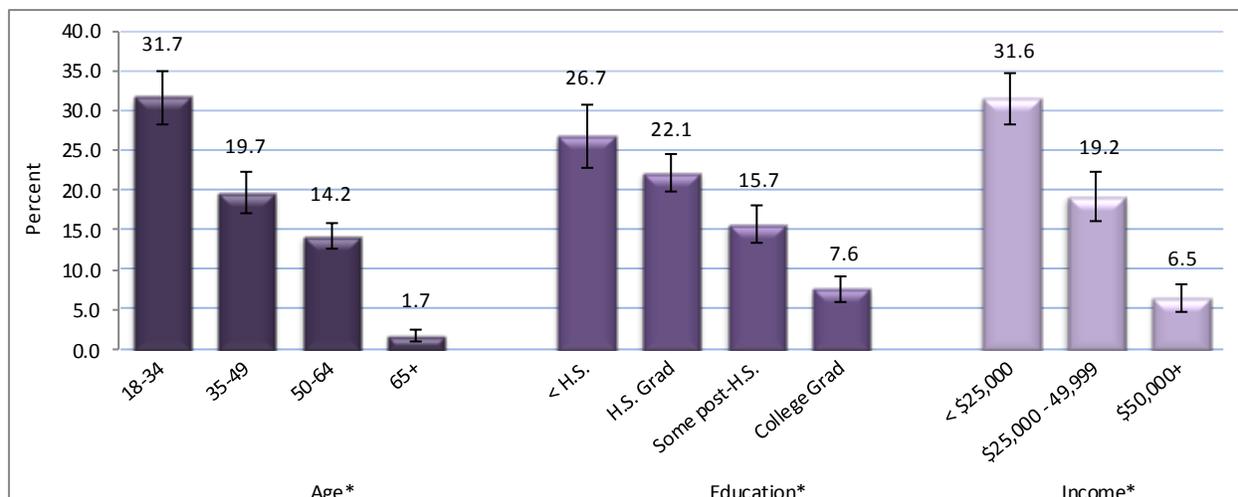
**Percent of Adults with No Health Insurance: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults with No Health Insurance, by Gender\*, and by Race\*, 2011**



**Percent of Kentucky Adults with No Health Insurance, by Age\*, Education\*, and Income\*, 2011**



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In this report, the term ‘significant’ only refers to statistically significant differences in prevalence.

Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## HIV/AIDS SCREENING

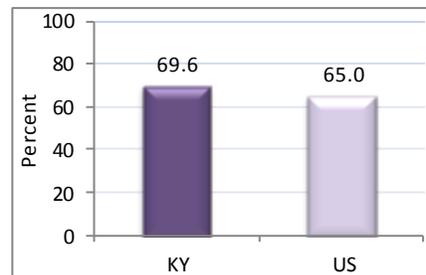
**Question:** Have you ever been tested for HIV?

**At Risk:** Adults who have never been tested for HIV are considered at risk.

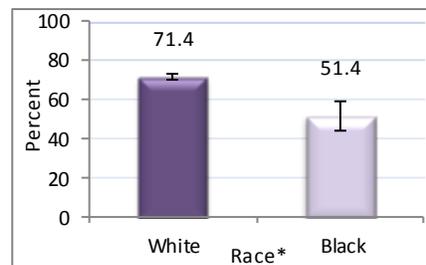
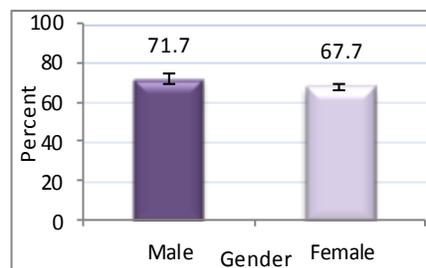
### Who is at risk in Kentucky?

- Among Kentucky adults, 69.6% have never been tested for HIV; this estimate is higher compared to 65% in the United States.
- There were no statistically significant differences between men and women who have never been tested for HIV.
- A significantly higher percentage of white adults have never been tested for HIV compared to black adults (71.4% vs. 51.4%).
- Over 75% of adults aged 50 or older have never been tested for HIV; this is a significantly higher estimate when compared to adults 18 to 49 years old.
- Adults with a high school education or less were significantly more likely to have never been tested for HIV compared to adults with more than a high school education.
- Lack of HIV testing among adults did not differ significantly between the income groups used in this report.

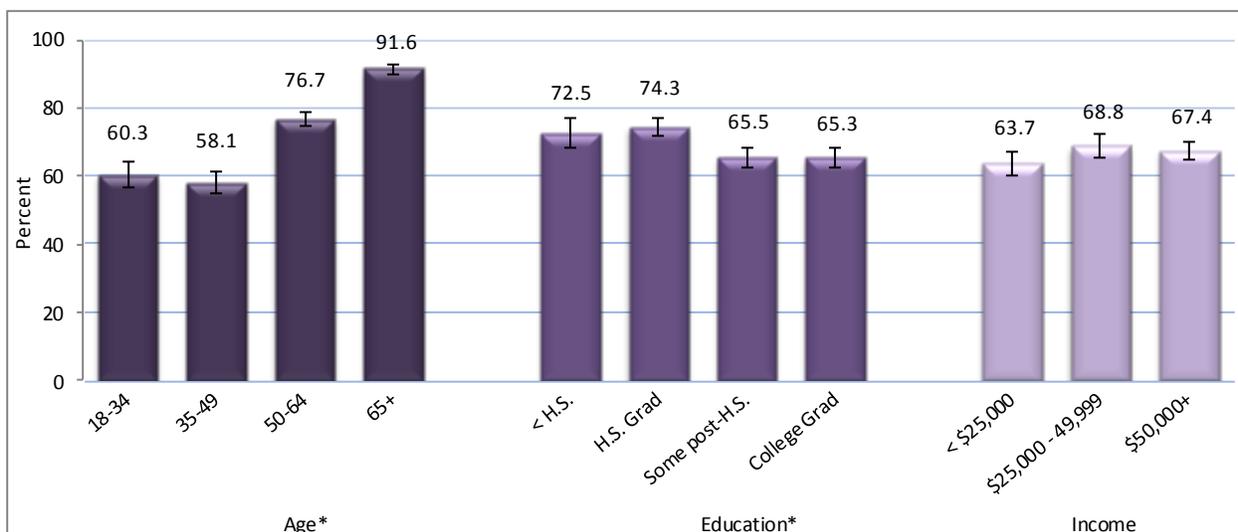
**Percent of Adults who have never been tested for HIV: Kentucky vs. Nationwide (States, and DC), 2011**



**Percent of Kentucky Adults who have never been tested for HIV, by Gender, and by Race\*, 2011**



**Percent of Kentucky Adults who have never been tested for HIV, by Age\*, Education, and Income, 2011**



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## INFLUENZA IMMUNIZATION (Age 65+)

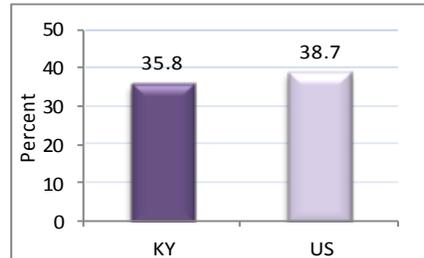
**Question:** In the past twelve months, have you had a flu shot?

**At Risk:** Adults aged 65+ who did not get a flu shot in the past twelve months are considered at risk.

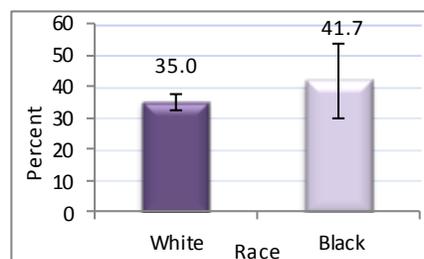
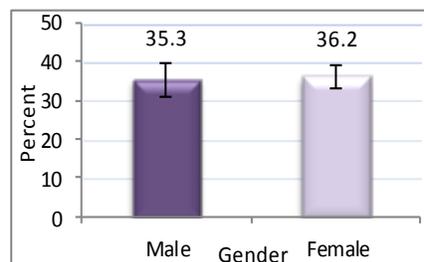
### Who is at risk in Kentucky?

- About 35.8% of Kentucky adults (aged 65+) reported that they did not get a flu shot in the past twelve months; this is a lower estimate compared to the 38.7% reported among adults (aged 65+) in the United States.
- There were no statistically significant differences between men and women (aged 65+) who did not get a flu shot in the past twelve months.
- There were no statistically significant differences between white and black adults (aged 65+) who did not get a flu shot in the past twelve months.
- The prevalence of adults (aged 65+) who did not get a flu shot in the past twelve months was statistically similar across age groups.
- About 40.7% of adults with less than a high school education did not get a flu shot in the past 12 months; this is significantly higher compared to adults with a college degree (26.1%).
- The prevalence of adults (aged 65+) who did not get a flu shot (in the past 12 months) did not differ significantly by annual household income.

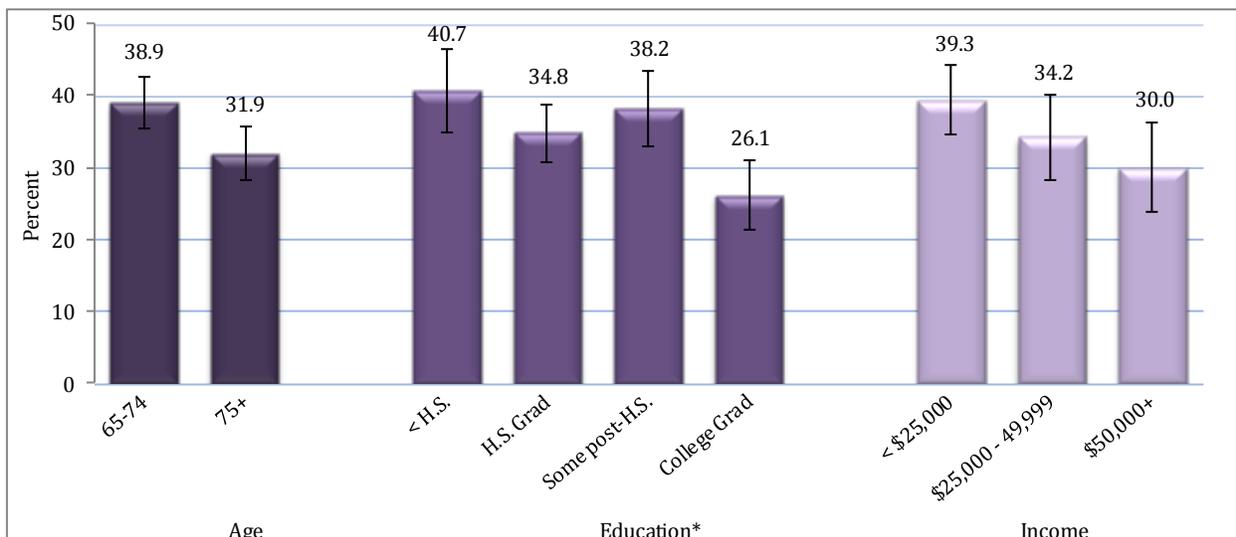
**Percent of Adults aged 65+ who did not get a Flu Shot in the Past Year: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults aged 65+ who did not get a Flu Shot in the Past Year, by Gender, and by Race, 2011**



**Percent of Kentucky Adults aged 65+ who did not get a Flu Shot in the Past Year, by Age, Education, and Income, 2011**



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In this report, the term 'significant' only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## PNEUMOCOCCAL VACCINATION (Age 65+)

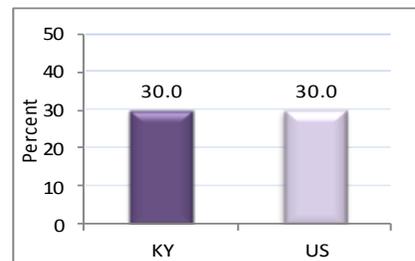
**Question:** Have you ever had a pneumonia shot?

**At Risk:** Adults aged 65 years or older who have never had a pneumonia shot (pneumococcal vaccine) are considered at risk.

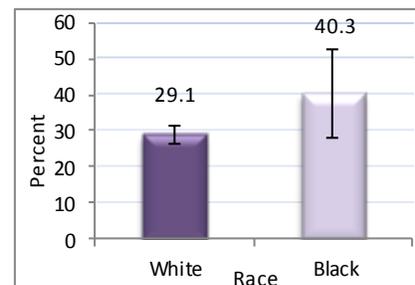
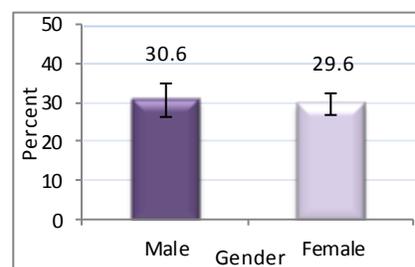
### Who is at risk in Kentucky?

- An estimated 30% of Kentucky adults aged 65 years or older have never had a pneumococcal vaccination; this estimate is similar to the 30% reported among adults (aged 65+) in the United States.
- There were no statistically significant differences between men and women (aged 65+) who have never had a pneumococcal vaccination.
- There were no statistically significant differences between white and black adults (aged 65+) who have never had a pneumococcal vaccination.
- A significantly higher percentage of adults aged 65-74 years have never had a pneumococcal vaccination (36.6%) compared to adults who are 75 years or older (21.8%).
- The prevalence of adults (aged 65+) who have never had a pneumococcal vaccination did not vary significantly by educational attainment or by annual household income.

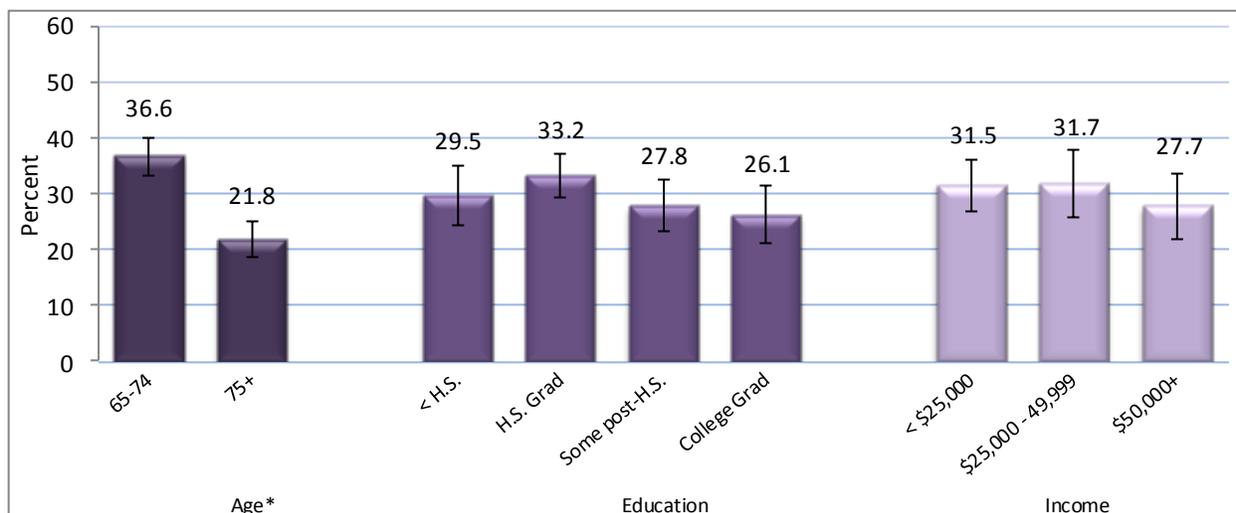
**Percent of Adults aged 65+ who have never had a Pneumococcal Vaccination: Kentucky vs. Nationwide (States and DC), 2011**



**Percent of Kentucky Adults aged 65+ who have never had a Pneumococcal Vaccination, by Gender and Race, 2011**



**Percent of Kentucky Adults aged 65+ who have never had a Pneumococcal Vaccination, by Age\*, Education, and Income, 2011**

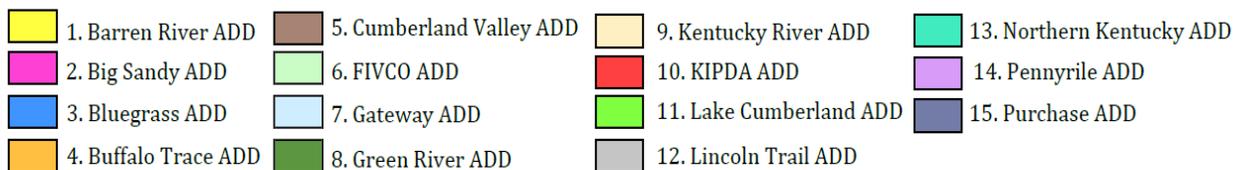
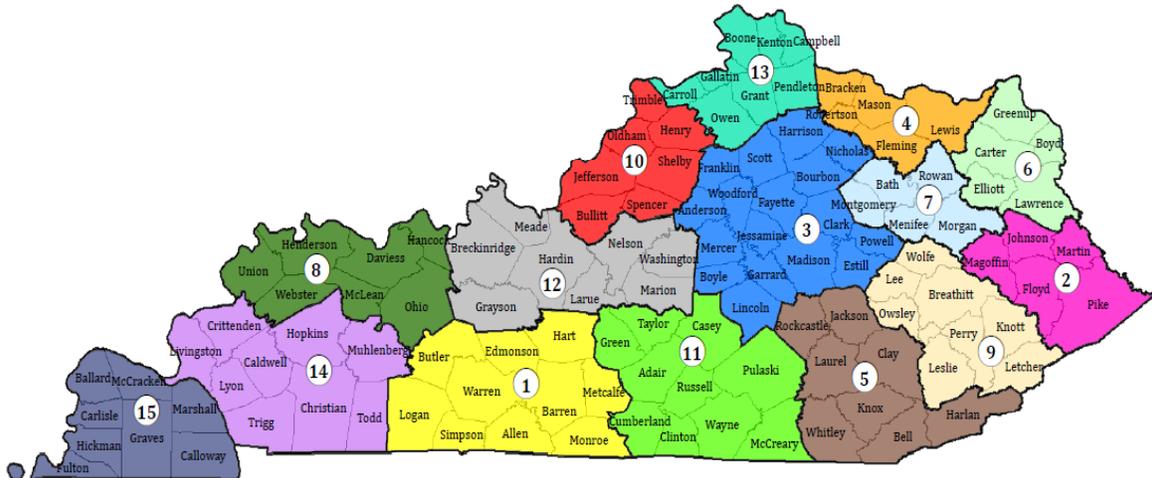


\* Denotes a statistically significant difference among the values. In this report, the term 'significant' only refers to statistically significant differences in prevalence. Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Prevalence Estimates by Area Development District (ADD)

The remainder of this report incorporates ArcGIS mapping to illustrate prevalence estimates by Area Development District (ADD) for each risk factor, condition, or indicator presented in the preceding pages.

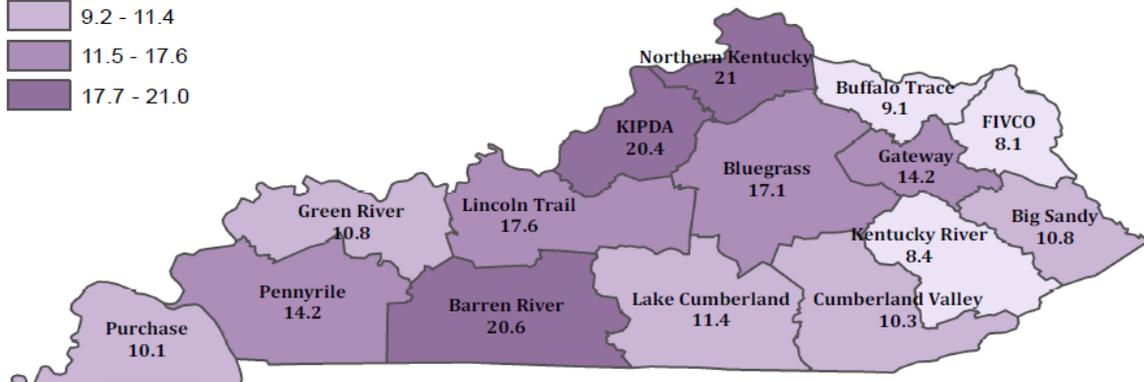
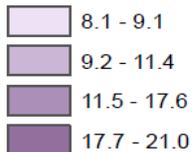
Kentucky has 120 Counties that are divided into 15 ADDs for the planning of a variety of programs. Data for this part of the report are analyzed by ADDs, rather than by county, because sample sizes for most counties are too small to provide statistically reliable estimates.



<b>Counties in each ADD</b>	
Barren River:	Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, Warren
Big Sandy:	Floyd, Johnson, Magoffin, Martin, Pike
Bluegrass:	Anderson, Bourbon, Boyle, Clark, Estill, Fayette, Franklin, Garrard, Harrison, Jessamine, Lincoln, Madison, Mercer, Nicholas, Powell, Scott, Woodford
Buffalo Trace:	Bracken, Fleming, Lewis, Mason, Robertson
Cumberland Valley:	Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle, Whitley
FIVCO:	Boyd, Carter, Elliott, Greenup, Lawrence
Gateway:	Bath, Menifee, Montgomery, Morgan, Rowan
Green River:	Daviess, Hancock, Henderson, McLean, Ohio, Union, Webster
Kentucky River:	Breathitt, Knott, Lee, Leslie, Letcher, Owsley, Perry, Wolfe
KIPDA:	Bullitt, Henry, Jefferson, Oldham, Shelby, Spencer, Trimble
Lake Cumberland:	Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor, Wayne
Lincoln Trail:	Breckinridge, Grayson, Hardin, Larue, Marion, Meade, Nelson, Washington
Northern Kentucky:	Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, Pendleton
Pennyriple:	Caldwell, Christian, Crittenden, Hopkins, Livingston, Lyon, Muhlenberg, Todd, Trigg
Purchase:	Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, McCracken, Marshall

## Percent of Kentucky Adults Classified as Binge Drinkers, by Area Development District, 2011

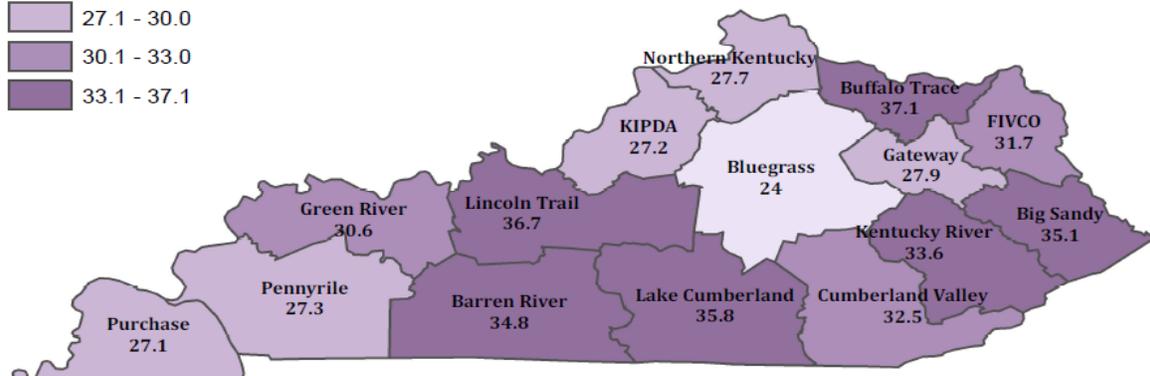
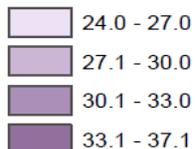
### Percent



**Statewide Prevalence: 16.1%**  
**Nationwide (States and DC) Median: 18.3%**

## Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Area Development District, 2011

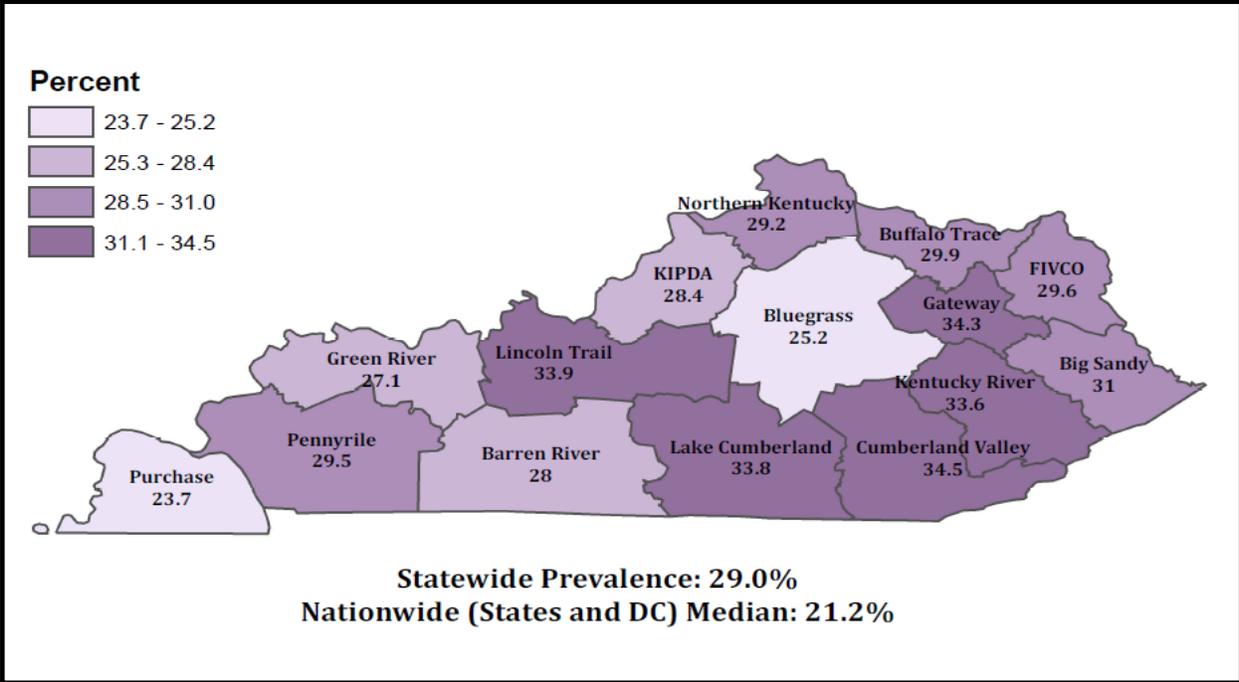
### Percent



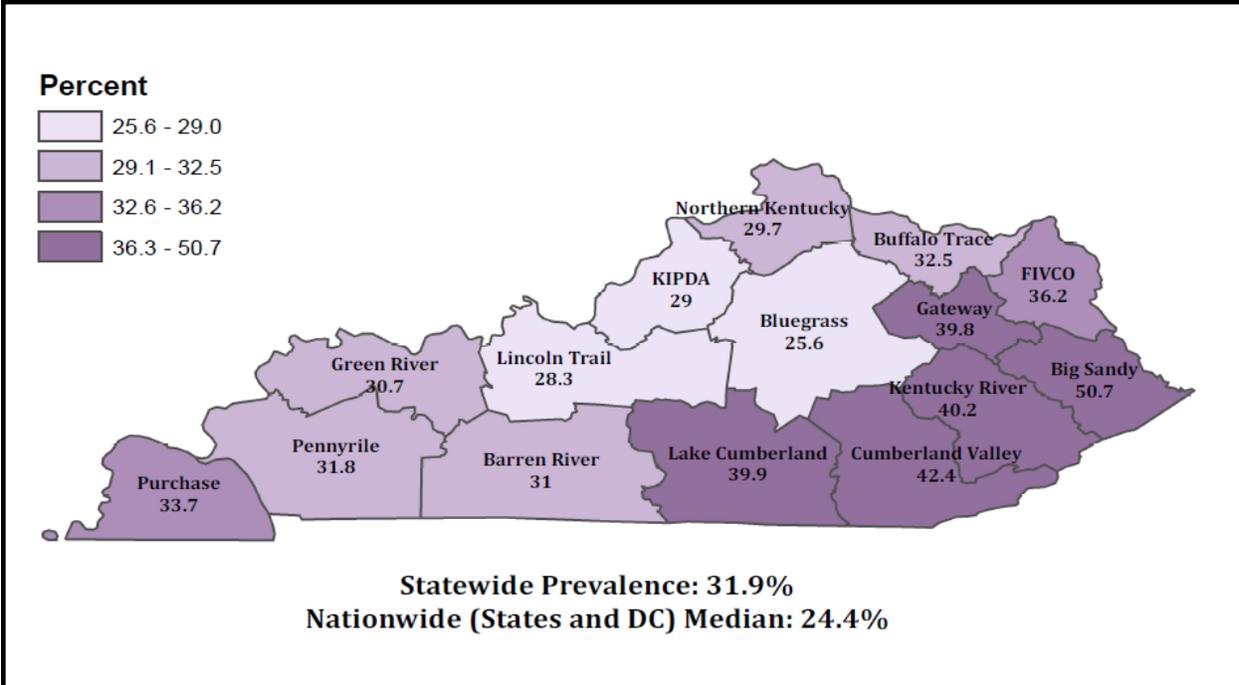
**Statewide Prevalence: 29.3%**  
**Nationwide (States and DC) Median: 26.2%**

Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who are Current Smokers, by Area Development District, 2011

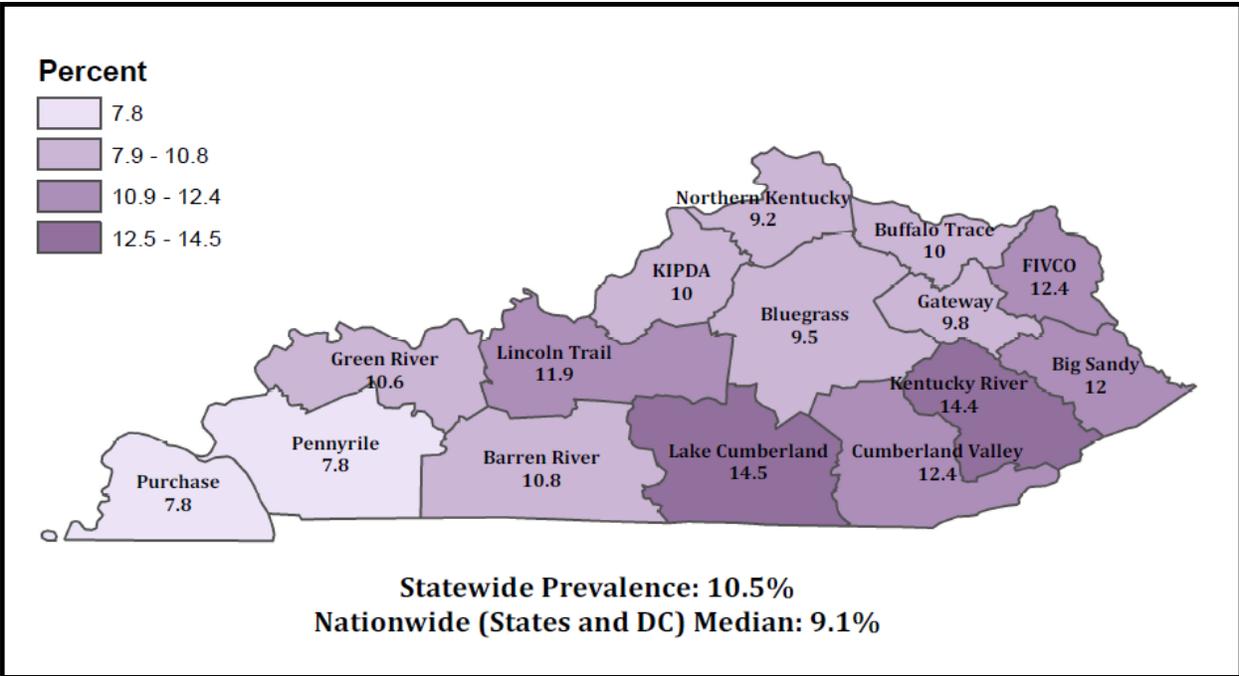


## Percent of Kentucky Adults who have Arthritis, by Area Development District, 2011

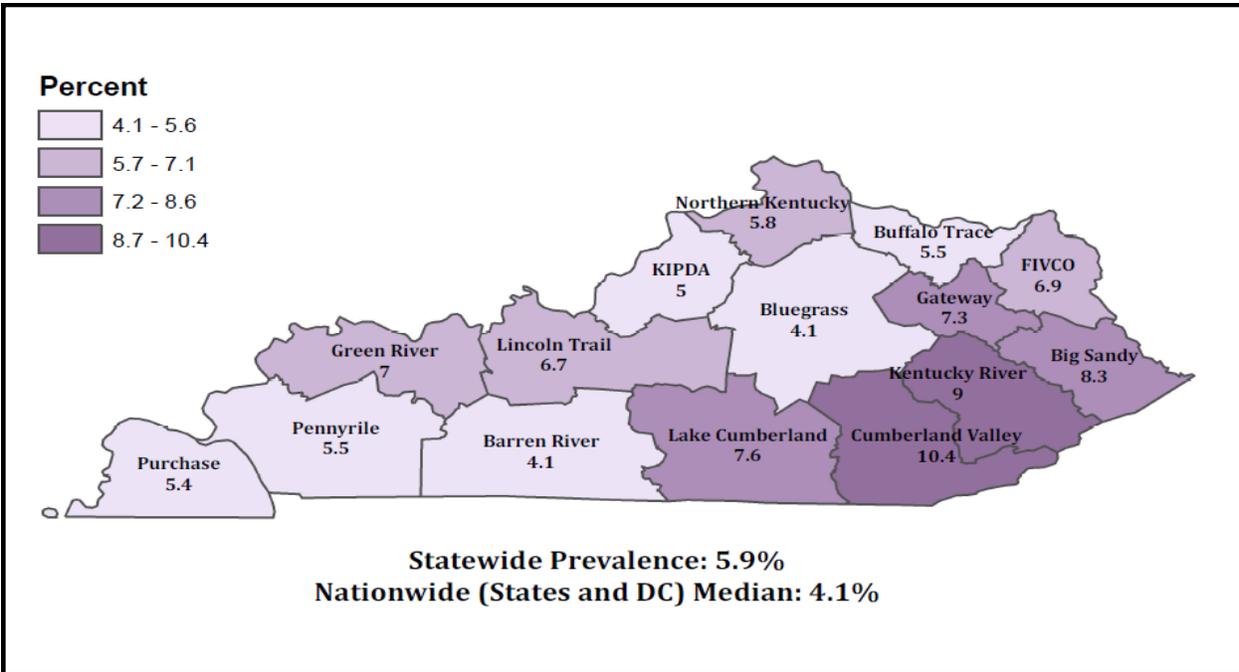


Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who have Current Asthma, by Area Development District, 2011

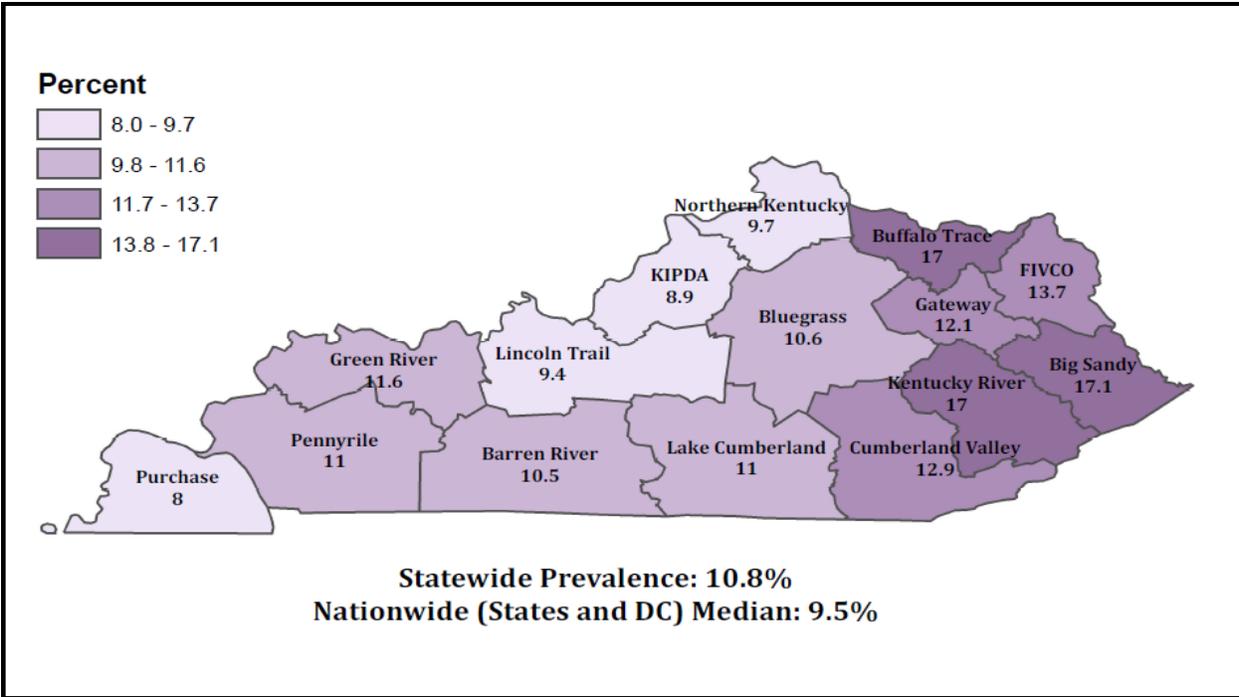


## Percent of Kentucky Adults who have Coronary Heart Disease, by Area Development District, 2011

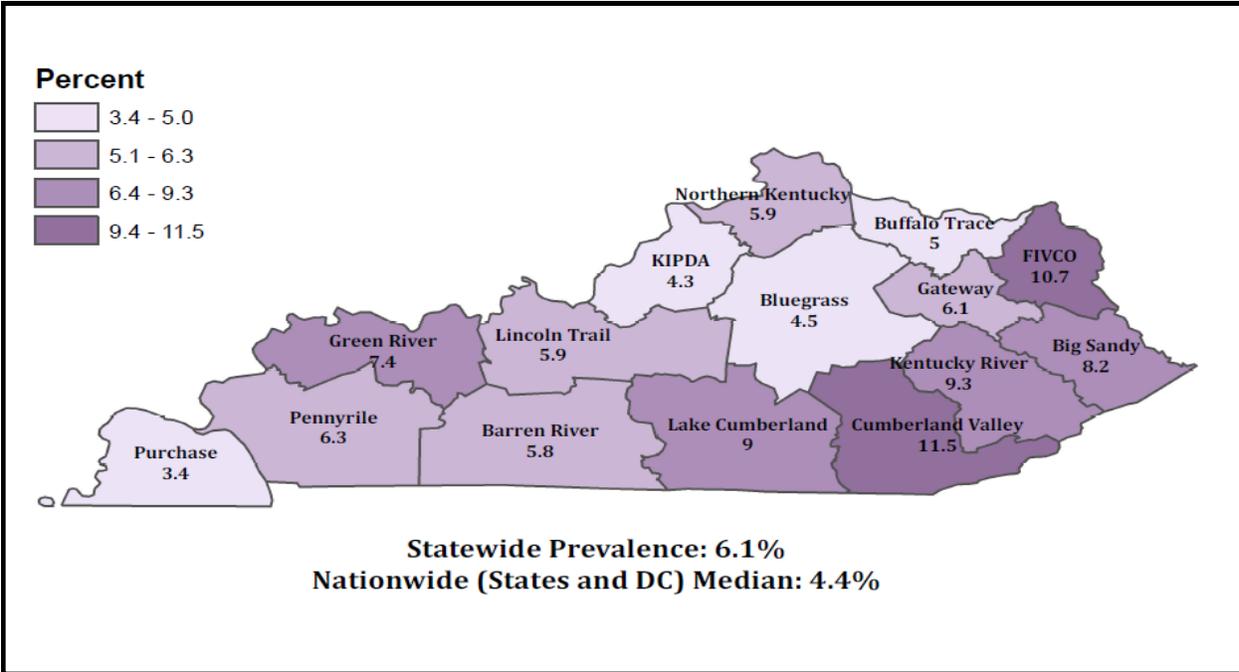


Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who have Diabetes, by Area Development District, 2011

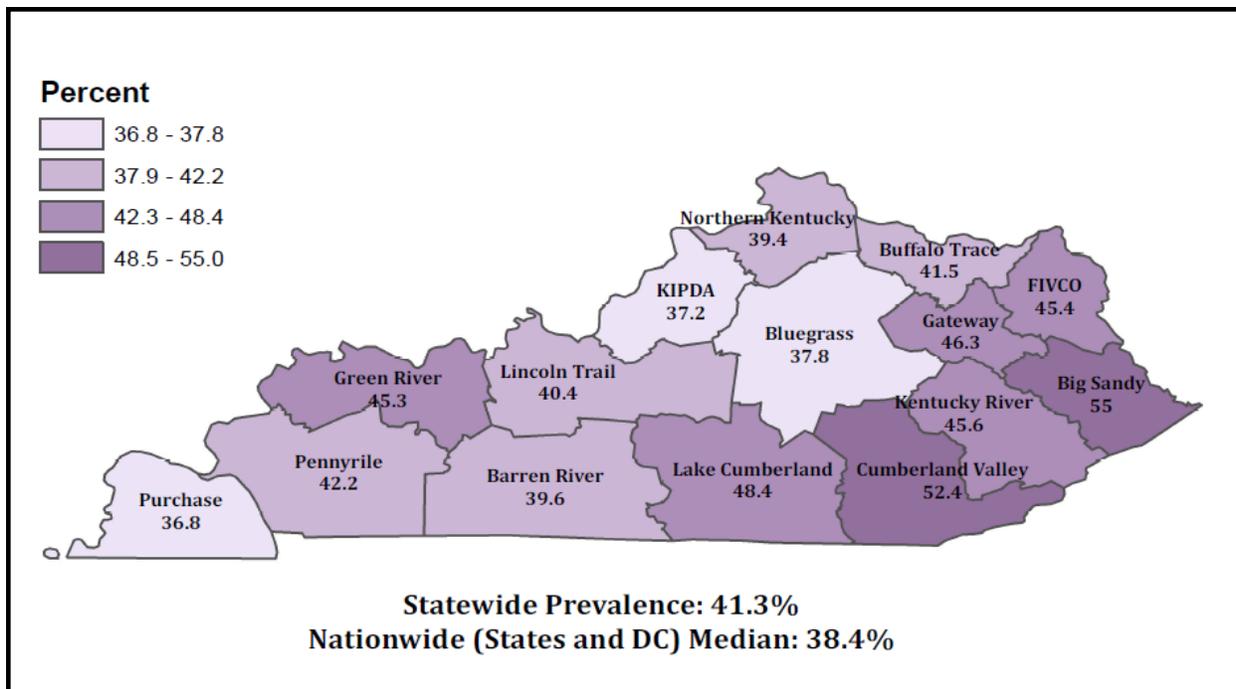


## Percent of Kentucky Adults who have ever had a Heart Attack, by Area Development District, 2011

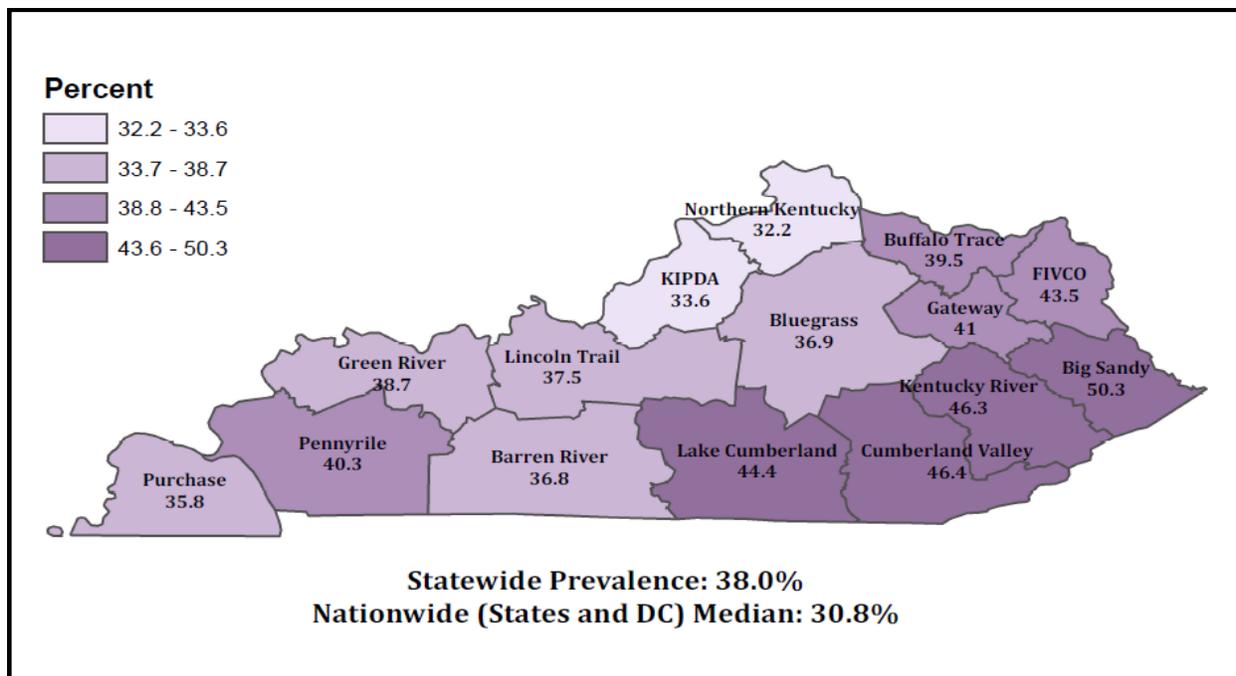


Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who have High Blood Cholesterol, by Area Development District, 2011

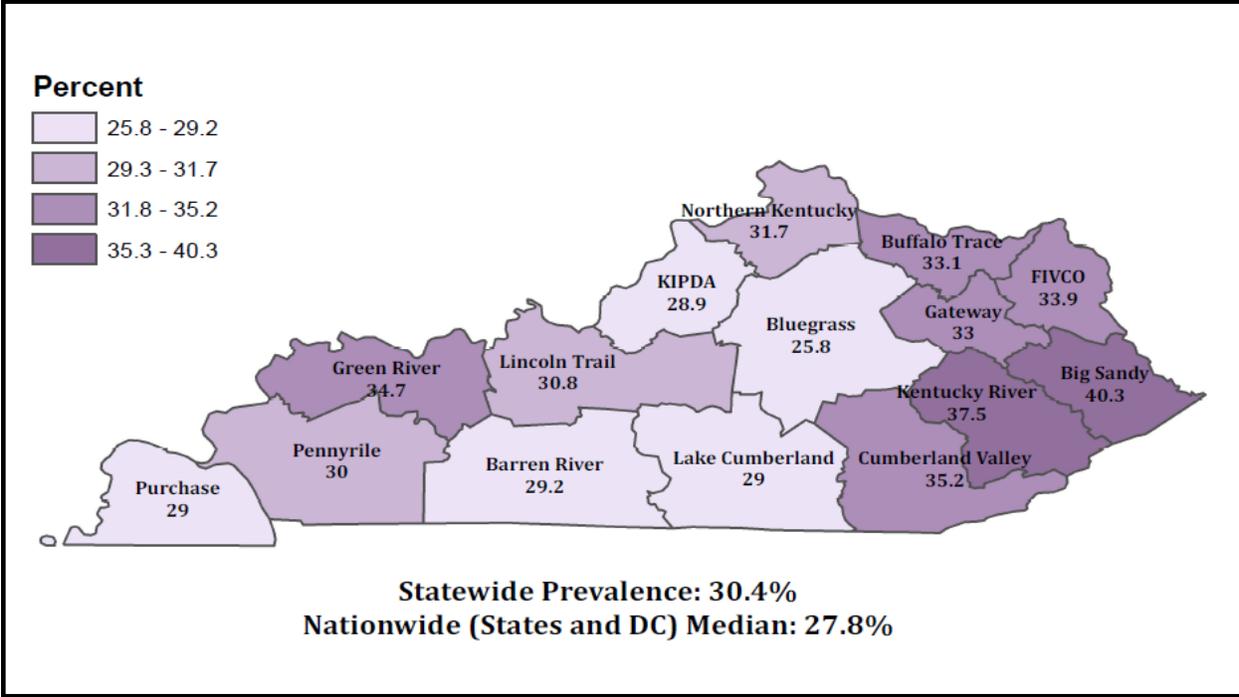


## Percent of Kentucky Adults who have High Blood Pressure, by Area Development District, 2011

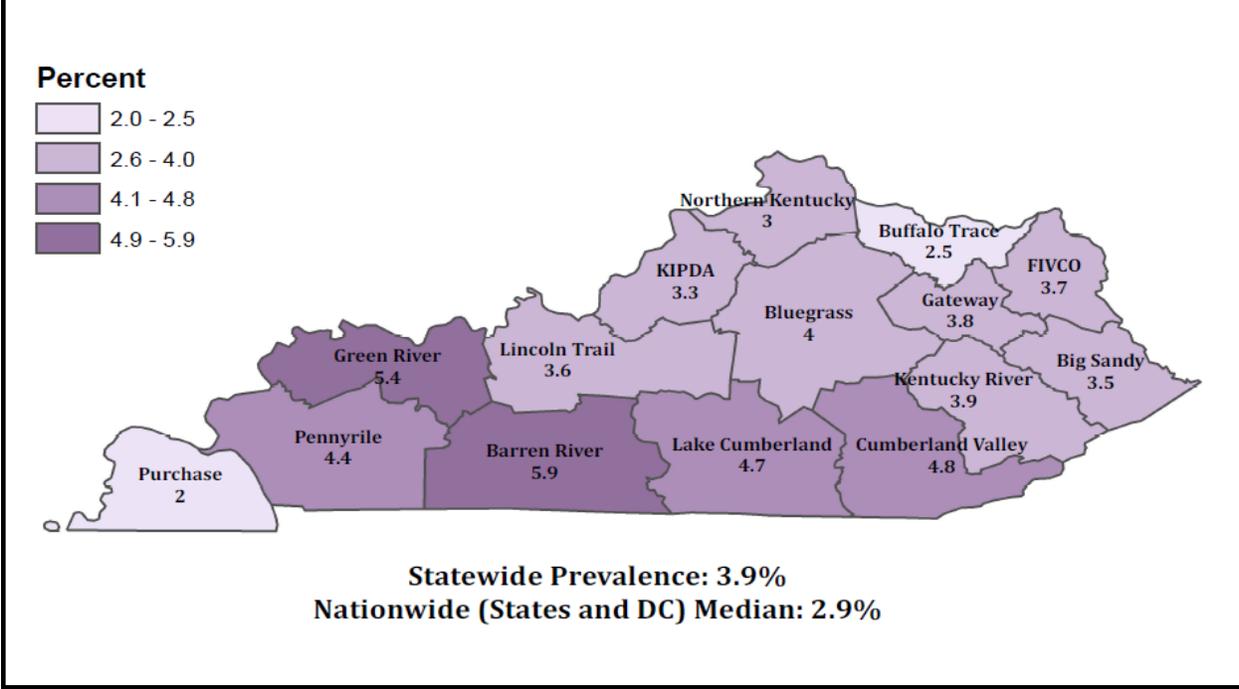


Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who are Obese (BMI ≥ 30), by Area Development District, 2011



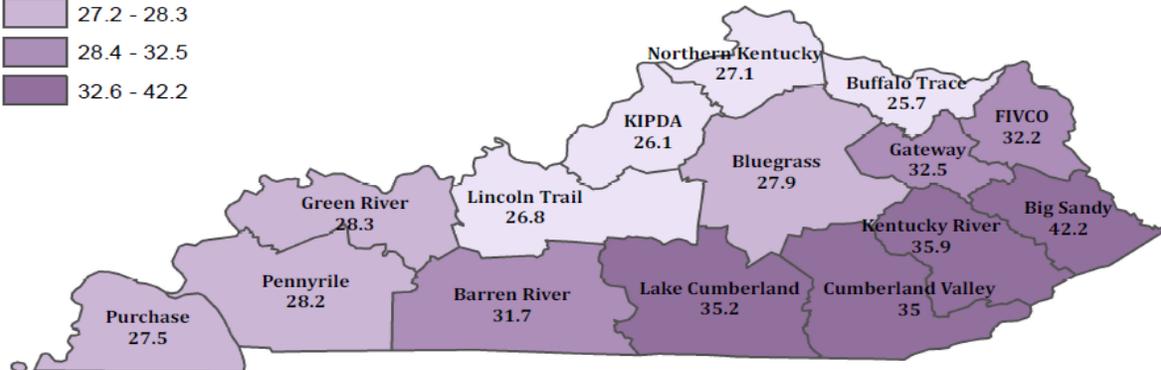
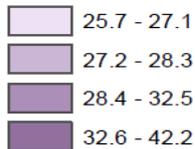
## Percent of Kentucky Adults who have ever had a Stroke, by Area Development District, 2011



Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults who are Limited in Activities due to Physical, Mental, or Emotional Problems, by Area Development District, 2011

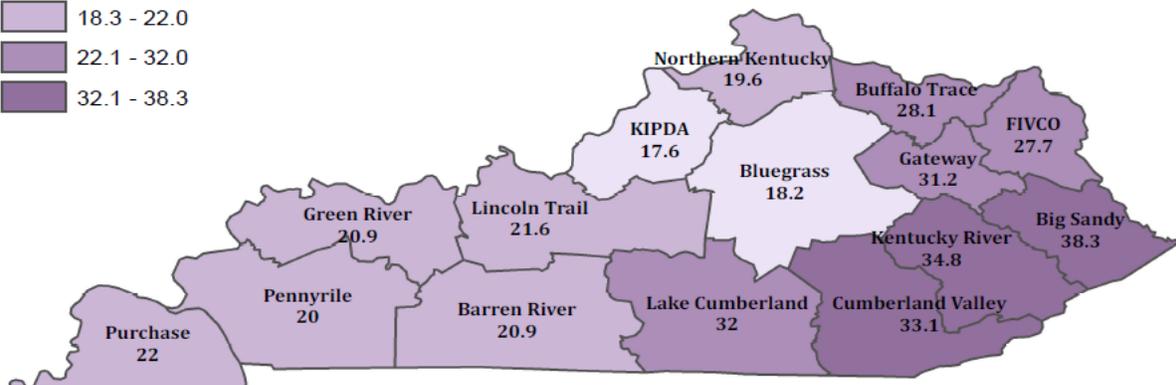
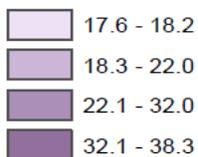
### Percent



**Statewide Prevalence: 29.3%**  
**Nationwide (States and DC) Median: 24.3%**

## Percent of Kentucky Adults with Fair or Poor General Health, by Area Development District, 2011

### Percent

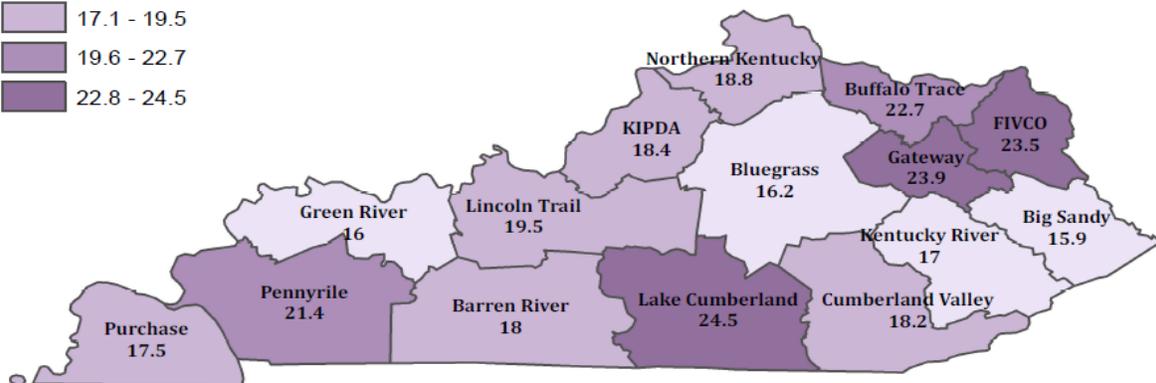
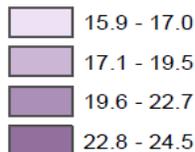


**Statewide Prevalence: 22.4%**  
**Nationwide (States and DC) Median: 16.9%**

Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults with No Health Care Coverage, by Area Development District, 2011

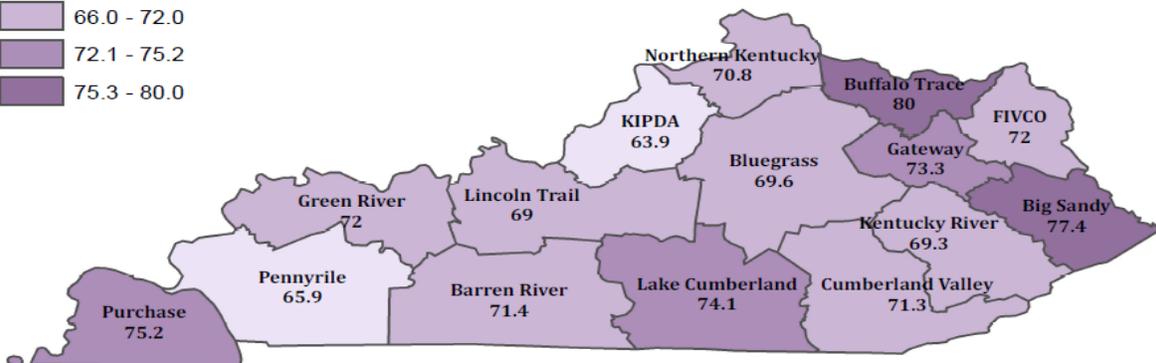
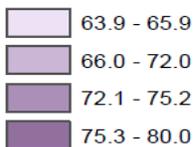
### Percent



Statewide Prevalence: 18.6%  
 Nationwide (States and DC) Median: 17.9%

## Percent of Kentucky Adults who have never been tested for HIV by Area Development District, 2011

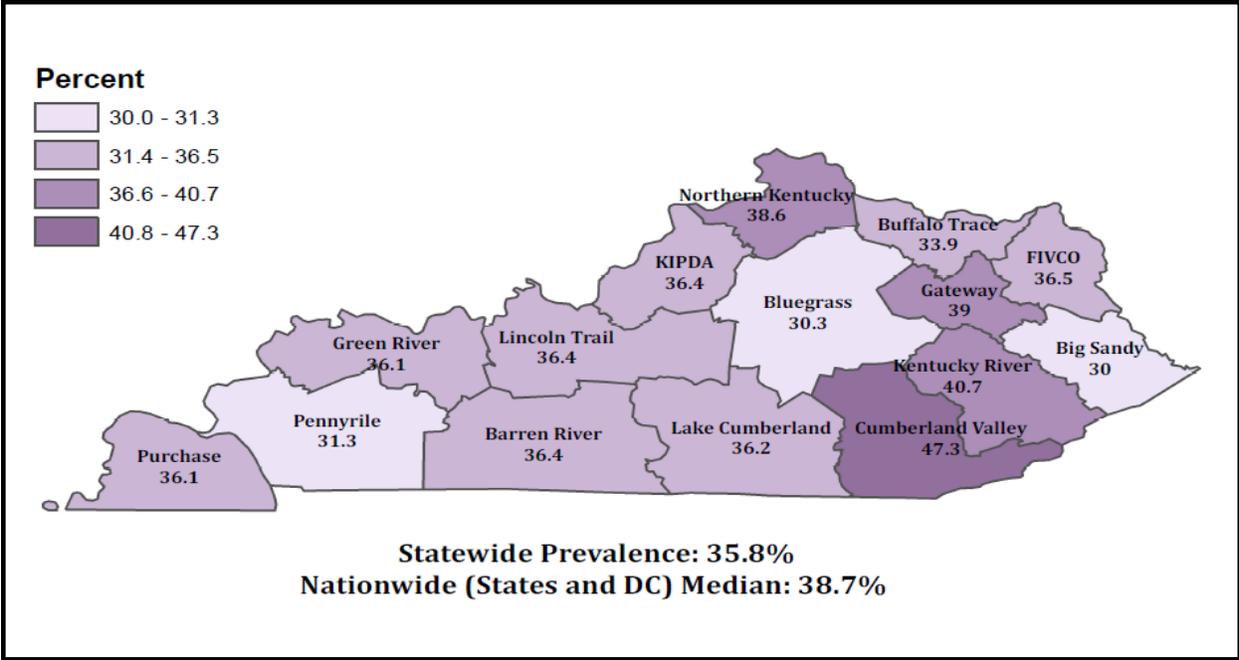
### Percent



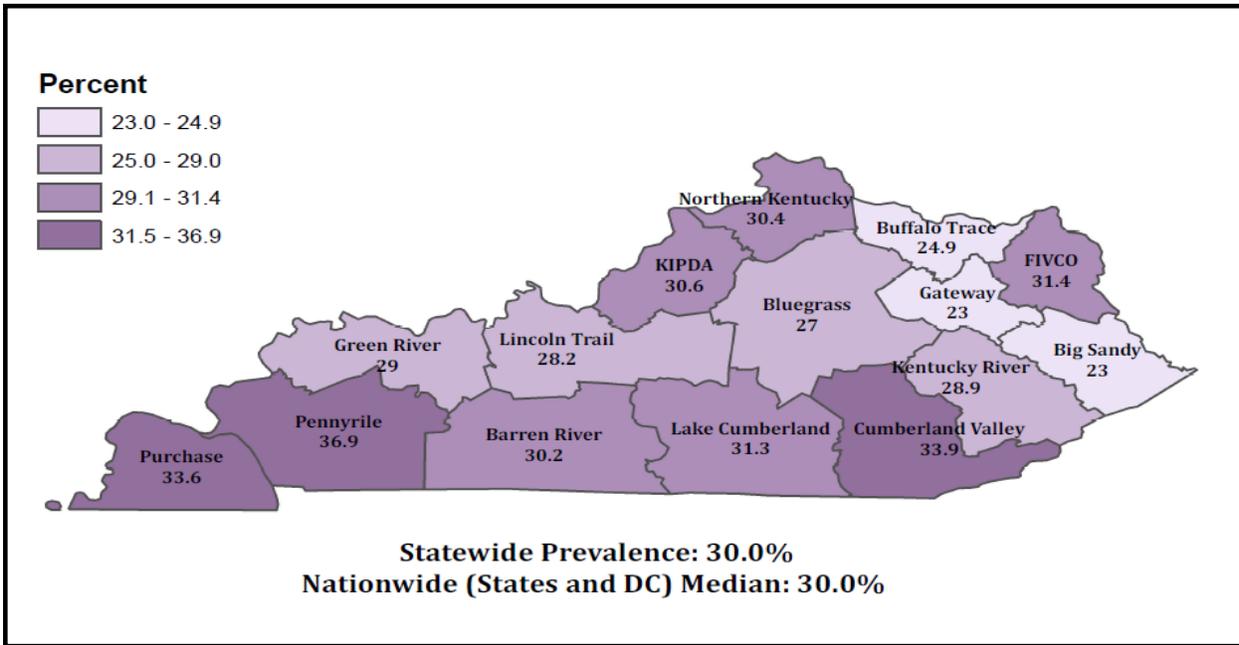
Statewide Prevalence: 69.6%  
 Nationwide (States and DC) Median: 65.0%

Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.

## Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Area Development District, 2011



## Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Area Development District, 2011



Due to BRFSS methodology changes, 2011 estimates cannot be directly compared to estimates from previous years.