



# Kentucky Behavioral Risk Factor Survey (KyBRFS)

## 2015 Annual Report



Kentucky Department for Public Health  
Division of Prevention and Quality Improvement  
Chronic Disease Prevention & Control Branch  
275 East Main Street  
Frankfort, KY 40621



**Kentucky Public Health**  
Prevent. Promote. Protect.

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## ACKNOWLEDGMENTS

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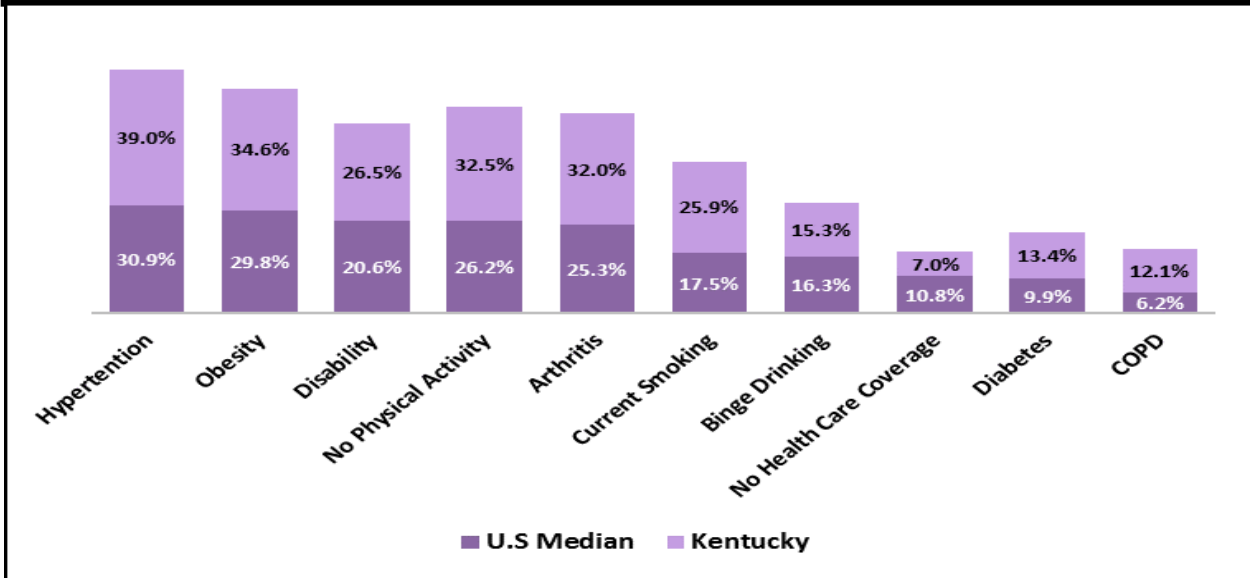
Kentucky Department for Public Health (KDPH) and the Centers for Disease Control and Prevention (CDC). *Kentucky Behavioral Risk Factor Survey (KyBRFS) Data*. Frankfort, Kentucky: Cabinet for Health and Family Services, Kentucky Department for Public Health, [2015].

# Executive Summary

The 2015 KyBRFS Annual Data Report provides a snapshot of the health behaviors and health status indicators that place Kentucky adults at risk for chronic diseases, injuries, and preventable infectious diseases. This report is based on a sample of non-institutionalized residents aged 18 years or older from 8,806 households in the Commonwealth of Kentucky. The results are weighted to obtain representative estimates for all adults in the state. Some key findings from the 2015 survey are listed below.

## Selected Indicators — 2015 BRFSS

### U.S. vs Kentucky



#### Health Care Coverage:

Kentucky has seen significant declines in its uninsured population in recent years. In 2015, only 7.0% of adults in Kentucky reported having no health care coverage. This represents a significant drop of 3.0 percentage point from last year (10.0%). The prevalence of uninsured adults in Kentucky was also lower than the U.S. median (10.8%). According to U.S. Census Bureau, Kentucky was among the top 10 states with the smallest uninsured population in 2015.

#### Alcohol Consumption:

Most people who binge drink are not alcohol dependent [1]. In 2015, an estimated 15.3% of Kentucky adults reported binge drinking in the past month. Binge drinking among Kentucky adults remains lower than the U.S. median (16.3%). The prevalence of binge drinking among men was more than twice the prevalence among women (21.4% vs 9.6%). Binge drinking is significantly more common among those with annual household incomes of \$50,000 or more than among those with less than \$25,000.

#### Tobacco Use:

Smoking causes more than 480,000 deaths in the United States every year [2]. About 25.9 % of Kentucky adults reported that they were current cigarette smokers in 2015. This estimate was higher than the national average (17.5%). Men were more likely to be current cigarette smokers than women. Current cigarette smoking was significantly higher among adults with less than high school education than among those with a college degree (45.0% vs 10.5%).

## Executive Summary (continued)

### **Obesity:**

The obesity epidemic has affected every part of the United States, and Kentucky is among those states with the highest rates. In 2015, an estimated 34.6% of Kentucky adults were classified as being obese (BMI  $\geq$  30.0), which is slightly higher than the U.S. median prevalence (29.8%). Furthermore, an additional 32.6% of Kentuckian adults were classified as being overweight. The prevalence of obesity did not significantly differ by gender, but was significantly higher among black adults than among white adults.

### **Cardiovascular Diseases:**

Cardiovascular diseases are the leading causes of death in the United States [3]. In 2015, about 6.7% of Kentucky adults had ever been told by a doctor that they had a heart attack, 6.0% had ever been told they had angina or coronary heart disease, and 4.3% had ever been told they had a stroke. The prevalence of coronary heart disease and stroke did not significantly differ by gender; however, heart attack was significantly more common among men than among women (9.3% vs 4.1%). The prevalence of all three diseases increased significantly with age.

### **Arthritis:**

Arthritis is the leading cause of disability in the United States [4]. This condition has been diagnosed in an estimated 53.5 million U.S. adults [4]. In 2015, almost 1 in 3 Kentucky adults (32.0%) reported that they had been told by a health professional that they had arthritis. When compared by gender, arthritis prevalence was significantly higher among women than men. As would be expected, the prevalence of arthritis increased with age. The highest prevalence was among adults ages 65 and older (55.8%).

### **Diabetes:**

Diabetes is increasing at an alarming rate in the United States. According to the Center for Disease Control & Prevention (CDC), 29.1 millions people in the U.S. had diabetes in 2012.

In 2015, according to our survey, 13.4% of Kentucky adults reported having been told by a doctor that they had diabetes. This estimate was higher when compared to the U.S. median prevalence of 9.9%. No significant differences were observed by gender or by race. The prevalence of diabetes significantly increased with age. The highest rate was among adults ages 65 and older (25.3%).

### **Chronic Obstructive Pulmonary Disease (COPD):**

In 2015, Chronic Obstructive Pulmonary Disease (COPD) was the third cause of death in the United States [5]. In 2015, about 12.1% of Kentucky adults reported that they have been diagnosed with COPD. This prevalence was approximately twice the U.S. median prevalence (6.2%). The prevalence of COPD did not significantly differ by gender. The prevalence of COPD was higher among adults with less than high school education than among those with a college degree. As would be expected, adults aged 65 and older were more likely to report COPD than younger age groups.

## 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 2012 BRFSS data with BRFSS data from years prior to 2011 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, "Methodology 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 aged 18 years 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.*

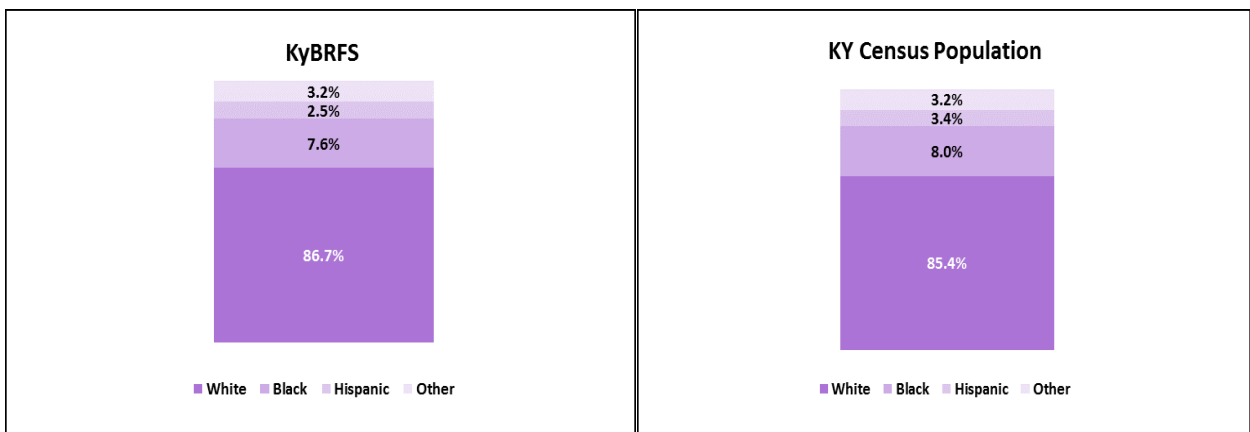
# Introduction (continued)

## Demographic Characteristics: Race/Ethnicity and Gender

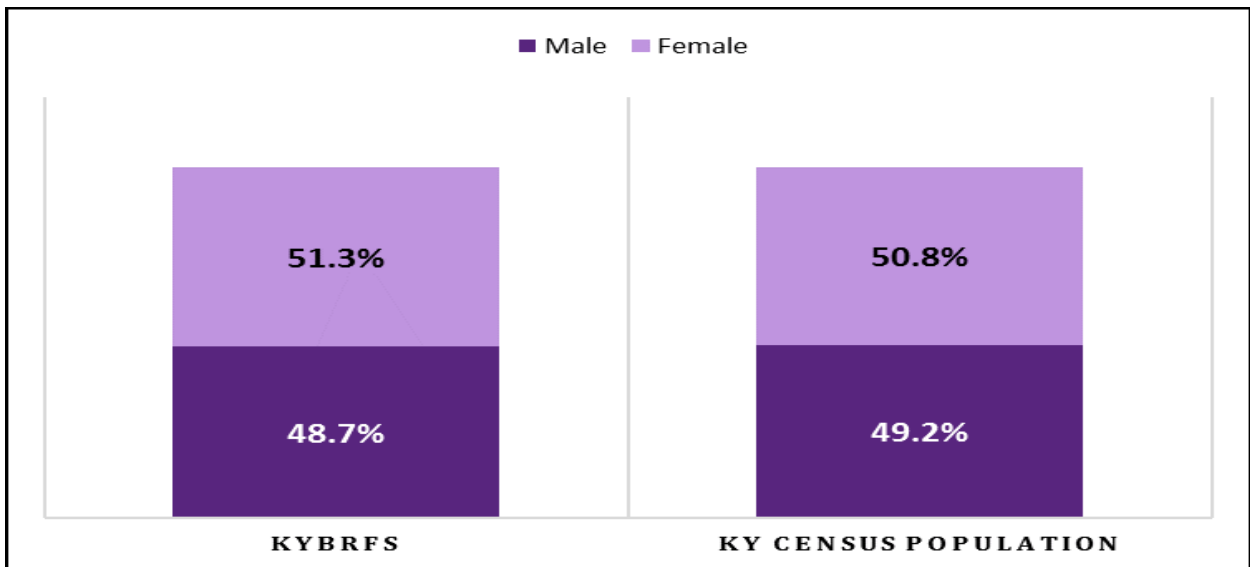
A total of 8,806 residents (18 years or older) participated in the 2015 Kentucky Behavioral Risk Factor Survey. The initial sample of 8,806 residents was used to “weight” these survey data in order to obtain representative estimates for the state of Kentucky.

The distribution of respondents by race and by gender on the 2015 KyBRFS was similar to the 2015 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 — 2015



### Distribution of KyBRFS Adult Population vs KY Census Population, by Gender — 2015



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

KY Census Population estimates obtained from Kentucky State Data Center website: <http://ksdc.louisville.edu/>.

## 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 years or older, 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 are reported by Area Development District (ADD).

In this report, if the un-weighted sample size for the denominator is  $< 50$ , the data are not reported. Additionally, CDC BRFSS recommends using Relative Standard Error (RSE) as a criterion for estimates that meet standards of statistical reliability; if RSE is  $> 0.3$ , the estimate is not reported on the CDC BRFSS website. These standards have also been adopted by KyBRFS.

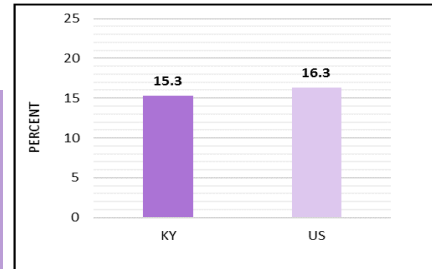


# ALCOHOL CONSUMPTION: BINGE DRINKING

**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 men 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.

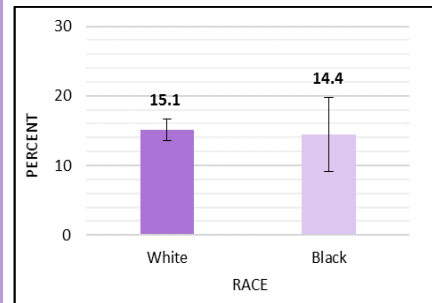
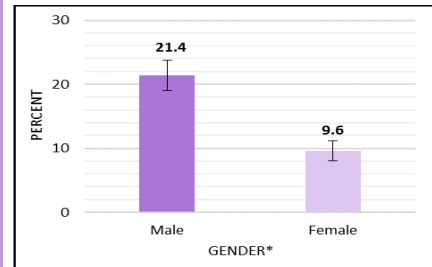
**Percent of Adults Classified as Binge Drinkers: Kentucky vs. Nationwide (States and DC) — 2015**



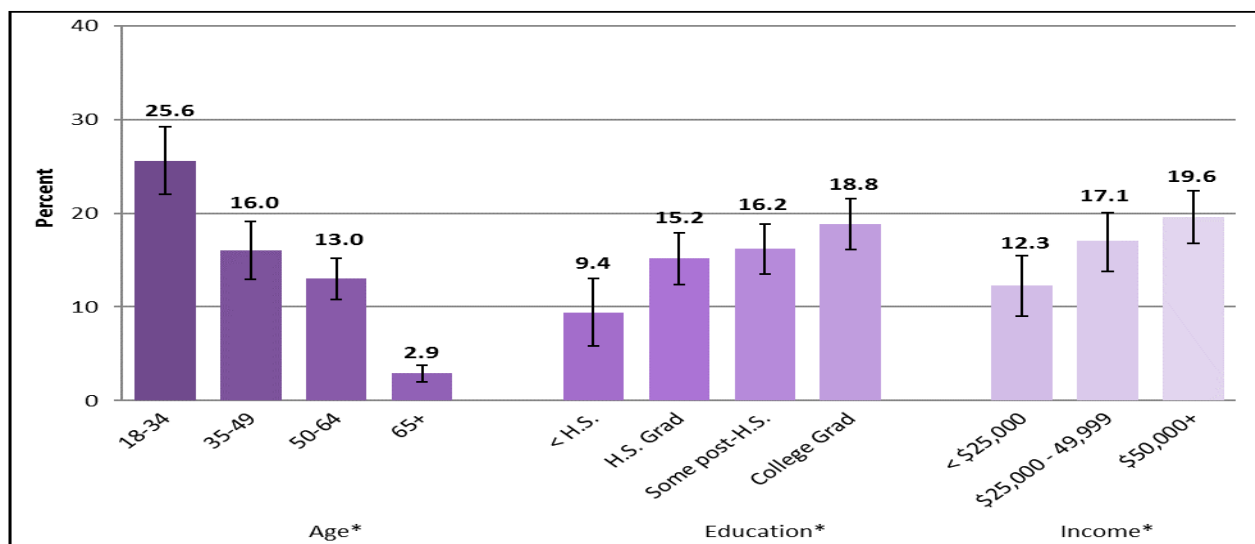
## Who is at risk in Kentucky?

- ◆ In 2015, the prevalence of binge drinking among Kentucky adults was 15.3%. This estimate was lower than the U.S. median prevalence (16.3%).
- ◆ The prevalence of binge drinking was significantly higher among men than among women (21.4% vs 9.6%).
- ◆ The prevalence of binge drinking did not significantly differ by race.
- ◆ The prevalence of binge drinking was significantly higher among adults ages 18-34 years, 35-49 years and 50-64 years than among those ages 65 years and older.
- ◆ Binge drinking was highest among adults with a college degree (18.8%), and lowest among those with less than high school (9.4%).
- ◆ Binge drinking was significantly higher among those with an annual household incomes of \$50,000 or more than among those who earn less than \$25,000 a year (19.6% vs 12.3%).

**Percent of Kentucky Adults Classified as Binge Drinkers, by Gender\*, and by Race — 2015**



**Percent of Kentucky Adults Classified as Binge Drinkers, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

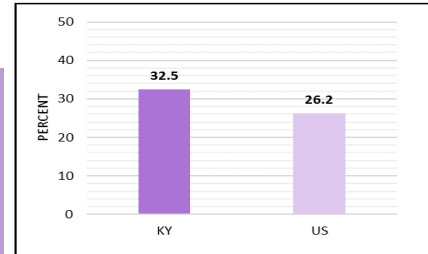
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# NO LEISURE TIME 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.

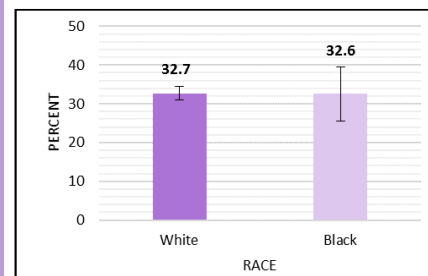
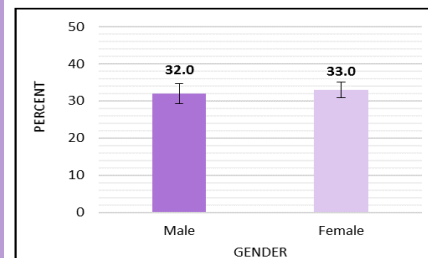
**Percent of Adults who did not Participate in any Physical Activity in the Past 30 days: Kentucky vs. Nationwide (States and DC) — 2015**



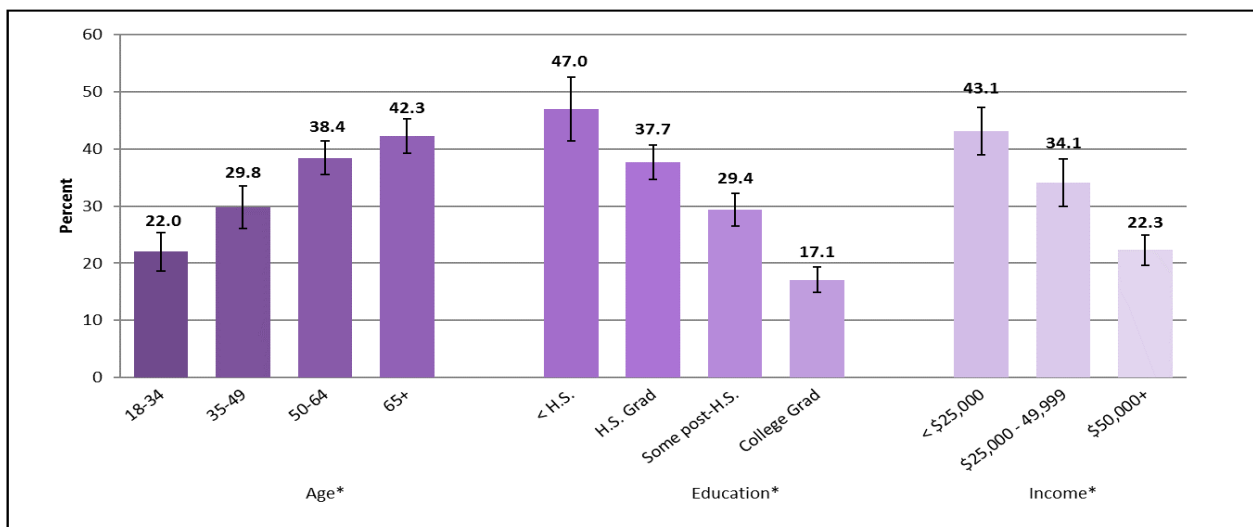
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 32.5% of Kentucky adults reported no leisure time physical activity. This estimate was higher than the U.S. median (26.2%).
- ◆ The prevalence of no leisure time physical activity did not significantly differ by gender.
- ◆ The prevalence of no leisure time physical activity was similar by race.
- ◆ No leisure time physical activity significantly increased with age, with the highest prevalence being reported among adults ages 65 years and older (42.3%) and the lowest among those ages 18-34 years (22.0%).
- ◆ When compared by education, the prevalence of no leisure time physical activity was highest among adults with less than high school (47.0%), and lowest among those with a college degree (17.1%).
- ◆ The prevalence of no leisure time physical activity significantly decreased as household income increase.

**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Gender, and by Race — 2015**



**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

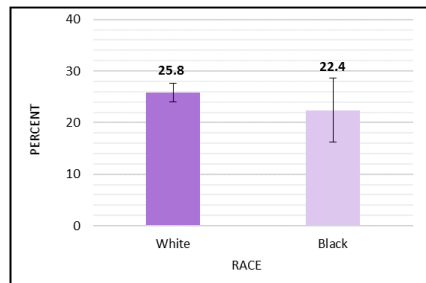
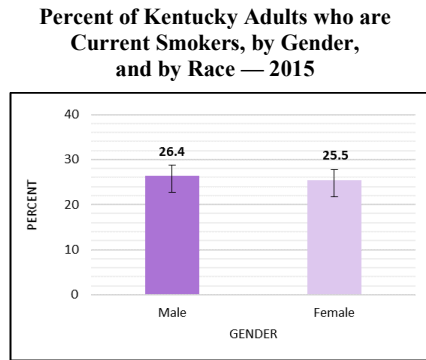
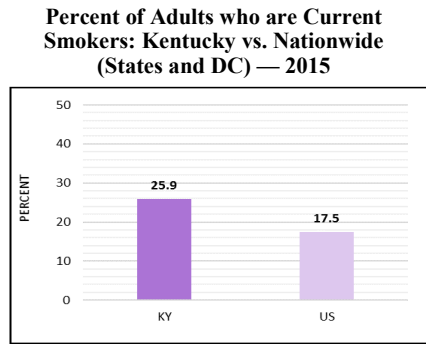
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# TOBACCO USE

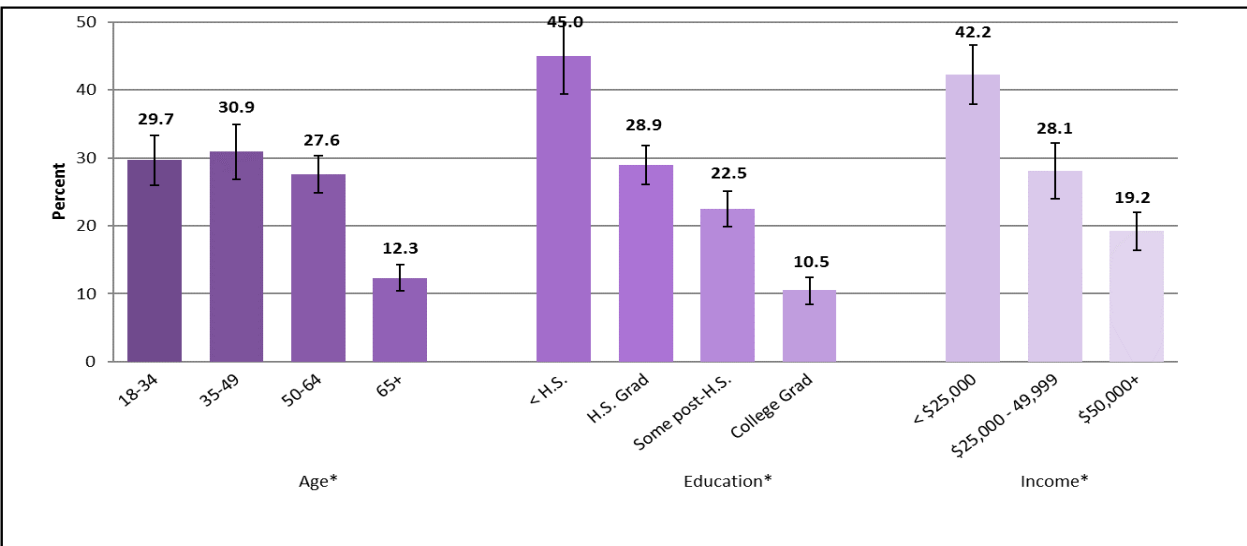
**Question:** If you have smoked at least 100 cigarettes in your entire life, are you now smoking everyday, some days, or not at all?

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

- ### Who is at risk in Kentucky?
- ◆ About 25.9 % of Kentucky adults reported that they were current smokers in 2015. This prevalence was higher than the U.S. median prevalence (17.5%).
  - ◆ The prevalence of cigarette smoking did not significantly differ by gender.
  - ◆ The prevalence of cigarette smoking did not differ by race.
  - ◆ The prevalence of cigarette smoking was significantly lower among adults aged 65 and older (12.3%) compared with other age groups.
  - ◆ The prevalence of cigarette smoking significantly decreased as education level increased. 45.0% of adults with less than a high school education reported that they were currently smoker, compared to just 10.5% of those with a college degree.
  - ◆ Cigarette smoking is significantly more common among those with an annual household income of less than \$25,000 than among those with a higher annual household income.



**Percent of Kentucky Adults who are Current Smokers, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

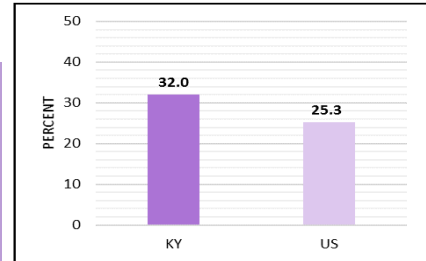
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# ARTHRITIS

**Question:** 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.

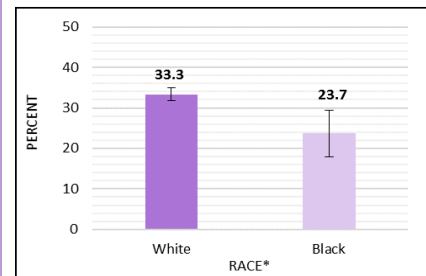
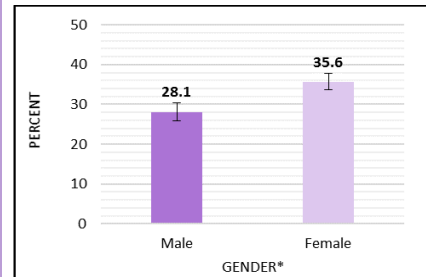
**Percent of Adults who have Arthritis: Kentucky vs. Nationwide (States and DC) — 2015**



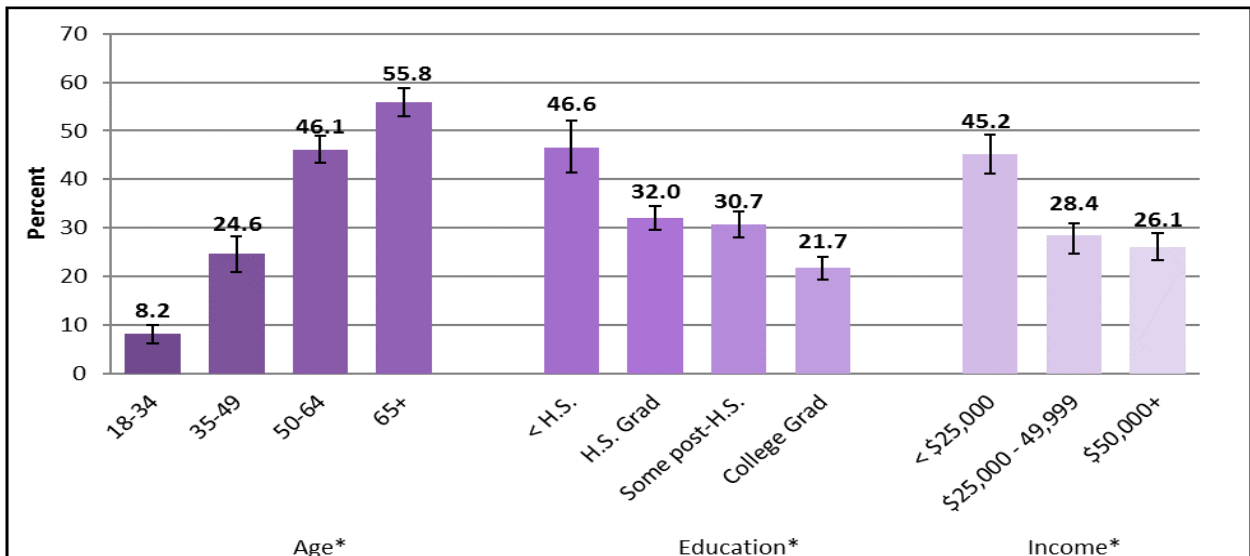
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 32.0% of Kentucky adults reported that they have been told by a health professional that they have arthritis. This was a higher prevalence compared to 25.3% in the nation.
- ◆ Women (35.6%) reported a significantly higher prevalence of arthritis than men (28.1%).
- ◆ White adults (33.3%) were significantly more likely to report that they have been diagnosed with arthritis than Black adults (23.7%).
- ◆ As would be expected, the prevalence of arthritis significantly increased with age. The highest prevalence was among adults aged 65 years or older (55.8%).
- ◆ The prevalence of arthritis was highest among adults with less than high school, and lowest among those with a college degree (46.6% vs 21.7%).
- ◆ As household incomes increased, the prevalence of arthritis significantly decreased.

**Percent of Kentucky Adults who have Arthritis, by Gender\*, and by Race\* — 2015**



**Percent of Kentucky Adults who have Arthritis, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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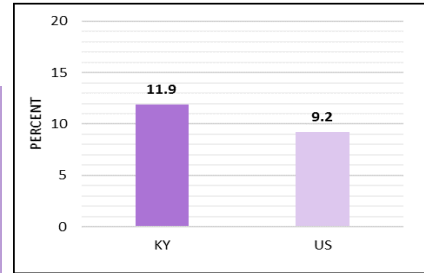
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# ASTHMA

**Question:** 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.

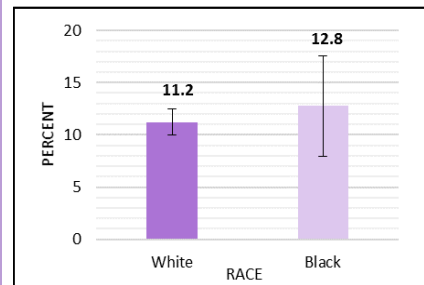
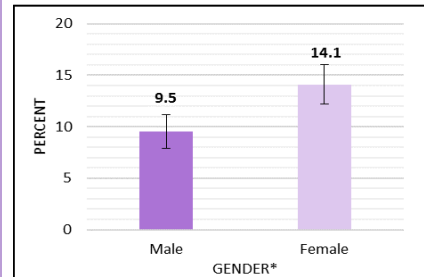
**Percent of Adults who have Current Asthma: Kentucky vs. Nationwide (States and DC) — 2015**



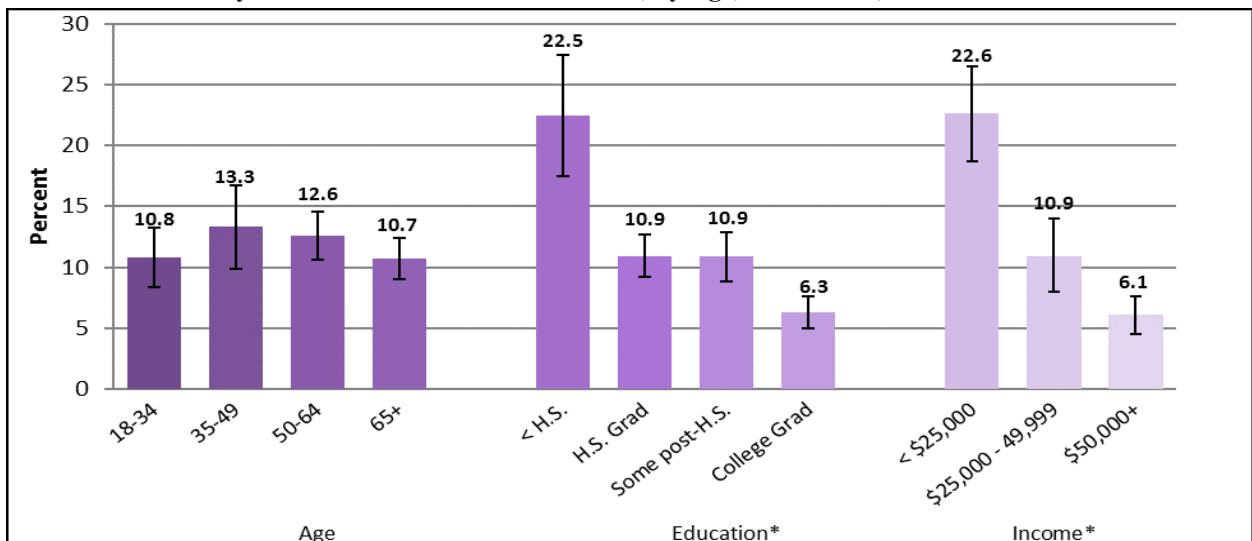
## Who is at risk in Kentucky?

- ◆ About 11.9% of Kentucky adults reported that they currently have asthma. This was higher compared to 9.2% in the United States.
- ◆ The prevalence of asthma was significantly higher among female adults than among male adults (14.1% vs 9.5%).
- ◆ The prevalence of asthma did not significantly differ by race.
- ◆ The prevalence of asthma did not significantly differ across age groups.
- ◆ Adults with less than high school education (22.5%) significantly reported a higher prevalence of asthma than those with a college degree (6.3%).
- ◆ The prevalence of asthma was significantly higher among adults with an annual household income of less than \$25,000 than among those with \$55,000 or more (22.6% vs 6.1%).

**Percent of Kentucky Adults who have Current Asthma, by Gender\*, and by Race — 2015**



**Percent of Kentucky Adults who have Current Asthma, by Age, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

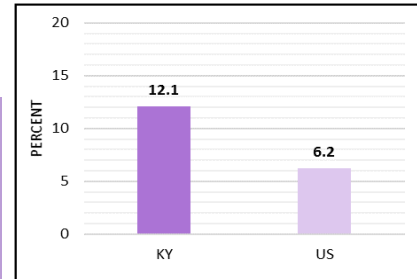
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# Chronic Obstructive Pulmonary Disease (COPD)

**Question:** Have you ever been told by a doctor, nurse, or other health professional that you that you have Chronic Obstructive Pulmonary Disease or COPD, emphysema, or chronic bronchitis?

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

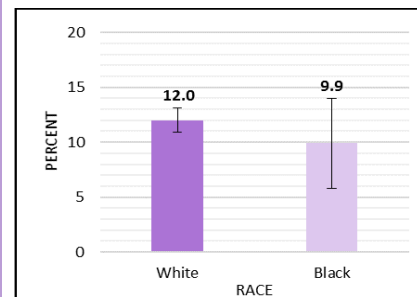
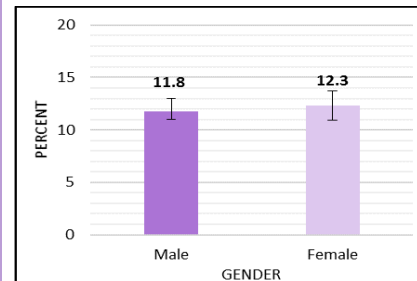
**Percent of Adults who have COPD: Kentucky vs. Nationwide (States and DC) — 2015**



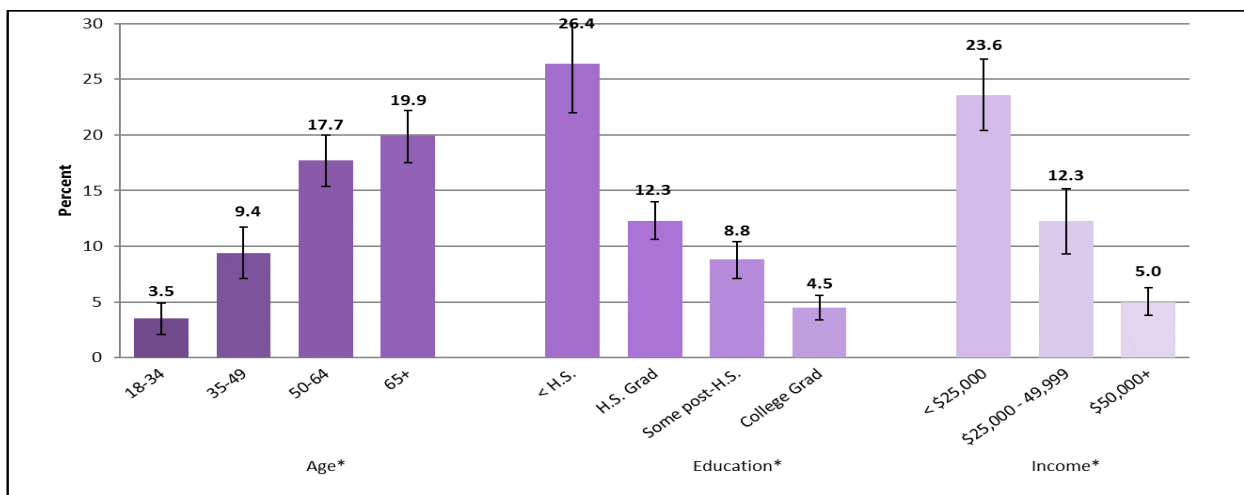
## Who is at risk in Kentucky?

- ◆ In 2015, the prevalence of COPD among Kentucky adults (12.1%) was more than twice the U.S. median prevalence (6.2%).
- ◆ The prevalence of COPD did not significantly differ by gender.
- ◆ White adults (12.0%) reported a higher prevalence of COPD than black adults (9.9%); however these differences were not statistically significant.
- ◆ When compared by age groups, the highest prevalence of COPD was found among adults aged 65 years and older (19.9%).
- ◆ Adults with less than high school education reported a significantly higher prevalence of COPD than those with a college degree (26.4% vs 4.5%).
- ◆ The prevalence of COPD significantly decreased with increasing household income level. The lowest prevalence was among adults with an annual household income of \$50,000 or more (5.0%).

**Percent of Kentucky Adults who have COPD by Gender, and by Race — 2015**



**Percent of Kentucky Adults who have COPD, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

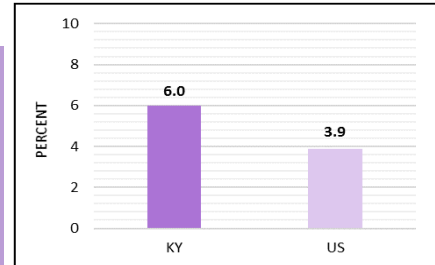
Due to BRFFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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.

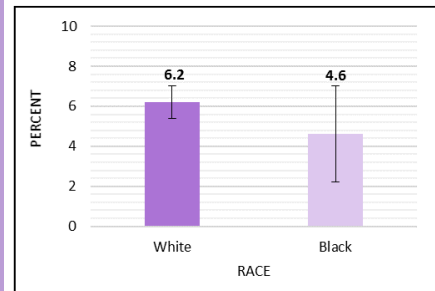
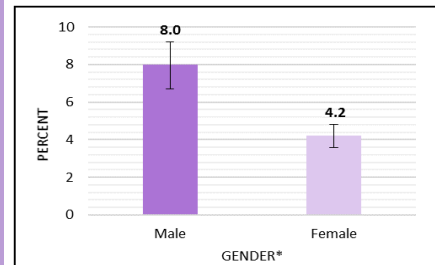
**Percent of Adults who have Coronary Heart Disease: Kentucky vs. Nationwide (States and DC) — 2015**



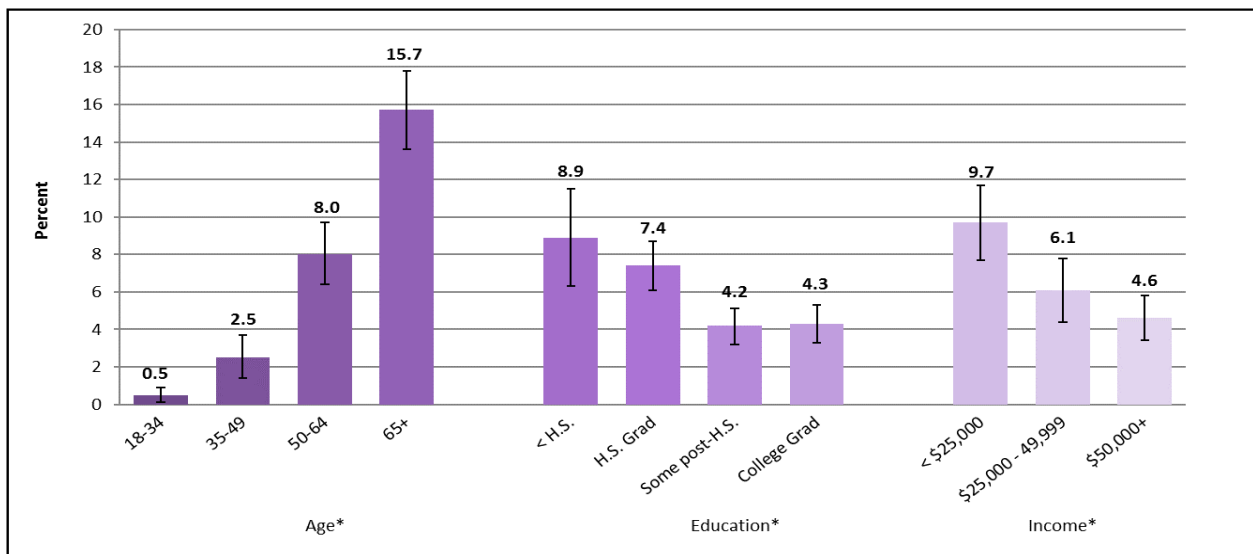
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 6.0% of Kentucky adults reported ever being told by a doctor that they had coronary heart disease. This was higher than the national estimate of 3.9%.
- ◆ Males (8.0%) significantly reported higher prevalence of coronary heart disease than females (4.2%).
- ◆ The prevalence of coronary heart disease did not significantly differ by race.
- ◆ As would be expected, the prevalence of coronary heart disease increased with age. The smallest prevalence was among adults aged 18-34 years (0.5%), and the highest prevalence was among those aged 65+ years (15.7%).
- ◆ The prevalence of coronary heart disease was significantly higher among adults with less than high school education than among those with a college degree (8.9% vs 4.3%).
- ◆ As annual household income increased, the prevalence of coronary heart disease decreased. The lowest prevalence was among adults with a annual household income of \$50,000 or more (4.6%).

**Percent of Kentucky Adults who have Coronary Heart Disease by Gender\*, and by Race — 2015**



**Percent of Kentucky Adults who have Coronary Heart Disease, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

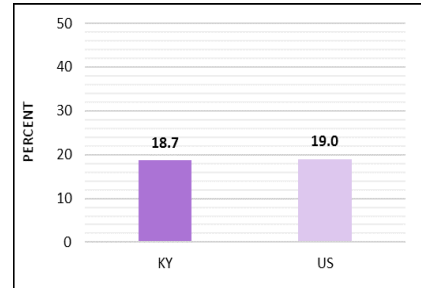
Due to BRFFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# DEPRESSIVE DISORDER

**Question:** Have you ever been told by a doctor, nurse, or other health professional that you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?

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

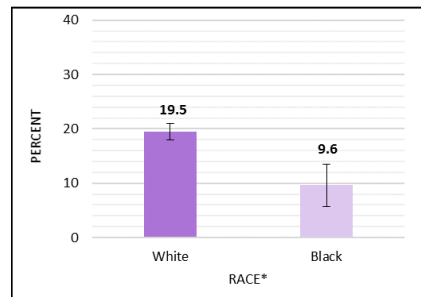
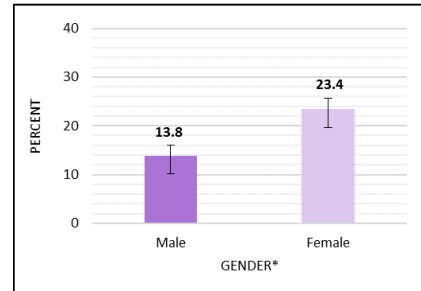
**Percent of Adults who have Depressive Disorder: Kentucky vs. Nationwide (States and DC) — 2015**



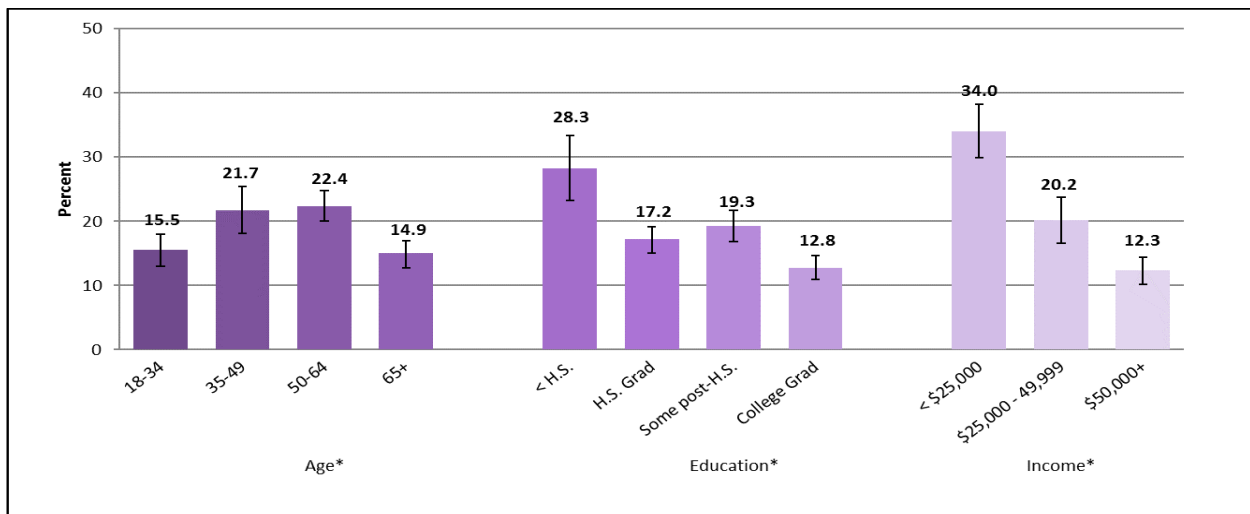
## Who is at risk in Kentucky?

- ◆ Approximately 18.7% of Kentucky adults reported ever been told by a health professional that they had a depressive disorder. This was slightly lower than the U.S. median prevalence of 19.0%.
- ◆ Women (23.4%) reported a significantly higher prevalence of depression than male (13.8%).
- ◆ White adults had a significantly higher prevalence of depression than black adults (19.5% vs 9.6%).
- ◆ The prevalence of depression was significantly higher among adults aged 65 years and older than those aged 35-49 years (15.0% vs 21.7%).
- ◆ Adults with less than high school education (28.3%) were more likely to report that they had depression compared to adults with higher levels of education attainment.
- ◆ The prevalence of depression decreased with increasing income level. The lowest prevalence was among adults with an annual household income of \$50,000 or more (12.3%).

**Percent of Kentucky Adults who have Depressive Disorder, by Gender\*, and by Race\* — 2015**



**Percent of Kentucky Adults who have Depressive Disorder by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

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# DIABETES

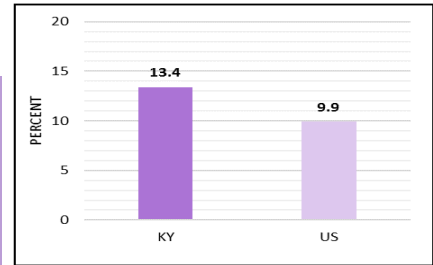
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you have diabetes?

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

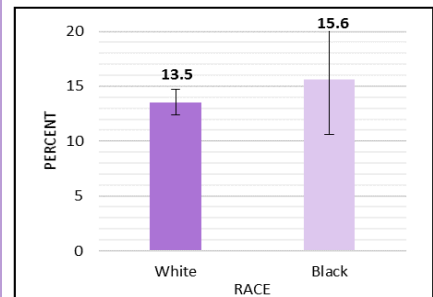
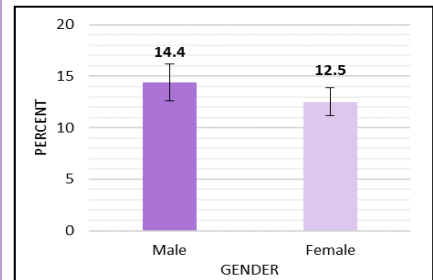
### Who is at risk in Kentucky?

- ◆ About 13.4% of Kentucky adults reported ever being told by a doctor that they had diabetes. This was a higher prevalence compared to U.S. median prevalence (9.9%).
- ◆ Males (14.4%) reported higher prevalence of diabetes than females (12.5%); however, these differences were not statistically significant.
- ◆ The prevalence did not significantly differ by race.
- ◆ The prevalence of diabetes significantly increased with age. The highest prevalence was among adults aged 50 years or older.
- ◆ The prevalence of diabetes decreased as education level increased. Adults with less than high school education (22.1%) reported a significantly higher prevalence of diabetes than those with a college degree (9.5%).
- ◆ Adults with an annual household income of less than \$25,000 reported a significantly higher prevalence of diabetes compared to those with household income of \$50,000 or more (20.1% vs 9.7%).

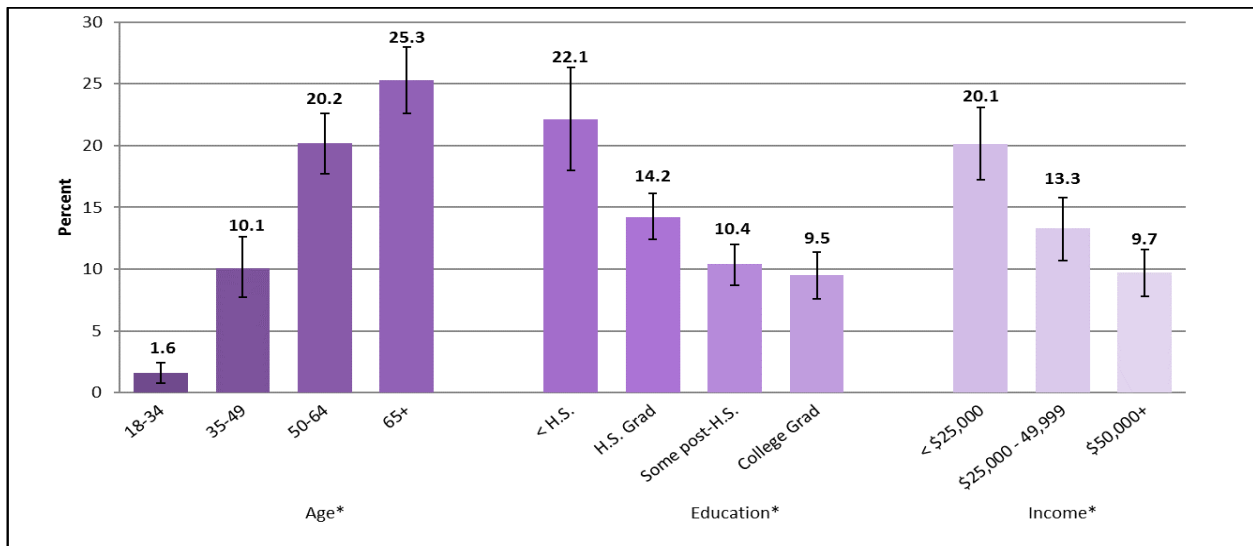
**Percent of Adults who have Diabetes: Kentucky vs. Nationwide (States and DC) — 2015**



**Percent of Kentucky Adults who have Diabetes by Gender, and by Race — 2015**



**Percent of Kentucky Adults who have Diabetes, by Age\*, Education\*, and Income\* — 2015**



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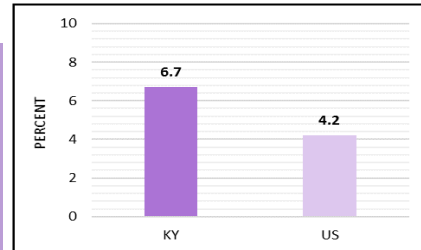
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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.

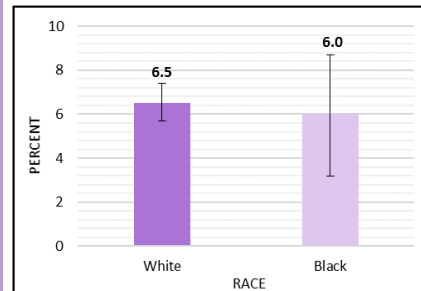
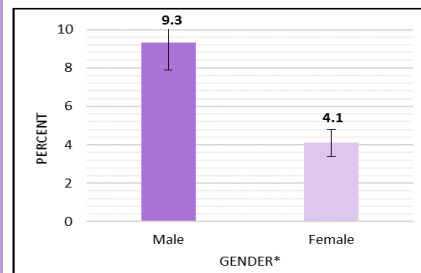
**Percent of Adults who have ever been told that they had a Heart Attack: Kentucky vs. Nationwide (States and DC) — 2015**



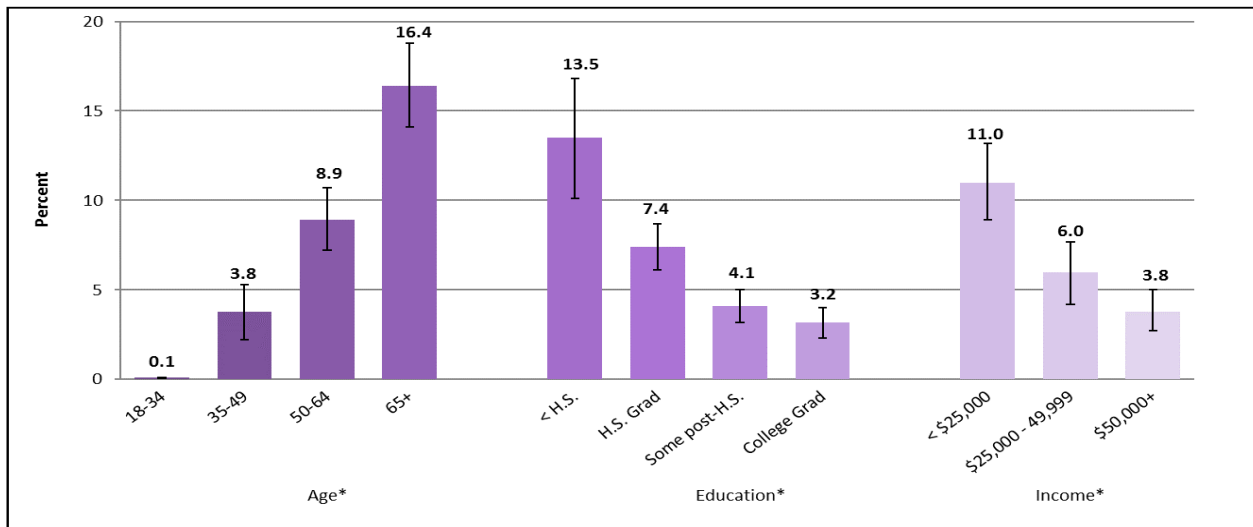
## Who is at risk in Kentucky?

- ◆ About 6.7% of Kentucky adults had ever been told by a doctor that they had a heart attack; this was a higher estimate compared to the U.S. median prevalence of 4.2% .
- ◆ Males (9.3%) reported a significantly higher prevalence of heart attack than females (4.1%).
- ◆ The prevalence of heart attack did not significantly differ by race.
- ◆ As would be expected, the prevalence of heart attack significantly increased with age. The highest prevalence was among adults aged 65 years or older (16.4%).
- ◆ The prevalence of heart attack was significantly higher among adults with less than high school education than among those with a college degree (13.5% vs 3.2%).
- ◆ The prevalence of heart attack was significantly higher among adults with an annual household income of less than \$25,000 compared to those with household income of \$50,000 or more (11.0% vs 3.8%).

**Percent of Kentucky Adults who have ever been told they had a Heart Attack, by Gender\*, and by Race — 2015**



**Percent of Kentucky Adults who have ever been told that they had a Heart Attack , by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

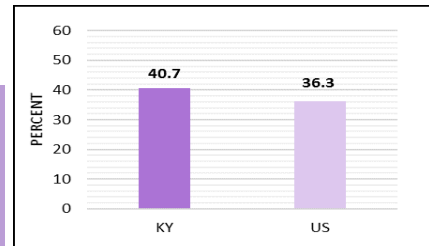
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# HIGH BLOOD CHOLESTEROL

**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

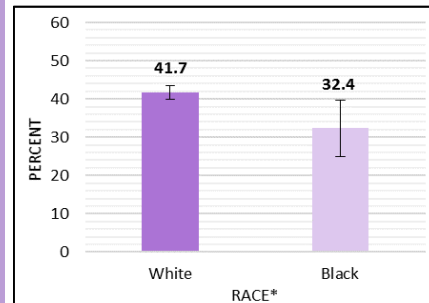
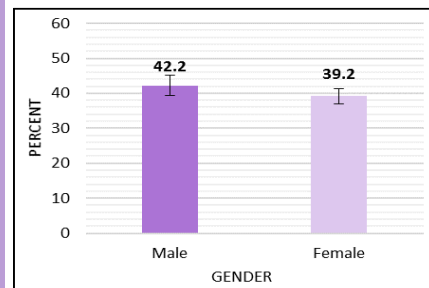
**Percent of Adults who have High Blood Cholesterol Kentucky vs. Nationwide**



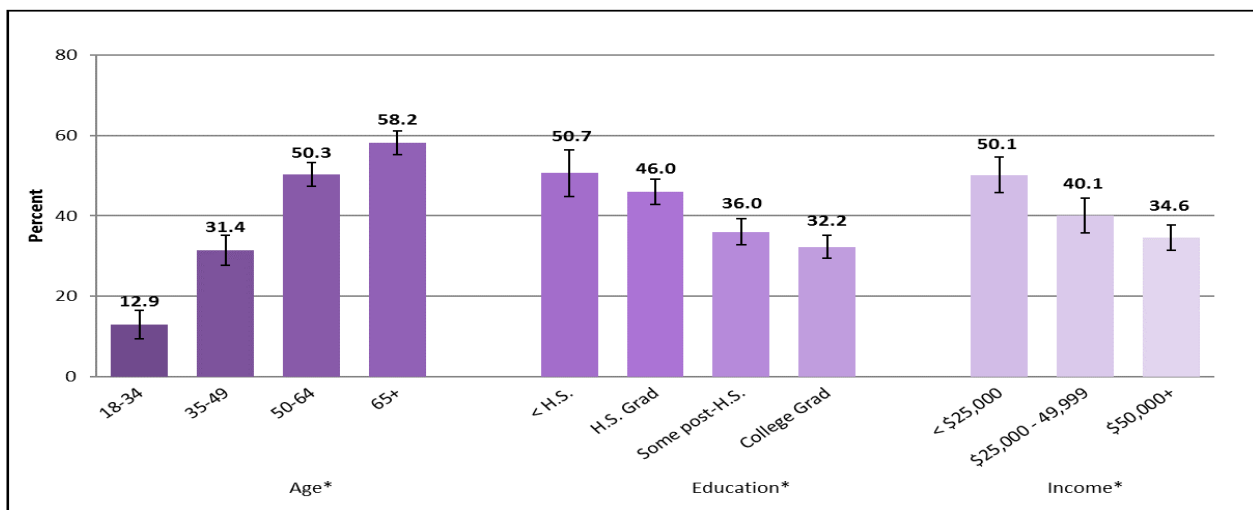
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 40.7% of Kentucky adults reported ever being told by a health professional that they had high blood cholesterol. This estimate was higher compared to the national average of 36.3%.
- ◆ The prevalence of high blood cholesterol did not differ by gender.
- ◆ White adults (41.7%) reported a higher prevalence of high blood cholesterol than black adults (32.4%).
- ◆ The prevalence of high blood cholesterol significantly increased with age. The highest prevalence was among adults age 65 years and older.
- ◆ Adults with less than high school education were significantly more likely to report that they had high blood cholesterol than those with a college degree (50.7% vs 32.2%).
- ◆ When compared by income level, the prevalence of high blood cholesterol was significantly higher among adults with an annual household income of less than \$25,000 than those with household income of \$50,000 or more (50.1% vs 34.6%).

**Percent of Kentucky Adults who have High Blood Cholesterol, by Gender, and by Race\* — 2015**



**Percent of Kentucky Adults who have High Blood Cholesterol, by Age\*, Education\*, and Income\* — 2015**



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# HIGH BLOOD PRESSURE

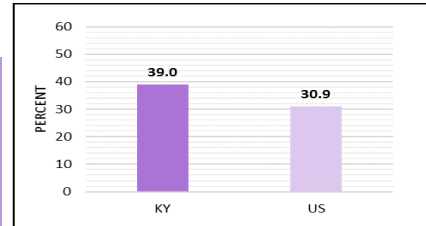
**Question:** Have you ever been told by a doctor, nurse or other health professional that you have High Blood Pressure?

**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.

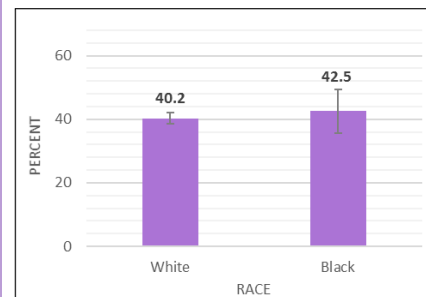
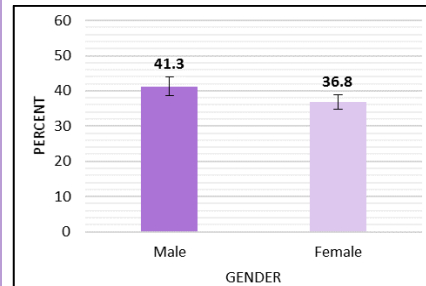
## Who is at risk in Kentucky?

- ◆ About 39.0% of Kentucky adults reported ever being told by a health professional that they had high blood pressure compared to 30.9% in the United States.
- ◆ The prevalence of high blood pressure was higher among men than among women (41.3% vs 36.8%); however, those differences were not statistically significant.
- ◆ No significant differences were observed in prevalence of high blood pressure by race.
- ◆ The prevalence of high blood pressure significantly increased with age. The highest prevalence was among adults aged 65 years and older (68.5%).
- ◆ When compared by educational levels, the prevalence of high blood pressure was significantly higher among adults with less high school education than among those with a college degree (49.2% vs 34.6%).
- ◆ The prevalence of high blood pressure was significantly higher among adults with an annual household income of less than \$25,000 than among those with household income of \$50,000 or more.

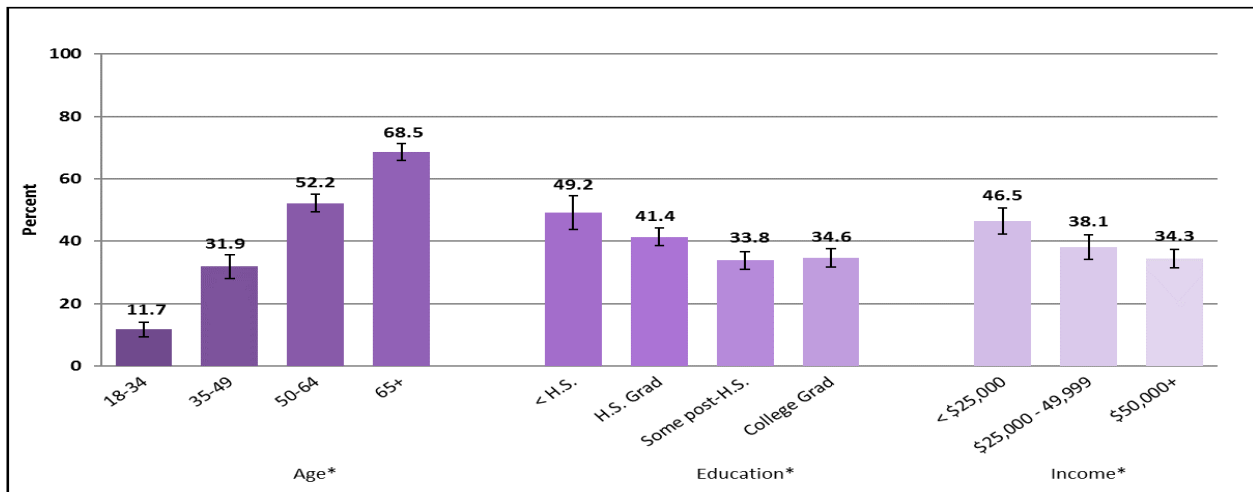
**Percent of Adults who have High Blood Pressure: Kentucky vs. Nationwide (States and DC) — 2015**



**Percent of Kentucky Adults who have High Blood Pressure, by Gender, and by Race — 2015**



**Percent of Kentucky Adults who have High Blood Pressure, by Age\*, Education\*, and Income\* — 2015**



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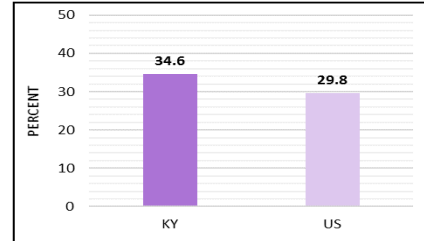
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# OBESITY

**Question:** 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.

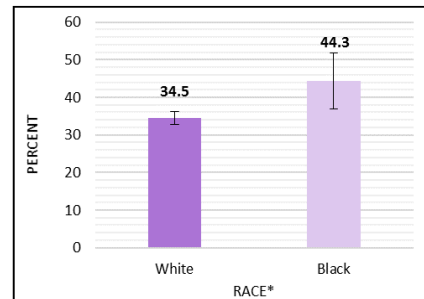
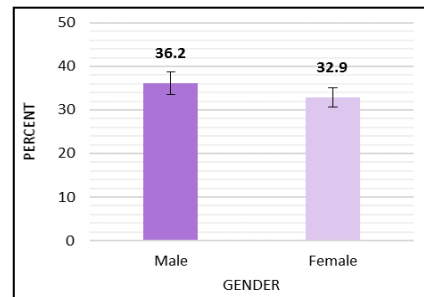
**Percent of Adults who are Obese: Kentucky vs. Nationwide (States and DC) — 2015**



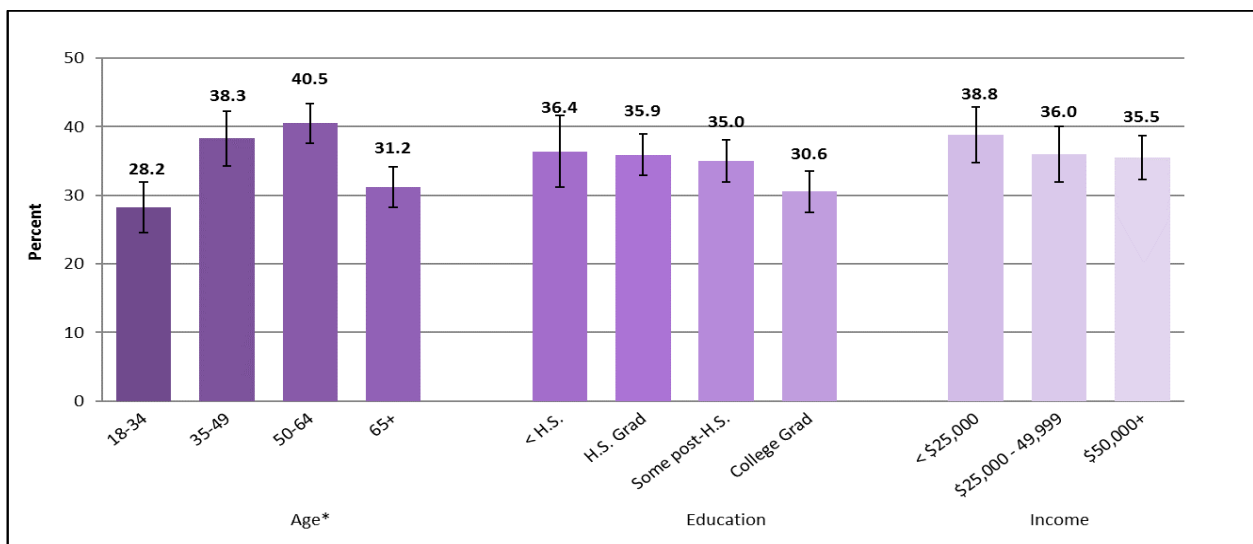
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 34.6% of Kentucky adults were classified as being obese (i.e. Body Mass Index greater or equal to 30.0). This was higher than the U.S. median prevalence of 29.6%.
- ◆ The prevalence of obesity was higher among men than women (36.2% vs 32.9%); however, these estimates were not statistically significant.
- ◆ The prevalence of obesity among black adults (44.3%) was significantly higher than among white adults (34.5%).
- ◆ The prevalence of obesity was significantly higher among middle age adults aged 50-60 years (40.5%) than young adults aged 18-35 years (28.2%).
- ◆ The prevalence of obesity did not differ by education level.
- ◆ When compared by annual household income, the prevalence of obesity was higher among adults with less than \$25,000 than those with household income of \$50,000 or more (38.8% vs 35.5%); however there was no significant differences between obesity and income level.

**Percent of Kentucky Adults who are Obese, by Gender, and by Race\* — 2015**



**Percent of Kentucky Adults who are Obese, by Age\*, Education, and Income — 2015**



\* Denotes a statistically significant difference among the values.

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

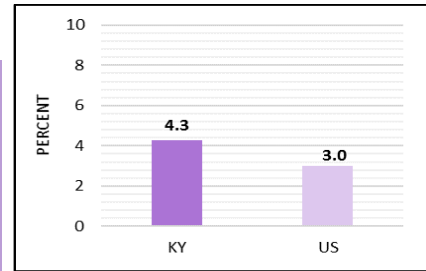
Due to BRFFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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.

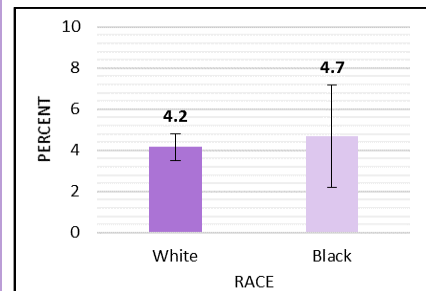
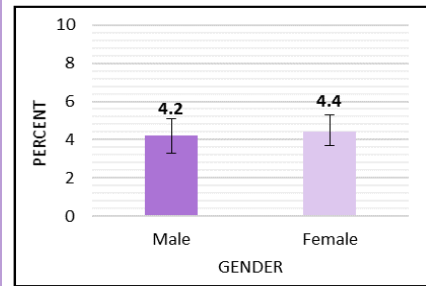
**Percent of Adults who have ever been told that they had a Stroke: Kentucky vs. Nationwide (States and DC) — 2015**



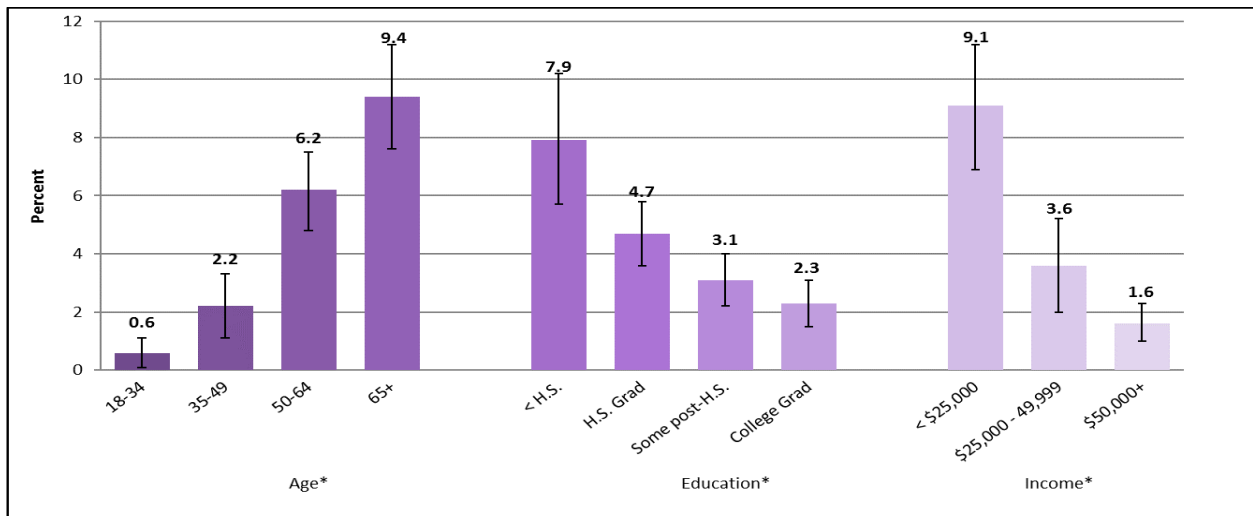
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 4.3% of Kentucky adults had ever been told by a doctor that they had a stroke. This was higher compared to U.S median prevalence of 3.0%.
- ◆ The prevalence of stroke was similar by gender.
- ◆ The prevalence of stroke did not significantly differ by race.
- ◆ The prevalence of stroke significantly increased with age. The highest prevalence of stroke was among adults aged 65 years or older (9.4%).
- ◆ The prevalence of stroke decreased with increasing education level. The highest prevalence was among adults with less than high school education (7.9%).
- ◆ The prevalence of stroke decreased as annual household income increased. Adults with an annual household income under \$25,000 significantly reported a higher prevalence of stroke than those with an annual household income of \$50,000 or more (9.1% vs 1.6%).

**Percent of Kentucky Adults who have ever been told they had a Stroke, by Gender, and by Race — 2015**



**Percent of Kentucky Adults who have ever been told they had a Stroke, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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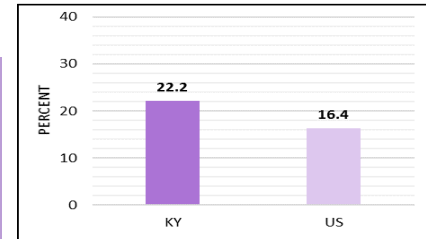
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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.

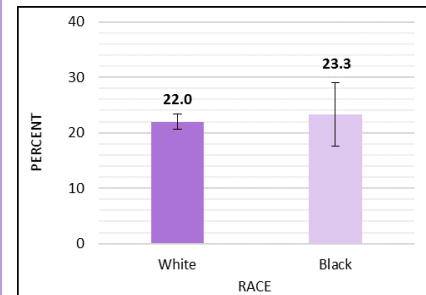
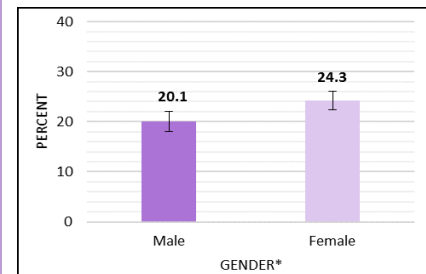
**Percent of Adults who reported their General Health as Fair or Poor: Kentucky vs. Nationwide (States and DC) — 2015**



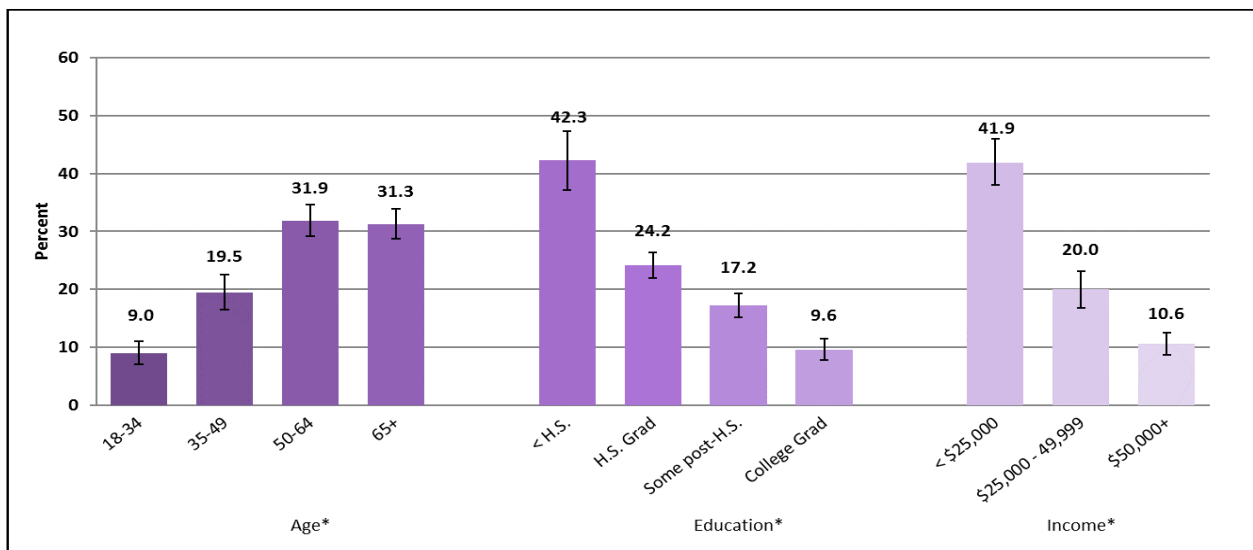
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 22.2% of Kentucky adults reported that their general health was either fair or poor, compared to 16.4% in the United States.
- ◆ The prevalence of fair or poor health was significantly higher among women than among men (24.3% vs 20.1%).
- ◆ The prevalence of fair or poor health did not differ by race.
- ◆ Only 9.0% of adults aged 18-34 reported that their general health was fair or poor compared to 31.3% of those aged 65 years and older.
- ◆ Adults with less than high school education reported a significantly higher prevalence of fair or poor health than those with a college degree (42.3% vs 9.6%).
- ◆ The prevalence of fair or poor health significantly decreased with increasing household income level. The lowest prevalence was among adults with an annual household income of \$50,000 or more (10.6%).

**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Gender\*, and by Race — 2015**



**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Age\*, Education\*, and Income\* — 2015**



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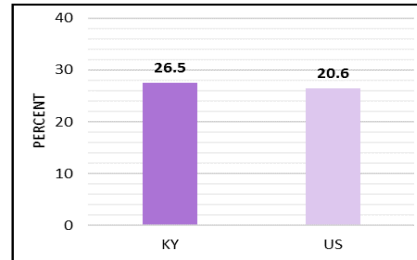
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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 at risk.

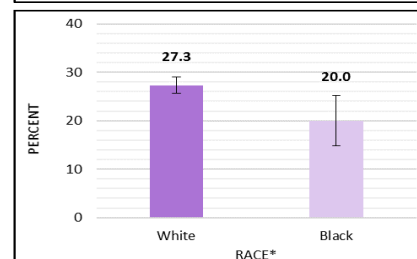
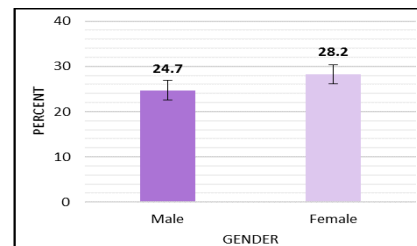
**Percent of Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems: Kentucky vs. Nationwide (States and DC) — 2015**



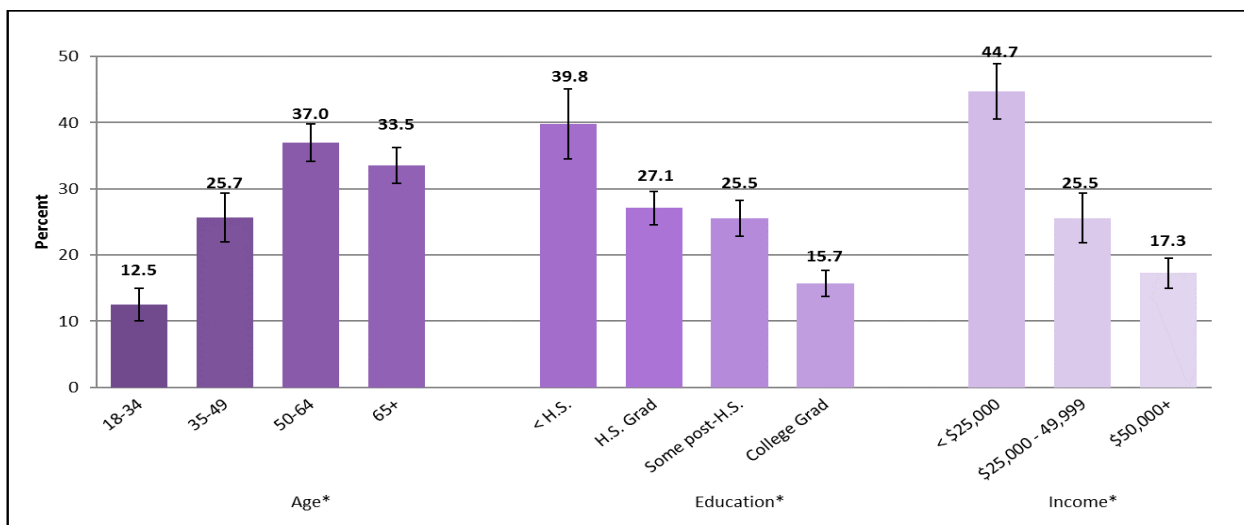
## Who is at risk in Kentucky?

- ◆ About 26.5% of Kentucky adults reported limited activities due to physical, mental or emotional problems; this was slightly higher than the U.S. median prevalence of 20.6%.
- ◆ No significant differences were observed in prevalence of disability by gender.
- ◆ The prevalence of disability was significantly higher among white adults than black adults (27.3% vs 20.0%).
- ◆ When compared by age groups, the lowest prevalence of disability was among young adults aged 18-34 years (12.5%).
- ◆ The prevalence of disability was significantly higher among adults with less than high school education than among those with a college degree (39.8% vs 15.7%).
- ◆ The prevalence of disability significantly decreased by income, from 44.7% among adults with an annual household income of less \$25,000 to 17.3% among those with an annual household income of \$50,000 or more.

**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Gender, and by Race\* — 2015**



**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Age\*, Education\*, and Income\* — 2015**



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# HEALTHCARE ACCESS/COVERAGE

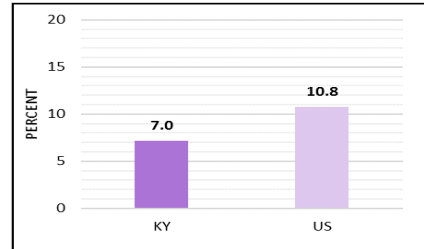
**Question:** Do you have any kind of health care coverage, including health insurance, pre-paid plans such as HMOs or governmental plans such as Medicare?

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

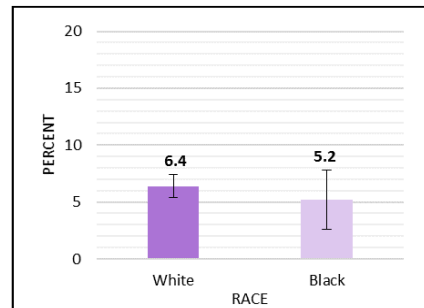
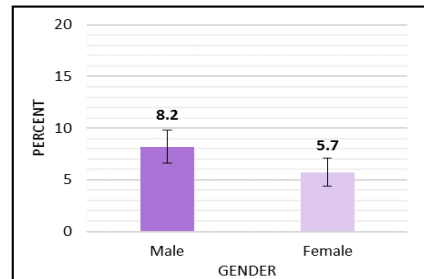
## Who is at risk in Kentucky?

- ◆ Only 7.0% of Kentucky adults reported having no healthcare coverage in 2015. This is nearly 4 percentage less than the U.S median prevalence (10.8%).
- ◆ No significant differences were observed in prevalence of no healthcare coverage by gender.
- ◆ The prevalence of adults with no health care coverage did not significantly differ by race.
- ◆ Young adults aged 18-34 significantly reported higher prevalence of having no health are coverage than adults aged 65 years or older (10.2% vs 2.6%).
- ◆ Adults with less than high school education reported a significantly higher prevalence of no healthcare coverage than those with a college degree (10.9% vs 3.1%).
- ◆ The prevalence of having no healthcare coverage was significantly higher among adult with an annual household income of less than \$25,000 than among those with household income of \$50,000 or more (8.6% vs 4.1%).

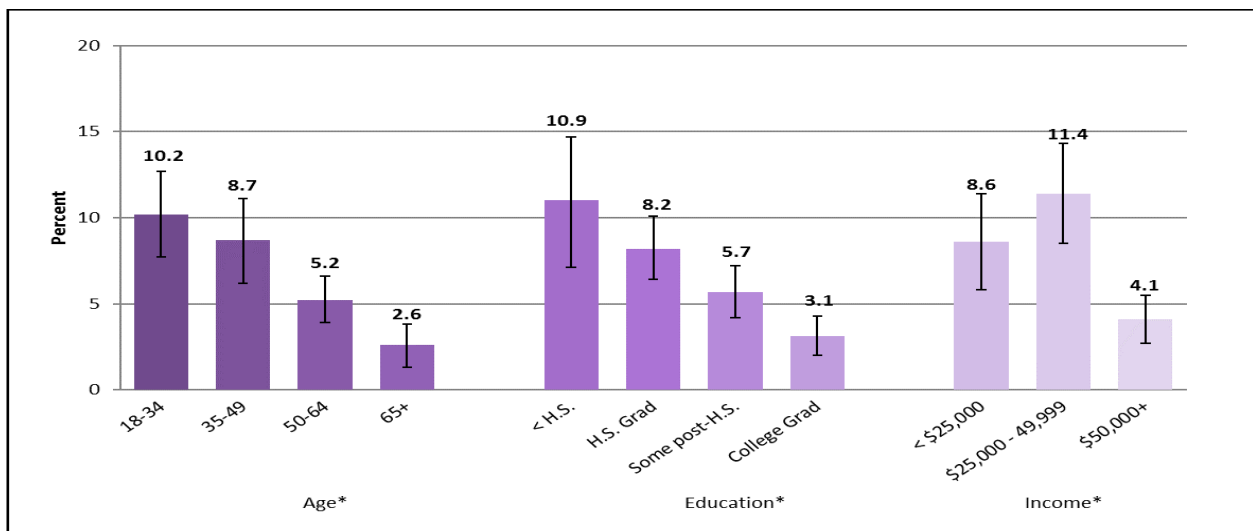
**Percent of Adults with No Health Insurance: Kentucky vs. Nationwide (States and DC) — 2015**



**Percent of Kentucky Adults with No Health Insurance, by Gender, and by Race — 2015**



**Percent of Kentucky Adults with No Health Insurance, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

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

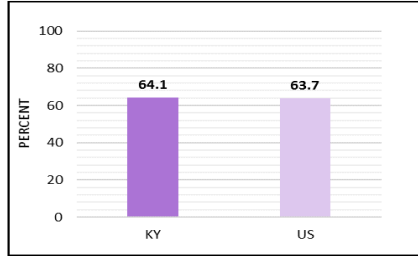
Due to BRFFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# HIV/AIDS SCREENING

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

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

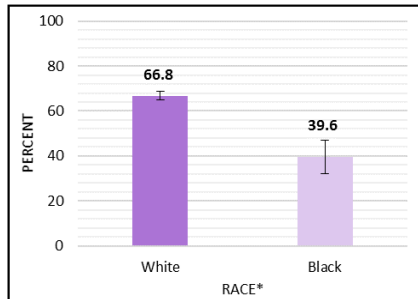
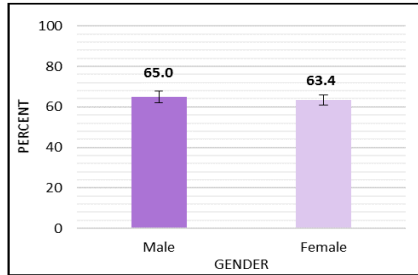
**Percent of Adults who have never been tested for HIV: Kentucky vs. Nationwide (States and DC) — 2015**



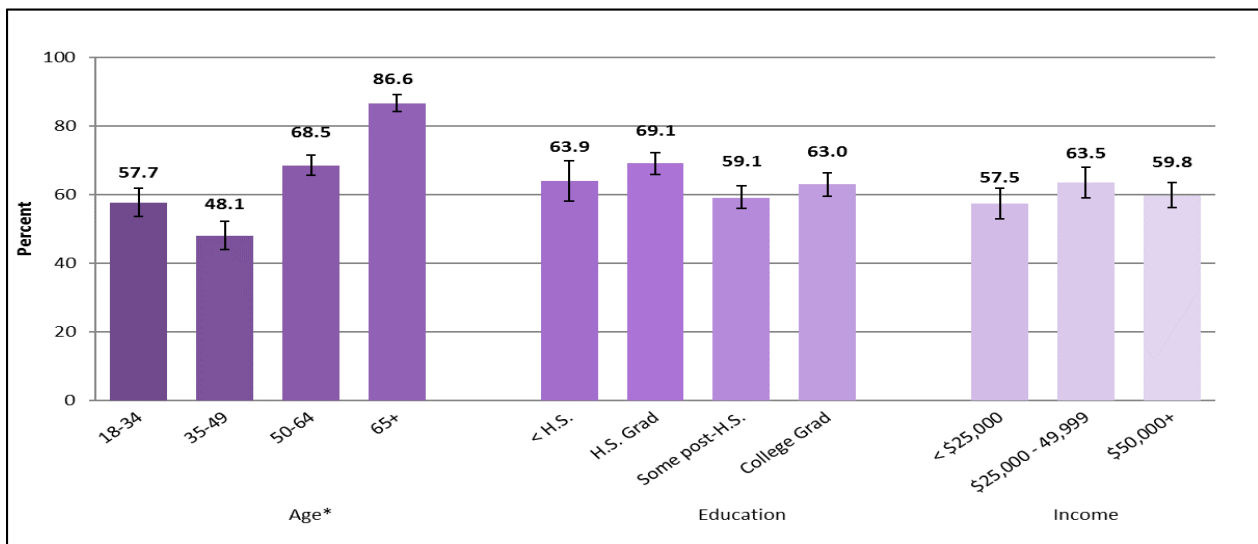
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 64.1% of Kentucky adults reported never been tested for HIV. This estimate was slightly higher than the U.S. median prevalence of 63.7%.
- ◆ No significant differences were observed in prevalence of adults who have never been tested for HIV by gender.
- ◆ The prevalence of white adults who have never been tested for HIV was significantly higher than black adults (66.8% vs 39.6%).
- ◆ About 86.6% of adults aged 65 years and older reported that they have never been tested for HIV. This estimate was significantly higher compared to young adults aged 18-34 years (57.7%).
- ◆ An estimated 63.9% of adults with less than high school education reported that they have never been tested for HIV. This was slightly higher when compared to those with a college degree (63.0%).
- ◆ The prevalence of adults who have never been tested for HIV did not significantly differ by household income.

**Percent of Kentucky Adults who have never been tested for HIV, by Gender, and by Race\* — 2015**



**Percent of Kentucky Adults who have never been tested for HIV, by Age\*, Education, and Income — 2015**



\* Denotes a statistically significant difference among the values.

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

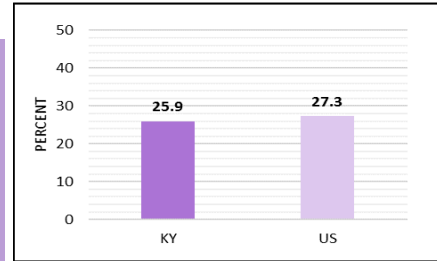
Due to BRFFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# 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.

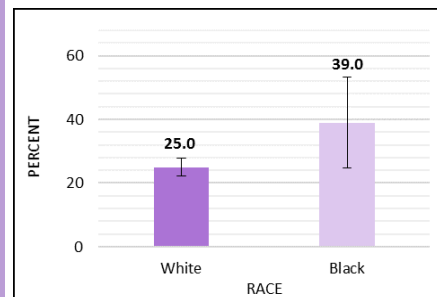
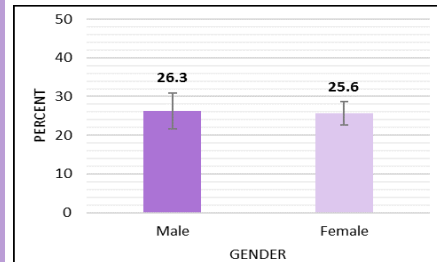
**Percent of Adults (aged 65+) who have never had a Pneumococcal Vaccination: Kentucky vs. Nationwide (States and DC) — 2015**



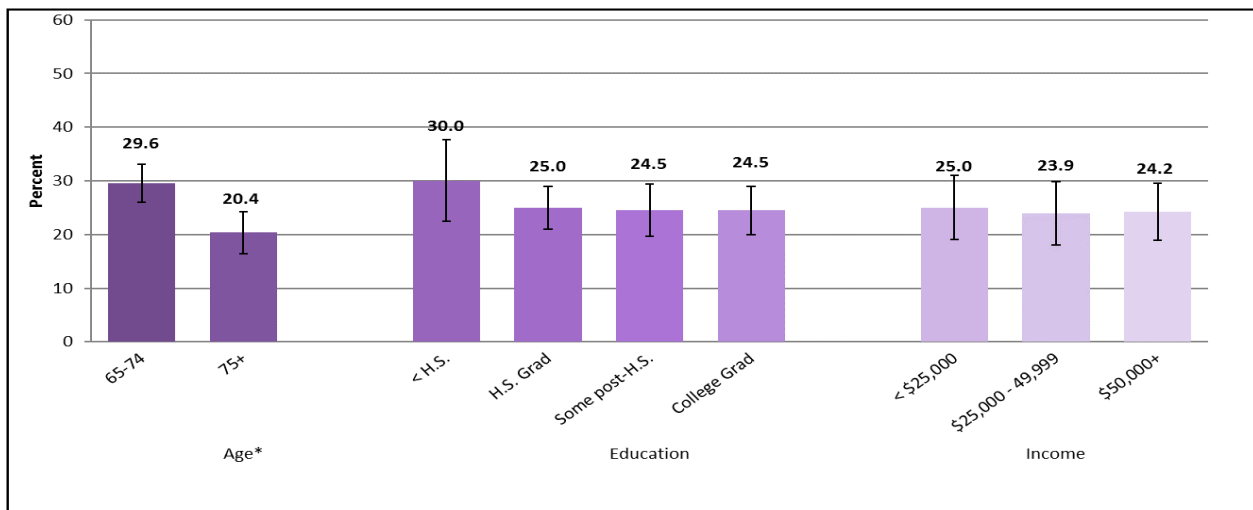
## Who is at risk in Kentucky?

- ◆ In 2015, an estimated 25.9% of Kentucky adults aged 65 and older reported that they have never had a pneumococcal vaccination. This estimate was lower than the U.S. median prevalence (27.3%).
- ◆ The prevalence of adults (aged 65+) who have never had a pneumococcal vaccination did not significantly differ by gender.
- ◆ No significant differences were observed in prevalence of adults who have never had a pneumococcal vaccination by race.
- ◆ About 29.6% of adults aged 65 years and older reported that they have never had a pneumococcal vaccination. This estimate was significantly higher compared to adults aged 75 years and older (20.4%).
- ◆ An estimated 30.0% of adults with less than high school education reported that they have never had a pneumococcal vaccination. This was higher when compared to those with a college degree (24.5%).
- ◆ The prevalence of adults who have never had a pneumococcal vaccination did not significantly differ by household income.

**Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Gender, and by Race — 2015**



**Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Age\*, Education, and Income—2015**



\* 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 in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

# INFLUENZA IMMUNIZATION (Age 65+)

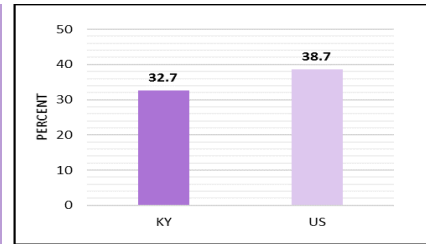
**Question:** In the past twelve months, have you had a flu shot?

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

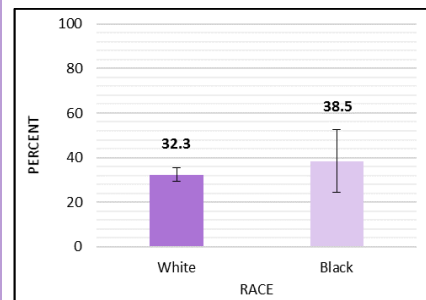
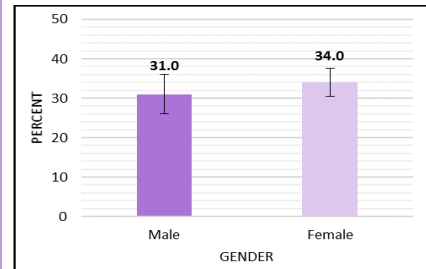
## Who is at risk in Kentucky?

- ◆ About 32.7% of Kentucky adults aged 65 years or older reported that they did not get a flu shot in the past year. This was a lower estimate compared to the U.S. median prevalence of 38.7%.
- ◆ The prevalence of adults who did not get a flu shot in the past year did not significantly differ by gender.
- ◆ A higher percentage of black adults (aged 65+) reported that they did not get a flu shot in the past year, compared to white adults (aged 65+); however, these differences were not statistically significant.
- ◆ The prevalence of adults aged 65-74 years who did not have a flu shot in the past year was significantly higher compared to adults aged 75 years or older (36.6% vs 26.7%).
- ◆ A significantly higher percentage of adults (aged 65+) with less than high school education did not get a flu shot in the past year compared to adults with a college education (40.1% vs 26.9%).
- ◆ The highest prevalence of adults who did not get a flu shot in the past year was observed among those with an annual household income of less than \$25,000.

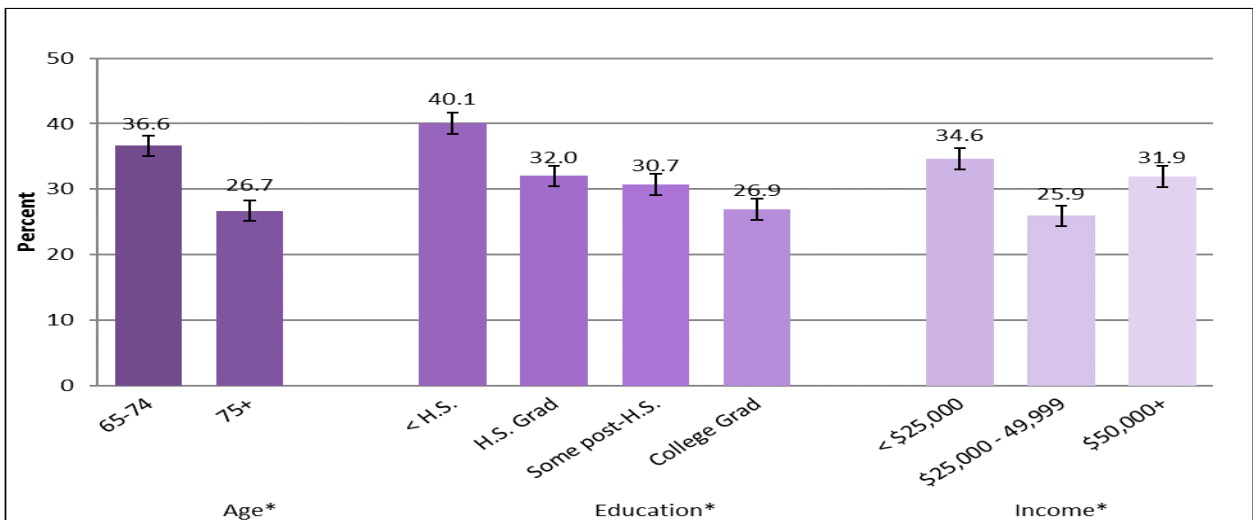
**Percent of Adults (aged 65+) who did not get a Flu shot in the Past Year: Kentucky vs. Nationwide (States and DC) — 2015**



**Percent of Kentucky Adults (aged 65+) who did not get a Flu shot in the Past Year, by Gender, and by Race — 2015**



**Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Age\*, Education\*, and Income\* — 2015**



\* Denotes a statistically significant difference among the values.

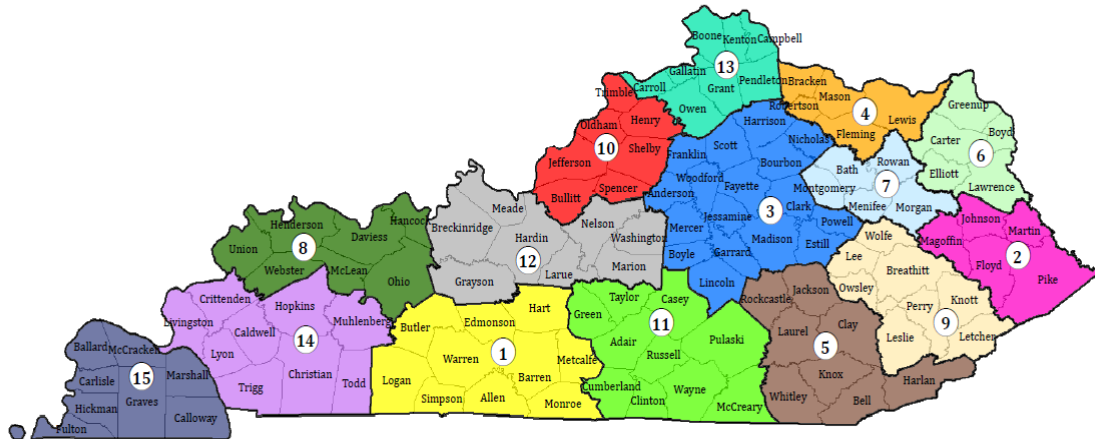
In this report, the term 'significant' only refers to statistically significant differences in prevalence.

Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## 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.

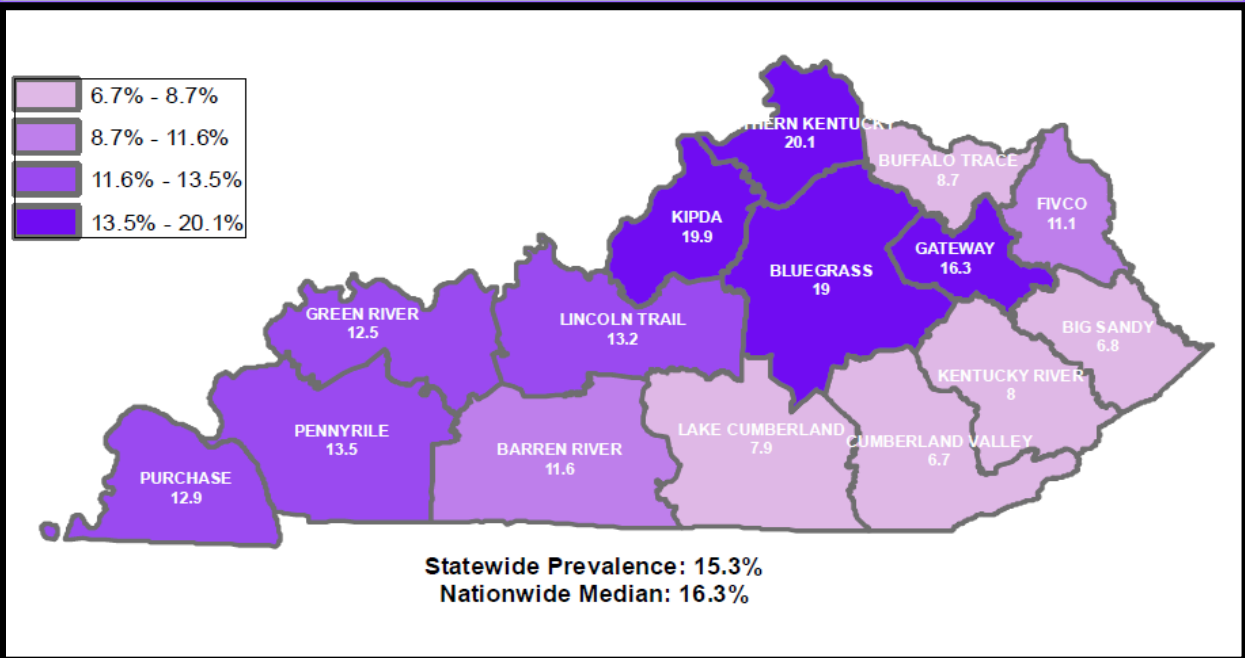


1. Barren River ADD	5. Cumberland Valley ADD	9. Kentucky River ADD	13. Northern Kentucky ADD
2. Big Sandy ADD	6. FIVCO ADD	10. KIPDA ADD	14. Pennyrile ADD
3. Bluegrass ADD	7. Gateway ADD	11. Lake Cumberland ADD	15. Purchase ADD
4. Buffalo Trace ADD	8. Green River ADD	12. Lincoln Trail ADD	

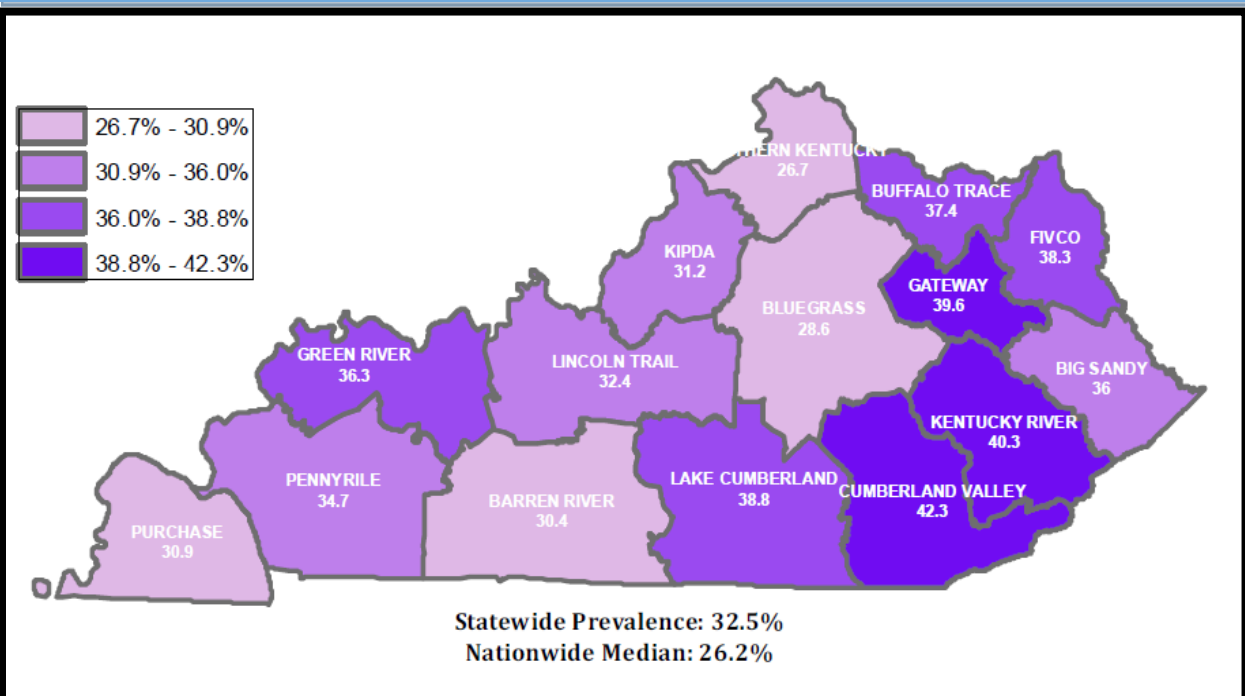
### Counties in each ADD

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, Meniffee, 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
Pennyrile:	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, 2015

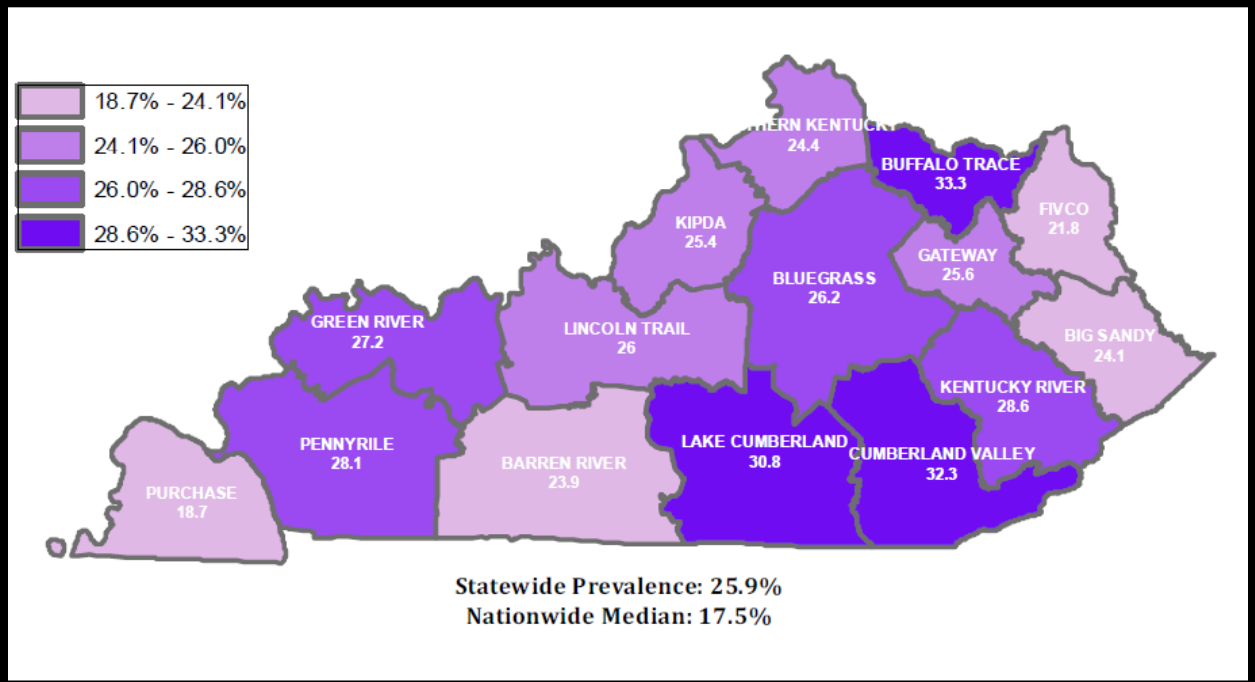


## Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Area Development District, 2015

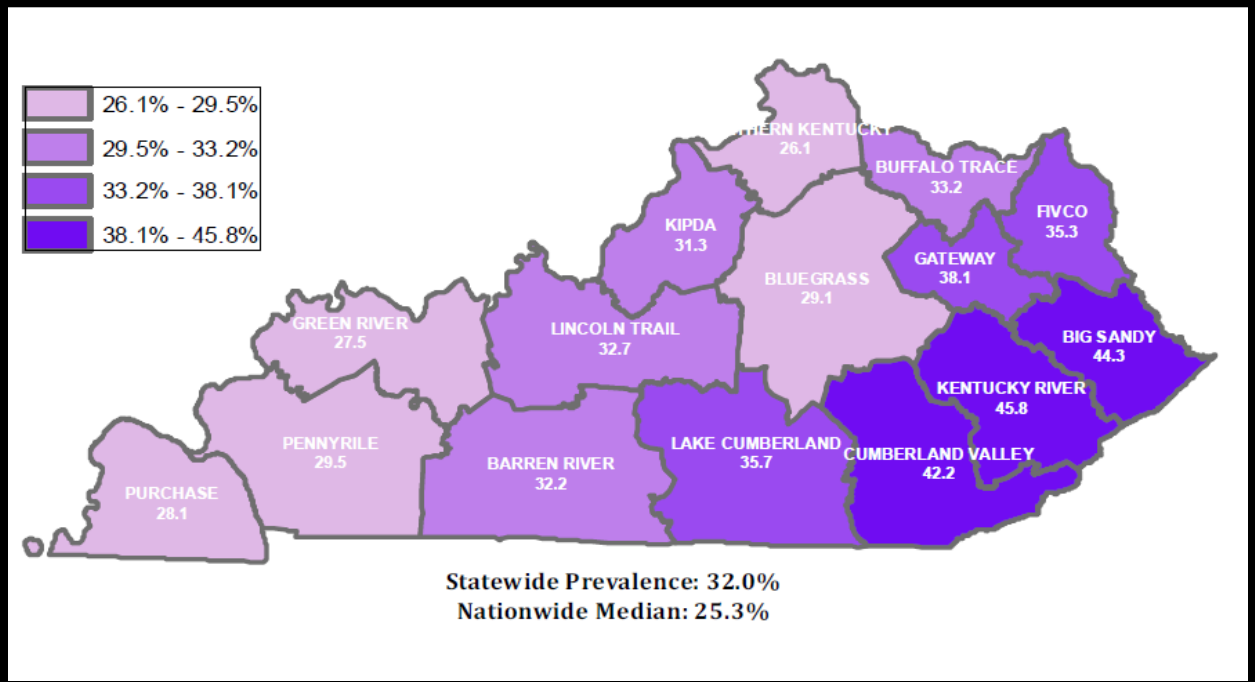


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who are Current Smokers, By Area Development District, 2015

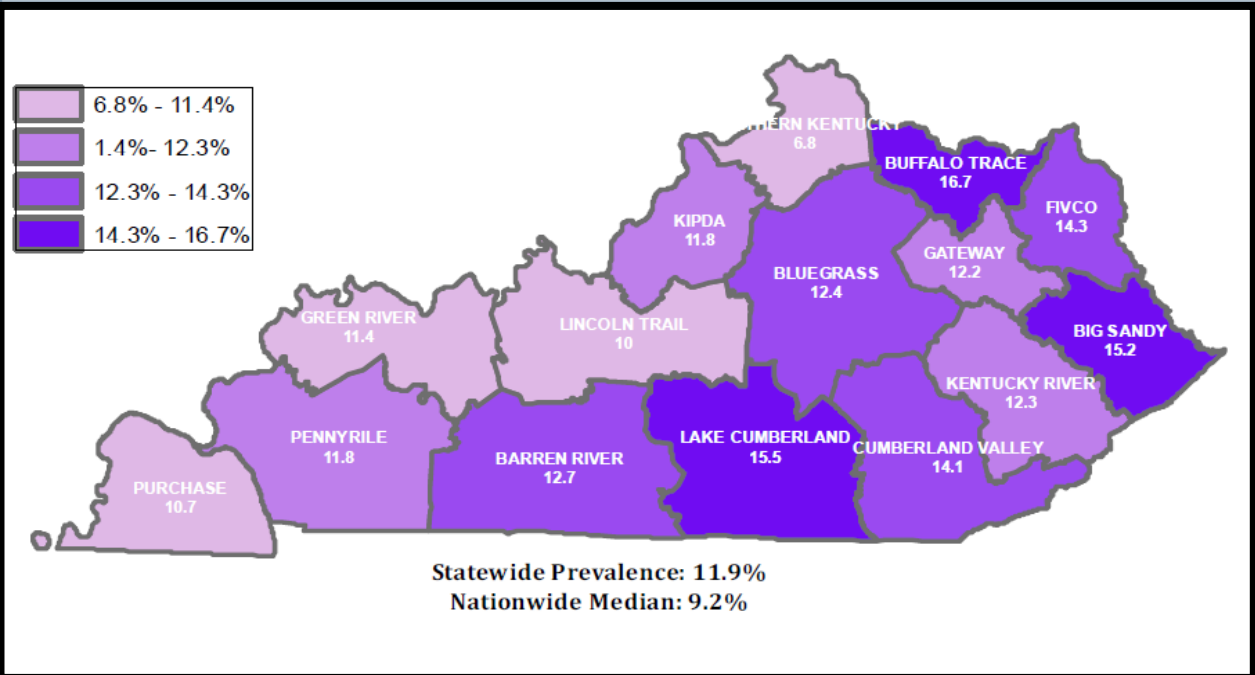


## Percent of Kentucky Adults who have Arthritis, by Area Development District, 2015

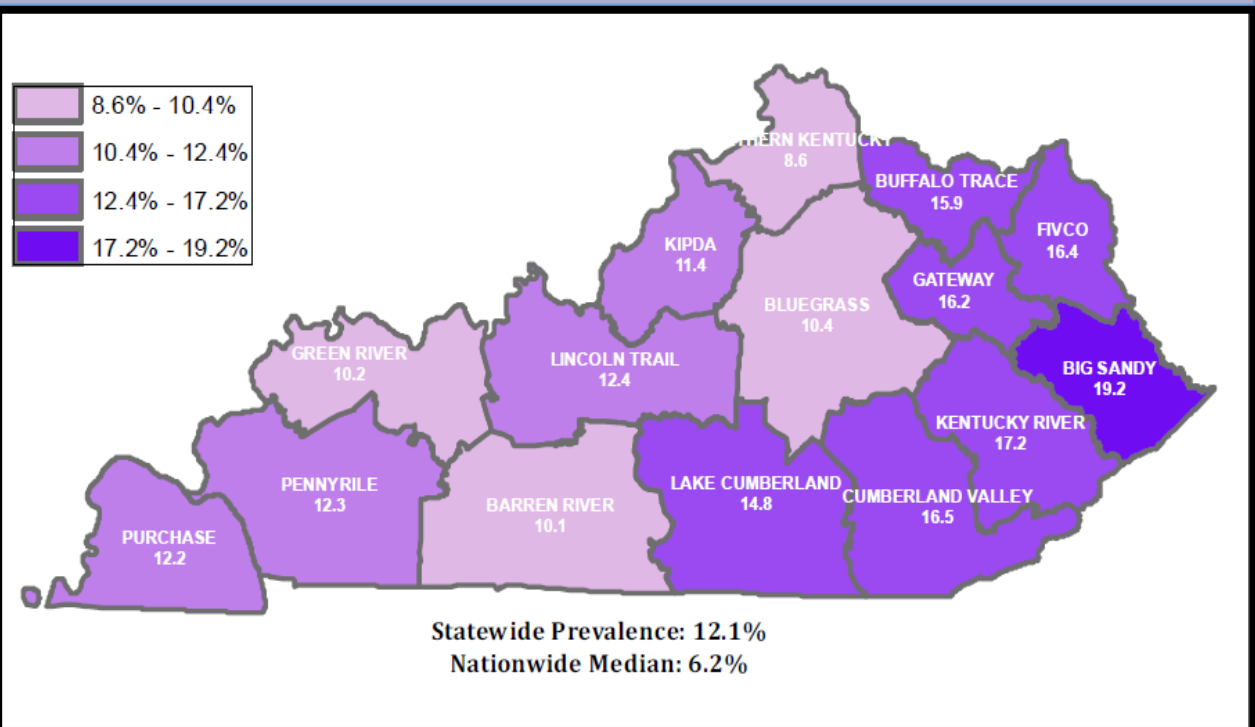


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have Current Asthma, by Area Development District, 2015



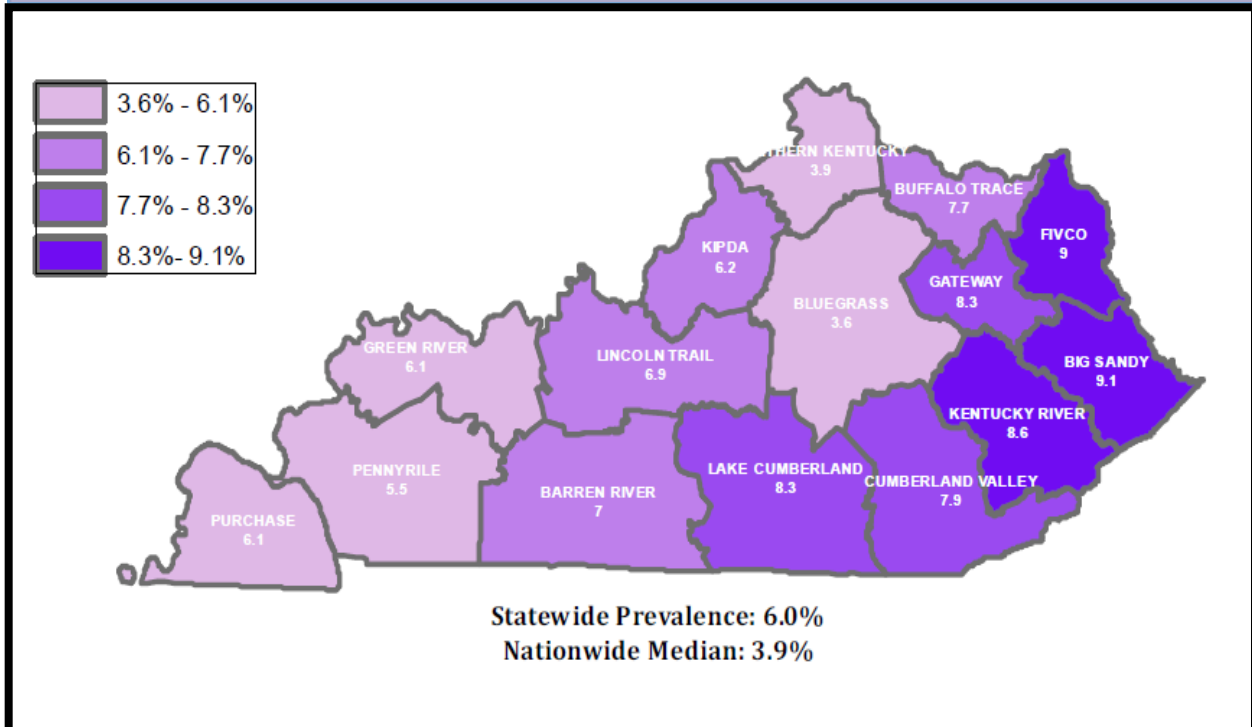
## Percent of Kentucky Adults who have COPD, By Area Development District, 2015



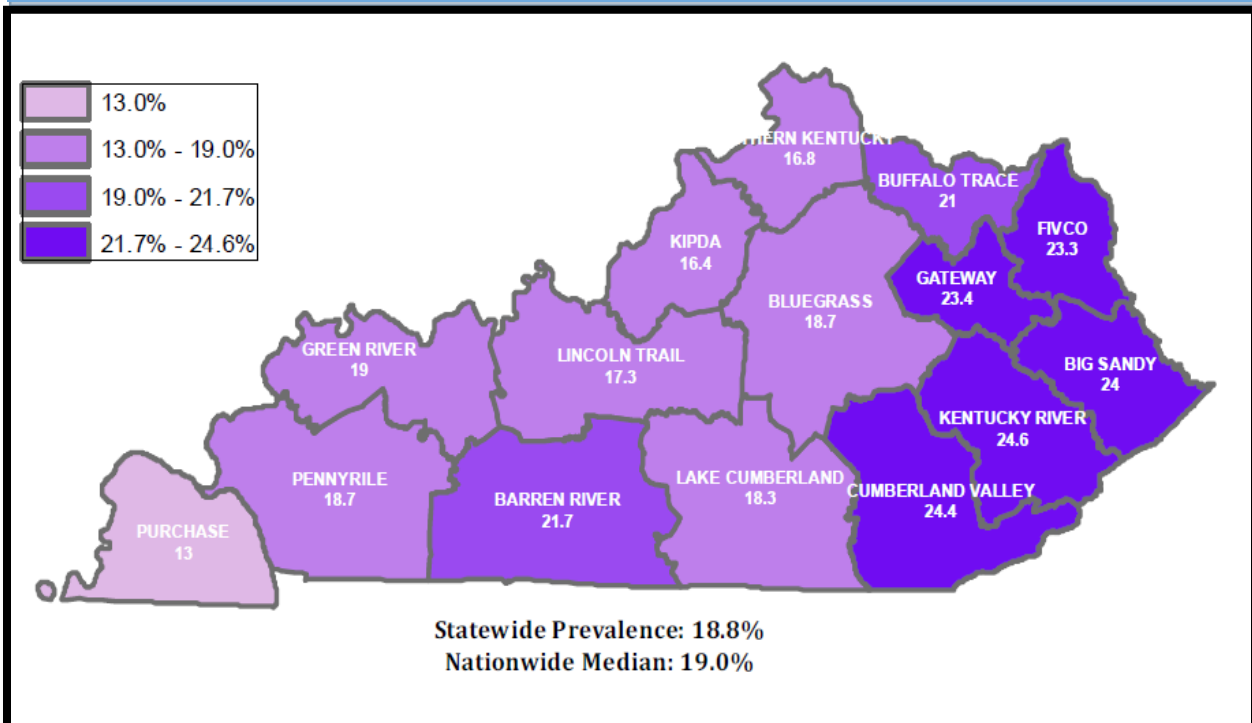
Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.



## Percent of Kentucky Adults who have Coronary Heart Disease, by Area Development District, 2015

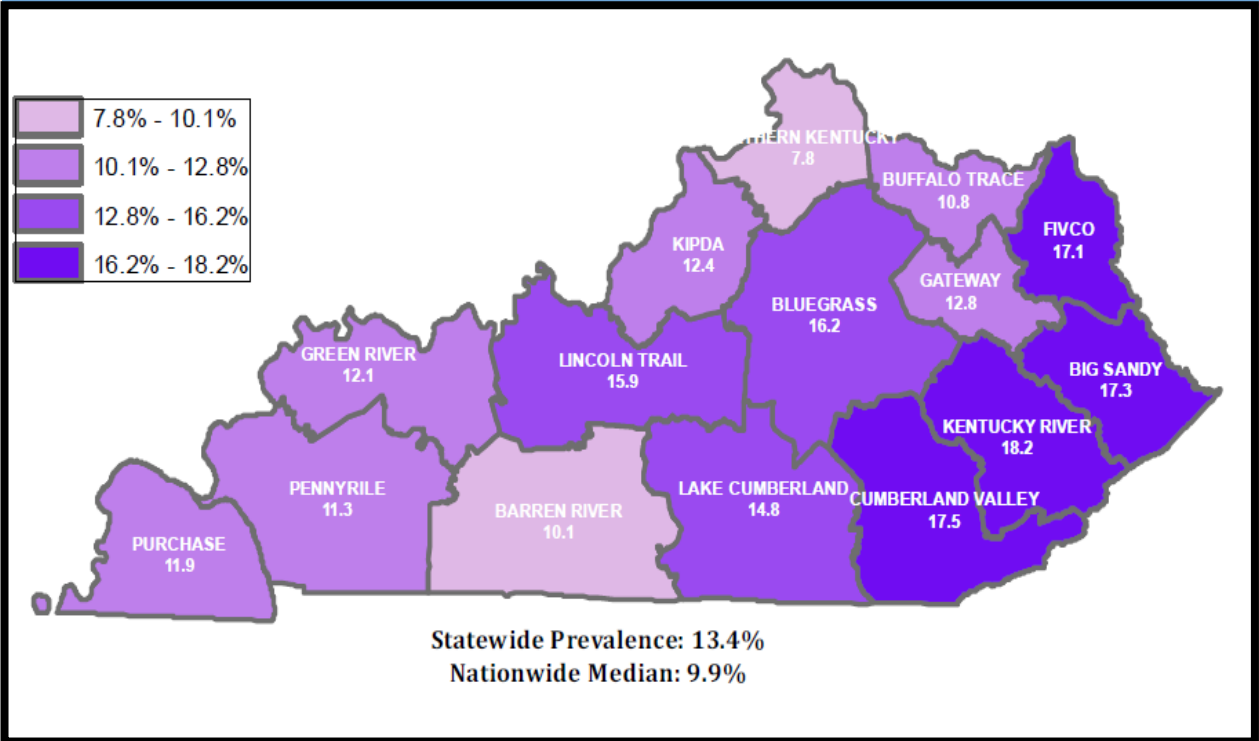


## Percent of Kentucky Adults who have a Depressive disorder, by Area Development District, 2015

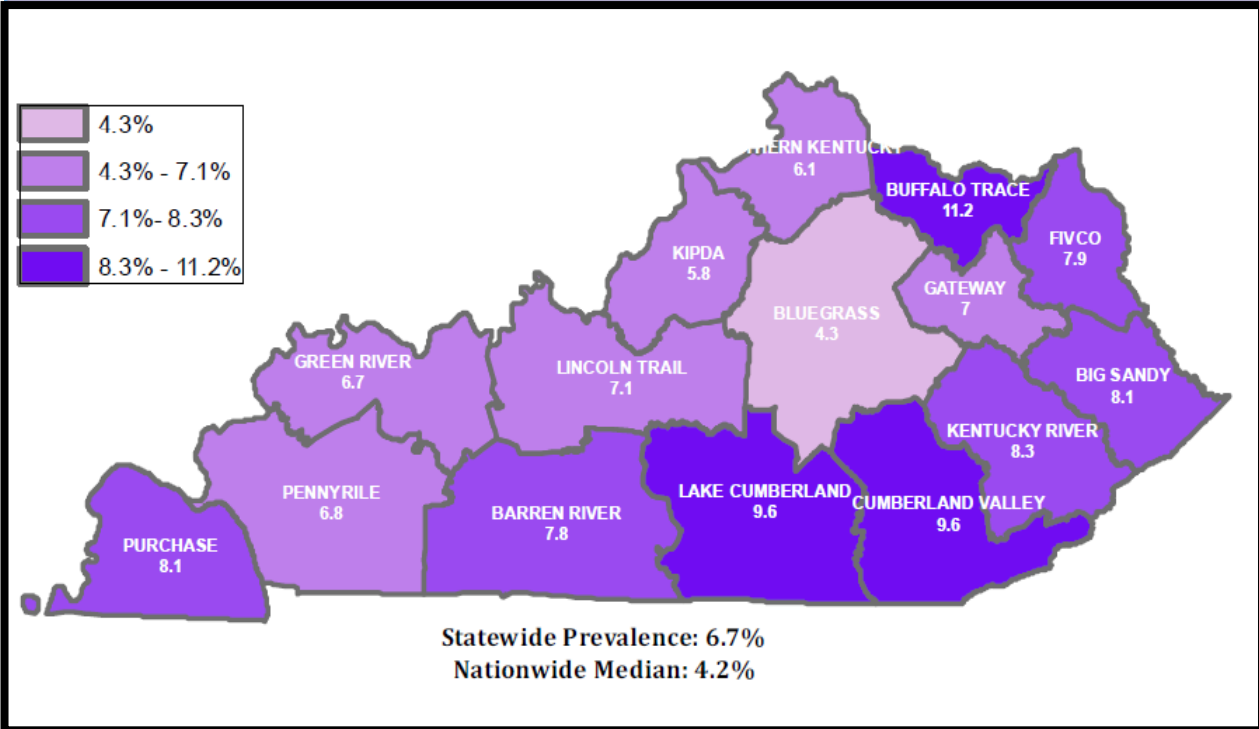


Due to BRFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have Diabetes, by Area Development District, 2015

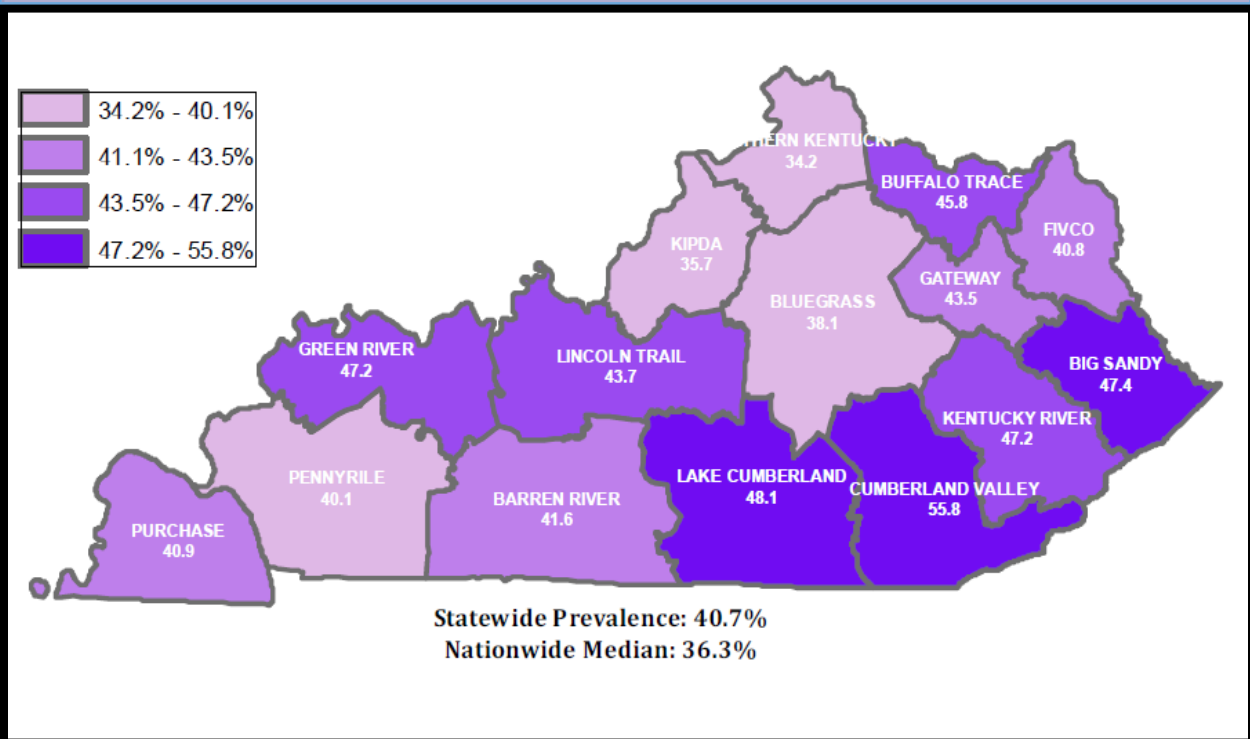


## Percent of Kentucky Adults who have ever had a Heart Attack, by Area Development District, 2015

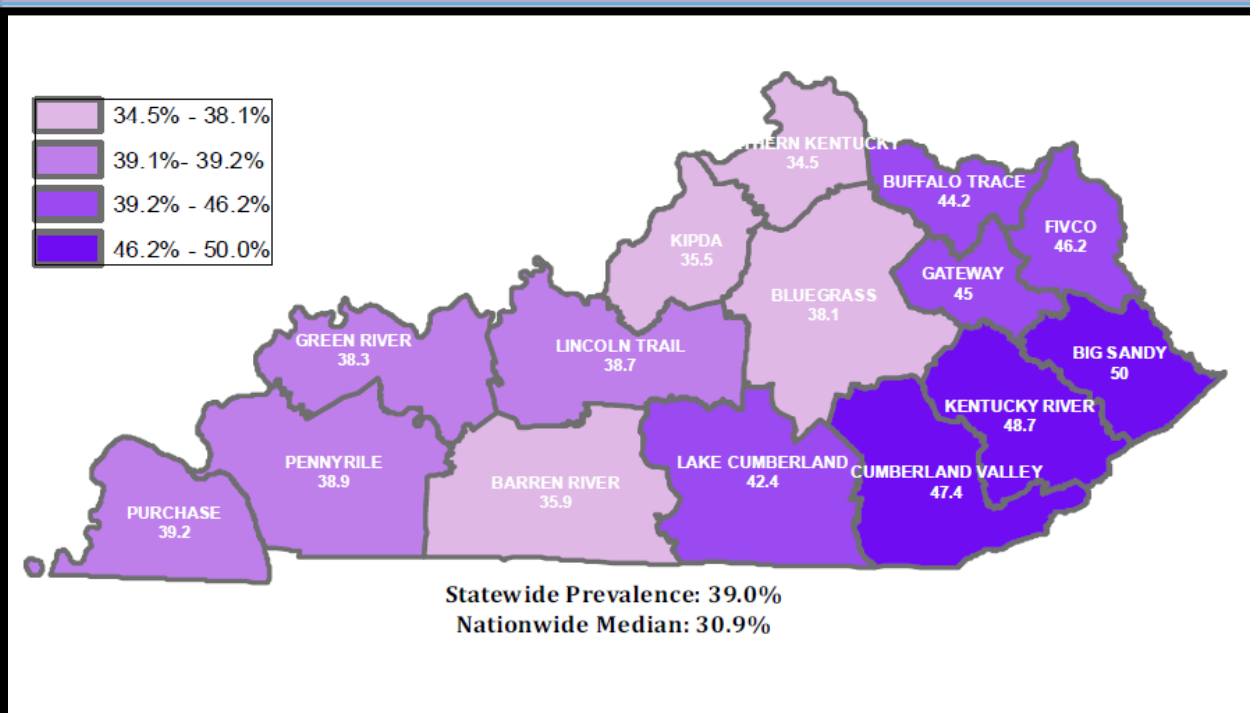


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have High Blood Cholesterol, by Area Development District, 2015

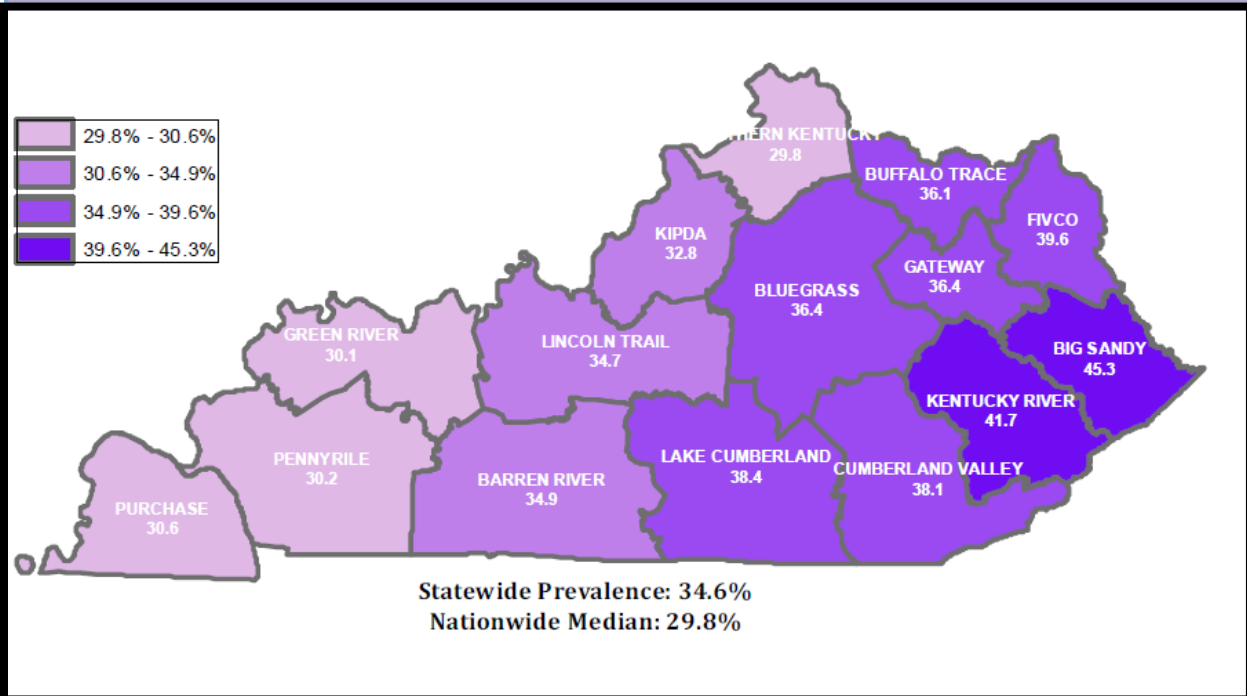


## Percent of Kentucky Adults who have High Blood Pressure, By Area Development District, 2015

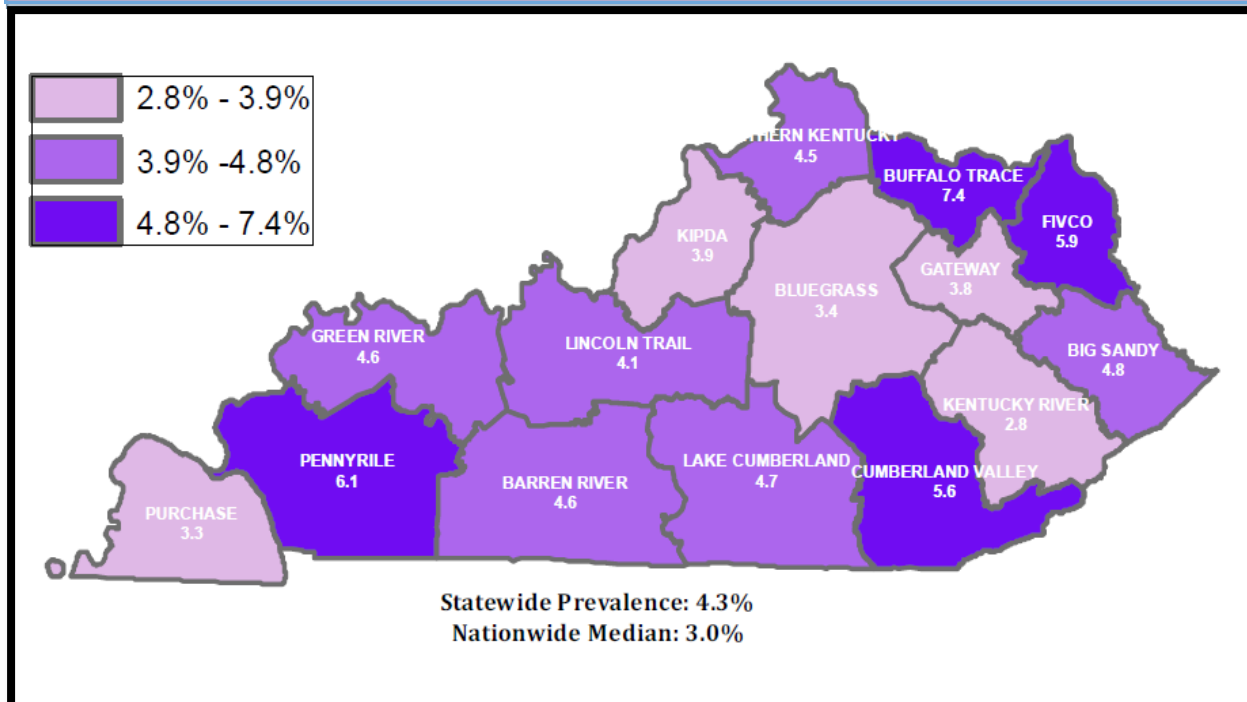


Due to BRFS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who are Obese (BMI $\geq$ 30), by Area Development District, 2015

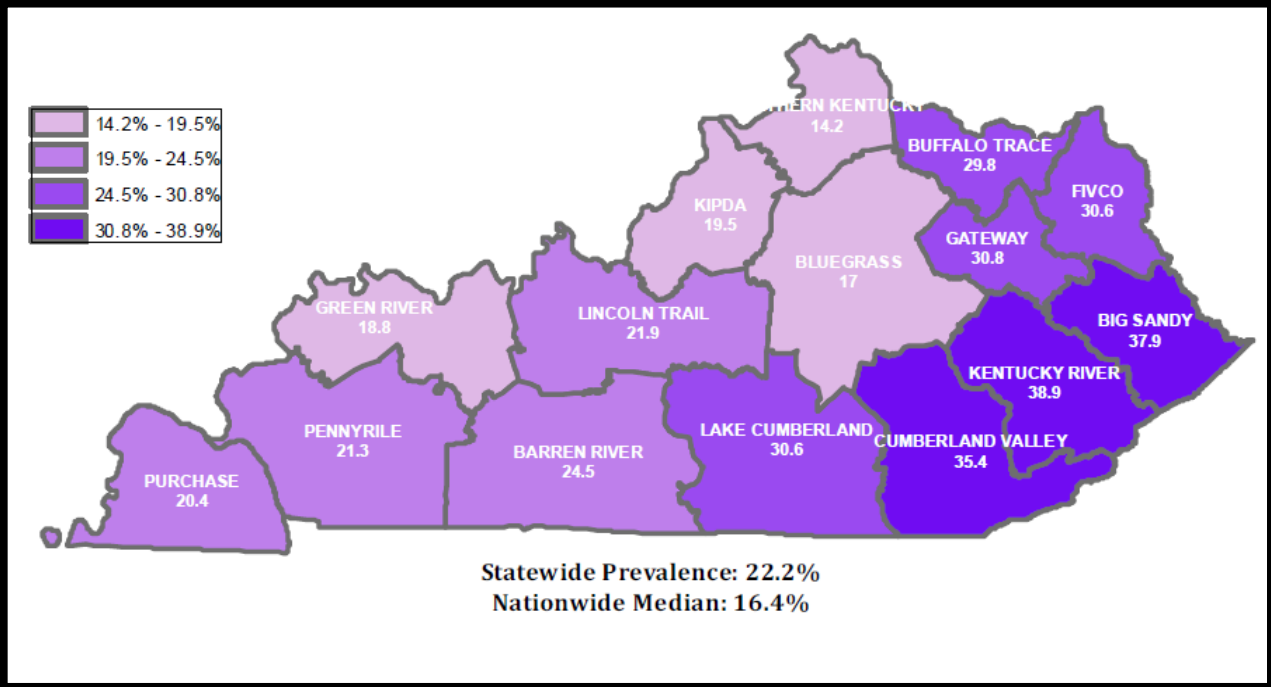


## Percent of Kentucky Adults who have ever had a Stroke, by Area Development District, 2015

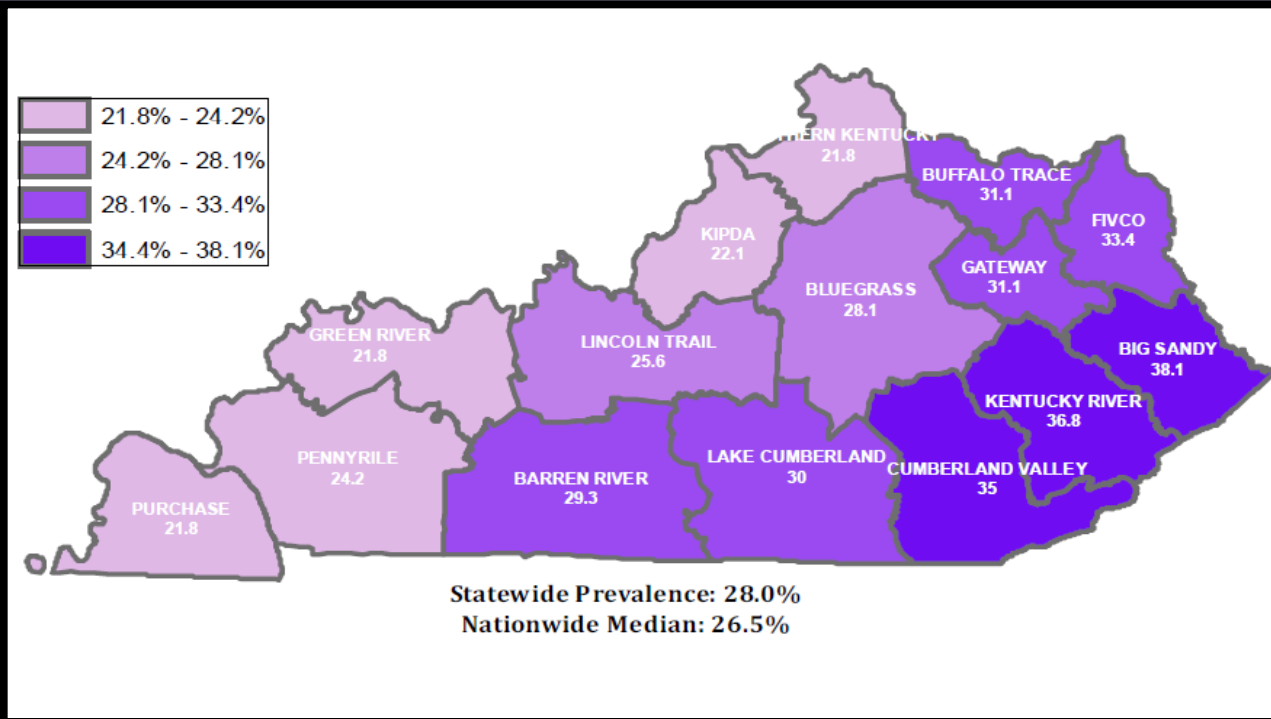


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults with fair or poor General Health, by Area Development District, 2015

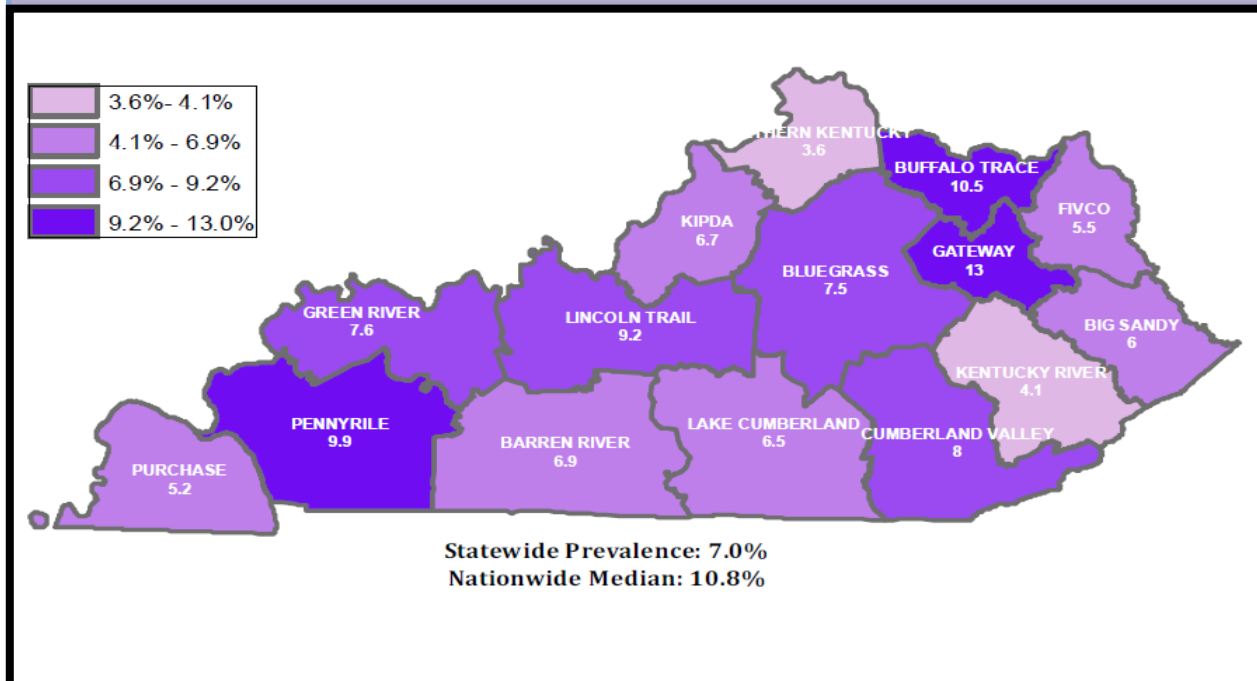


## Percent of Kentucky Adults with Disability, by Area Development District, 2015

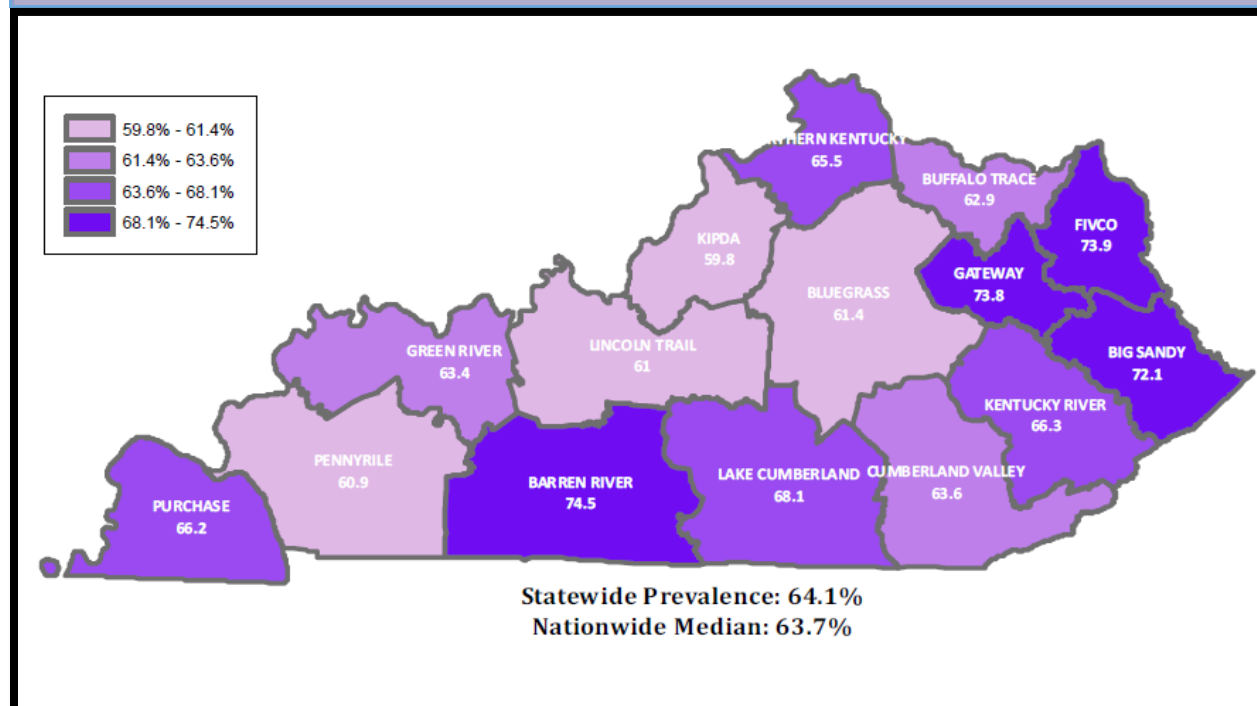


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults with No Health Care Coverage, by Area Development District, 2015

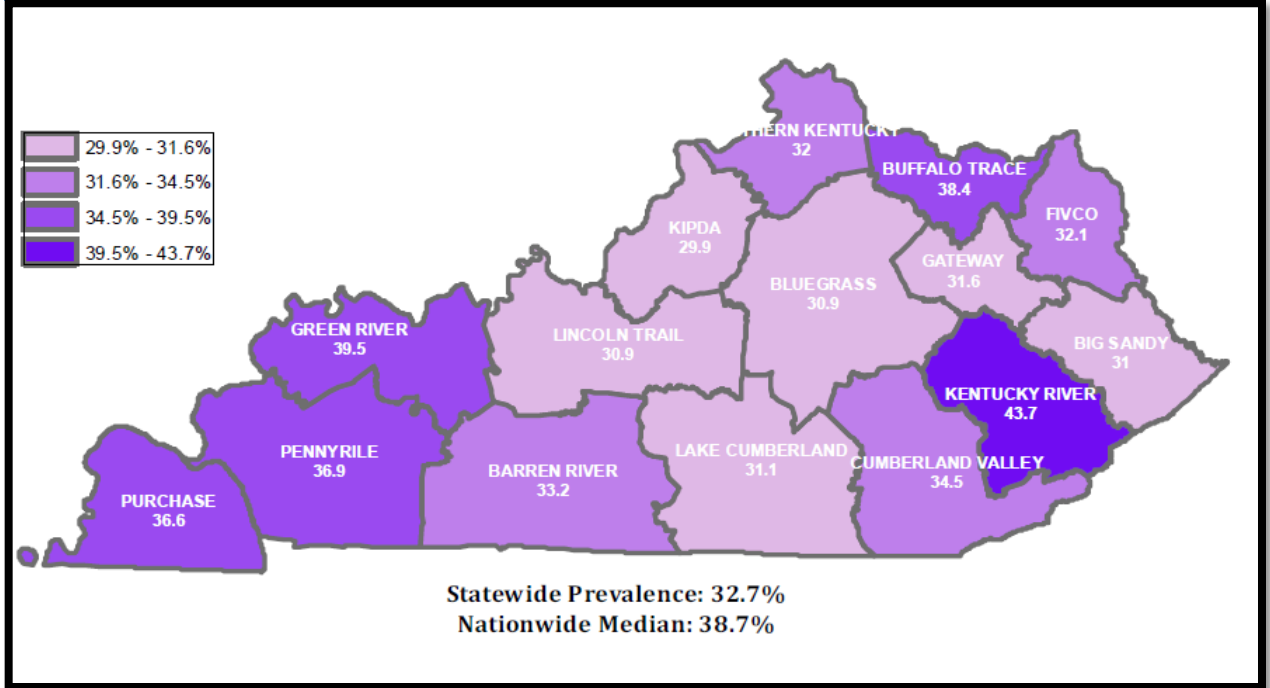


## Percent of Kentucky Adults who have never been tested for HIV, by Area Development District, 2015

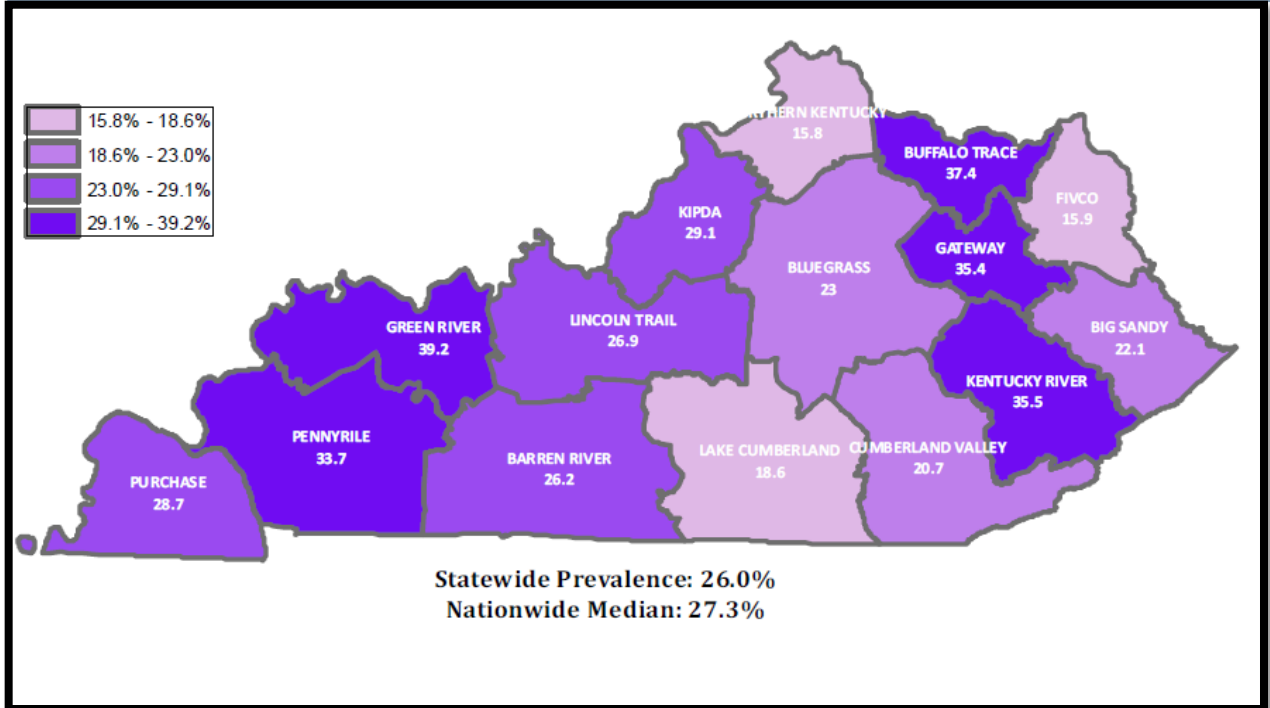


Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Area Development District, 2015



## Percent of Kentucky Men (aged 65+) who have never had a Pneumococcal Vaccination, by Area Development District, 2015



Due to BRFSS methodology changes in 2011, estimates from 2015 cannot be directly compared to estimates from years prior to 2011.

## References :

- 1- National Institute of Alcohol Abuse and Alcoholism. [NIAAA council approves definition of binge drinking](#) [PDF-1.62MB]. *NIAAA Newsletter* 2004; No. 3, p. 3.
- 2- U.S. Department of Health and Human Services. [The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General](#). Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014 [accessed 2016 Nov 14].
- 3- Michigan Department of Health and Human Services, Division of Vital Records & Health Statistics. Deaths and Crude Death Rates for the Ten Leading Causes of Death, Michigan 2013 and United States Residents, 2012. <http://www.mdch.state.mi.us/pha/osr/deaths/causrankenty.asp>. (May 2015).
- 4- Centers for Disease Control and Prevention. 2015. Arthritis: At-a-Glance 2014. <http://www.cdc.gov/chronicdisease/resources/publications/aag/arthritis.htm>. (May 2015).
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