



# Kentucky Behavioral Risk Factor Survey

## 2013 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.

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<b>Table of Contents</b>	<b>Page</b>
<a href="#"><u>Executive Summary</u></a>	iv
<a href="#"><u>Introduction</u></a>	v
<a href="#"><u>Health Behavior Risk Factors</u></a>	
<a href="#"><u>Alcohol Consumption</u></a>	<a href="#"><u>1</u></a>
<a href="#"><u>Physical Activity</u></a>	<a href="#"><u>2</u></a>
<a href="#"><u>Tobacco Use</u></a>	<a href="#"><u>3</u></a>
<a href="#"><u>Chronic Diseases</u></a>	
<a href="#"><u>Arthritis</u></a>	<a href="#"><u>4</u></a>
<a href="#"><u>Asthma</u></a>	<a href="#"><u>5</u></a>
<a href="#"><u>Coronary Heart Disease</u></a>	<a href="#"><u>6</u></a>
<a href="#"><u>Diabetes</u></a>	<a href="#"><u>7</u></a>
<a href="#"><u>Heart Attack</u></a>	<a href="#"><u>8</u></a>
<a href="#"><u>High Blood Cholesterol</u></a>	<a href="#"><u>9</u></a>
<a href="#"><u>High Blood Pressure</u></a>	<a href="#"><u>10</u></a>
<a href="#"><u>Obesity</u></a>	<a href="#"><u>11</u></a>
<a href="#"><u>Stroke</u></a>	<a href="#"><u>12</u></a>
<a href="#"><u>Health Status Indicators</u></a>	
<a href="#"><u>Disability</u></a>	<a href="#"><u>13</u></a>
<a href="#"><u>General Health</u></a>	<a href="#"><u>14</u></a>
<a href="#"><u>Health Care Access/Coverage</u></a>	<a href="#"><u>15</u></a>
<a href="#"><u>Clinical Preventive Practices</u></a>	
<a href="#"><u>HIV/AIDS Screening</u></a>	<a href="#"><u>16</u></a>
<a href="#"><u>Influenza Immunization</u></a>	<a href="#"><u>17</u></a>
<a href="#"><u>Pneumococcal Vaccination</u></a>	<a href="#"><u>18</u></a>
<a href="#"><u>Prevalence Estimates by Area Development District (ADD)</u></a>	<a href="#"><u>19</u></a>

## Executive Summary

The 2013 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 over 10,000 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 2013 survey include:

### **Alcohol Consumption:**

In 2013, 13.4 % of Kentucky adults reported binge drinking in the past month. This estimate was lower than the national estimate of 16.8%. The prevalence of binge drinking was significantly higher among males (18.5% ) compared with females (8.6%).

### **Arthritis**

An estimated 31.9 % of Kentucky adults reported ever been told by a health professional that they have arthritis. This estimate is higher than the national estimate of 25.3%. The prevalence of arthritis was significantly higher among white (32.9%) compared to black adults (26.0%).

### **Asthma:**

The prevalence of current asthma among adults in Kentucky (9.5%) was slightly higher than the nation (9.0%). The prevalence of current asthma in Kentucky residents was significantly higher among women compared to men (12.1% vs. 6.7%).

### **Cardiovascular Diseases:**

An estimated 6.1% of Kentucky adults had ever been told by a health professional that they had coronary heart disease, 6.0% had ever been told they had heart attack, and 4.2% had ever been told they had a stroke. The prevalence of all three diseases increased with age and decreased with increasing household income.

### **Diabetes:**

In 2013, an estimated 10.6 % of Kentucky adults reported ever being told by a health professional that they had diabetes. This estimate was comparable to the U.S median prevalence (9.7%). Prevalence of diabetes was similar by gender but it was statistically higher among adults aged 65 years or older (23.2%) compared to other age groups.

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

About 18% of Kentucky adults reported having no health care coverage in 2013. The prevalence of no health care coverage was higher than U.S median prevalence (16.8%). In 2013, black adults (24.3%) reported a significantly higher prevalence of no health care coverage than white adults (16.9%).

### **Obesity:**

In 2013, about 33.2% of Kentucky adults were classified as obese based on Body Mass Index (BMI); in the same year, 29.4% of adults in the United States were classified as obese. The prevalence of obesity decreased as education level increased. The prevalence of obesity did not differ significantly by gender.

### **Physical Activity:**

About 30.2% of Kentucky adults did not participate in any leisure-time physical activity or exercise; this is higher compared to 25.3% in the United States. The prevalence of no leisure-time physical activity increased as age increased. The prevalence of no leisure-time physical activity did not significantly differ by race nor by gender.

### **Tobacco Use:**

In 2013, an estimated 26.5% of Kentucky adults reported that they currently smoke cigarettes; this estimate was higher compared to 19% in the United States. The prevalence of cigarette smoking increased as education level decreased; 40.0% of adults with less than high school education are current smokers, compared with 11.3% of those with a college degree.

## 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, "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 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.

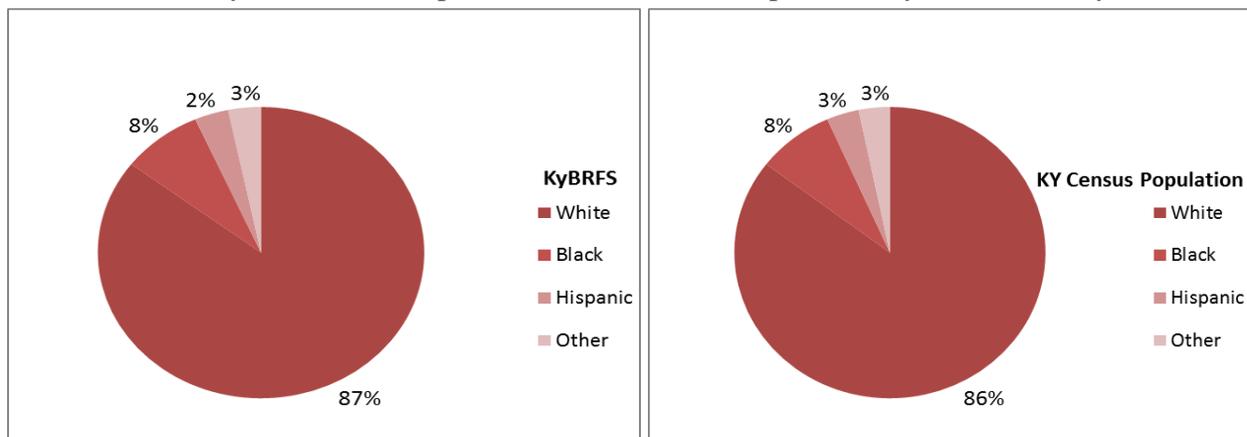
# Introduction (continued)

## Demographic Characteristics: Race/Ethnicity and Gender

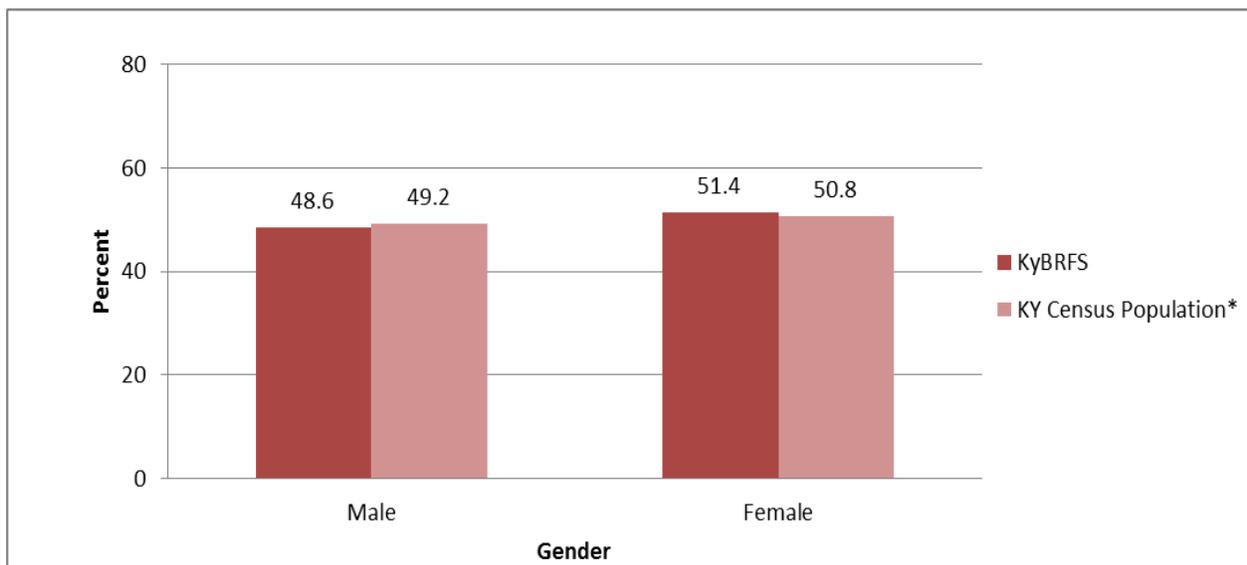
A total of 10,930 Kentucky residents (18 years or older) participated in the 2013 Behavioral Risk Factor Survey. The initial sample of 10,930 residents was used to “weight” these survey data in order to obtain representative estimates for the state of Kentucky.

The distribution of respondents by race and by gender on the 2013 KyBRFS was similar to the 2013 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 — 2013**



**Distribution of KyBRFS Adult Population vs. KY Census Population, by Gender — 2013**



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

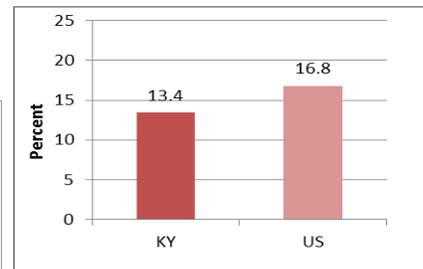
KY Census Population estimates obtained from Kentucky State Data Center website: <http://ksdc.louisville.edu/>.

## 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.

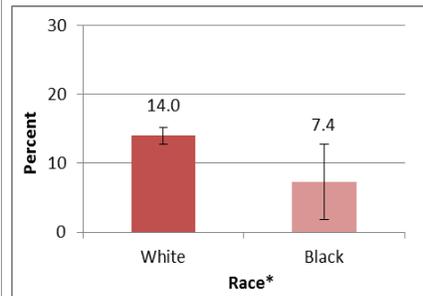
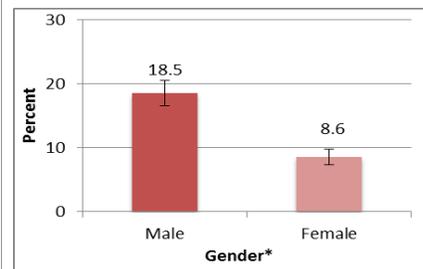
**Percent of Adults Classified as Binge Drinkers: Kentucky vs. Nationwide (States and DC) — 2013**



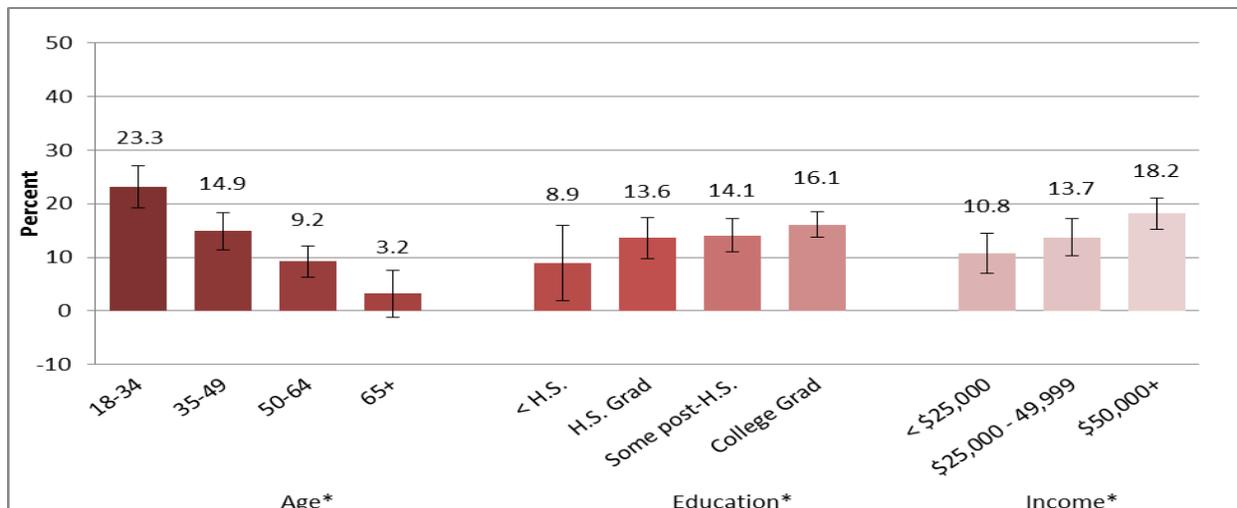
### Who is at risk in Kentucky?

- In 2013, 13.4% of Kentucky adults reported binge drinking. The estimate for Kentucky was lower compared to 16.8% in the United States.
- Males (18.5%) reported a significantly higher prevalence of binge drinking compared with females (8.6%).
- The prevalence of binge drinking was significantly higher among white (14.0%) than black (7.4%).
- Binge drinking among 18 to 34 year old adults (23.3%) was significantly higher than other age groups.
- The prevalence of binge drinking was significantly higher among adults with a college education compared with those with less than high school education (16.1% vs 8.9%).
- Prevalence of binge drinking was significantly higher among adults with household income of \$50,000 or more (18.2%) compared with those with household income less than \$25,000.

**Percent of Kentucky Adults Classified as Binge Drinkers, by Gender\*, and by Race\* — 2013**



**Percent of Kentucky Adults Classified as Binge Drinkers, by Age\*, Education\* and Income\* — 20123**



\* 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 2013 cannot be directly compared to estimates from years prior to 2011.

# PHYSICAL ACTIVITY

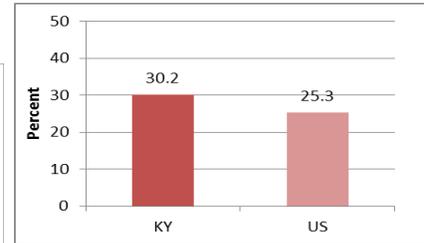
**Question:** During the past 30 days, other than your regular job, did you participate in any physical activity or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

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

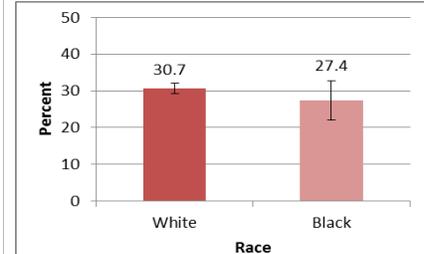
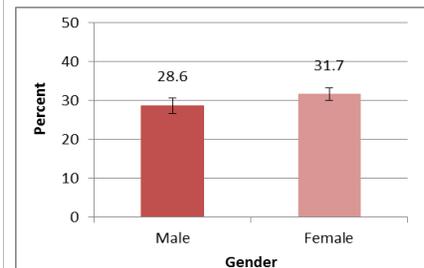
## Who is at risk in Kentucky?

- In 2013, 30.2% of Kentuckians reported not participating in any physical activity during the past month. The prevalence of not participating in any physical activity among Kentucky adults was higher than the U.S median prevalence (25.3%).
- Prevalence of not participating in any physical activity during the past month did not significantly differ by gender.
- Prevalence of not participating in any physical activity during the past month was higher among white adults than black adults (30.7% vs 27.4%).
- Lack of physical activity significantly increased with age, with the highest proportion being reported among adults aged 65 years and older (40.2%).
- Adults with less than a high school education (43.2%) were significantly more likely to report lack of physical activity compared to adults with higher levels of educational attainment.
- The prevalence of lack of physical activity was significantly higher among adults with a household income less than \$25,000 compared to those with a household income \$50,000 or more.

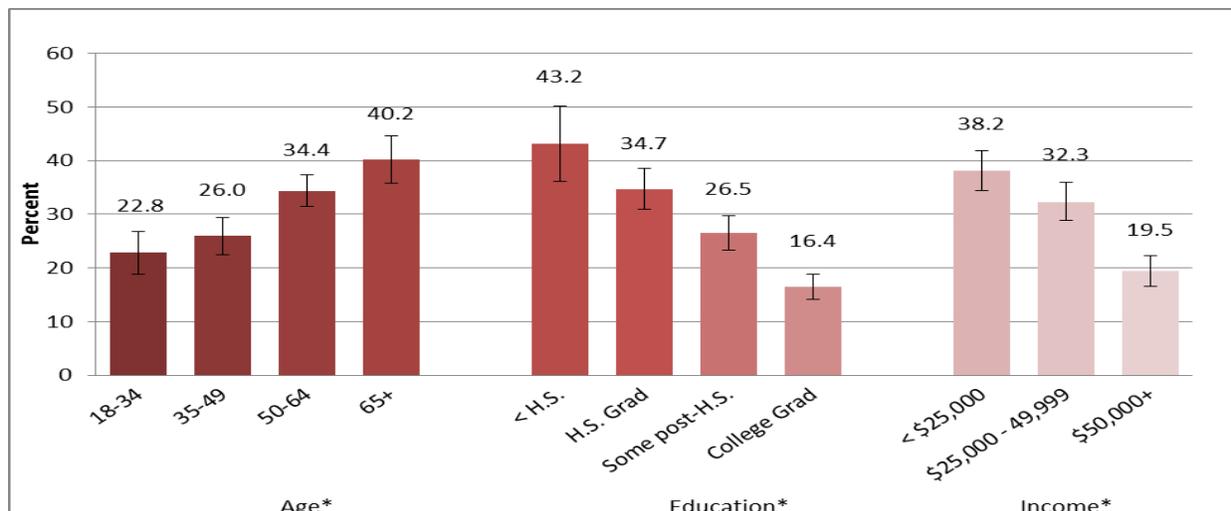
**Percent of Adults who did not Participate in any Physical Activity in the Past 30 days: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days by Age\*, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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## TOBACCO USE

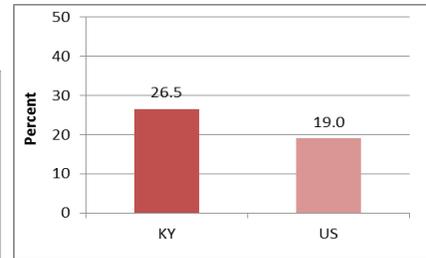
**Question:** If you have smoked at least 100 cigarettes in your entire life, are you now smoking everyday, some days or not at all?

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

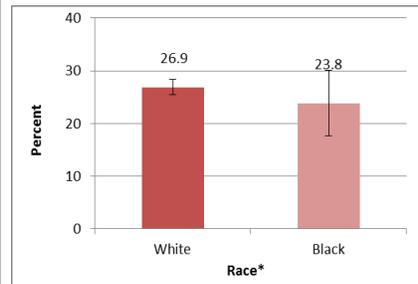
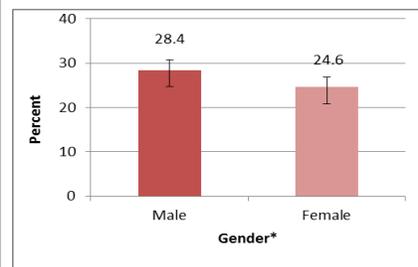
### Who is at risk in Kentucky?

- In 2013, about 26.5% of Kentucky adults reported that they currently smoke cigarettes everyday or some days; this was a higher estimate compared to 19% in the United States.
- Males (28.4%) reported a significantly higher prevalence of cigarette smoking than females (24.6%).
- The prevalence of cigarette smoking was significantly higher among white adults compared to black adults (26.9% vs 23.8%).
- The prevalence of cigarette smoking was significantly lower among adults 65 and older (11.8%) compared with other age groups.
- The prevalence of cigarette smoking significantly decreased as education level increased; 40.0% of adults with less than a high school education reported they currently smoke, compared with 11.3% of those with a college degree.
- Smoking prevalence was significantly higher among adults with annual household income of less than \$25,000 (37.2%) compared to adults with higher annual household income.

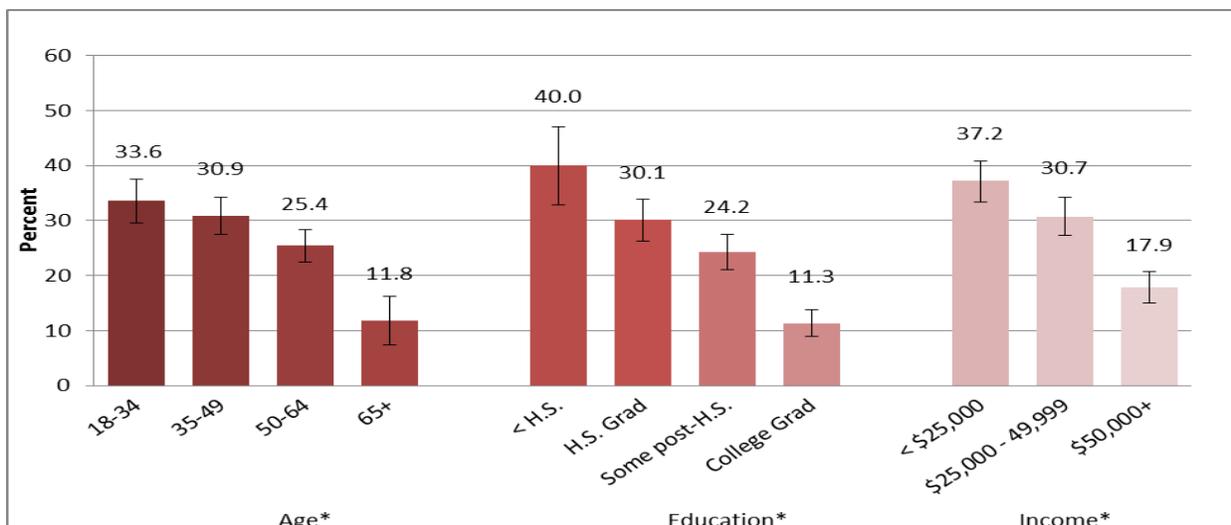
**Percent of Adults who are Current Smokers: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who are Current Smokers, by Gender\*, and by Race\* — 2013**



**Percent of Kentucky Adults who are Current Smokers, by Age\*, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# ARTHRITIS

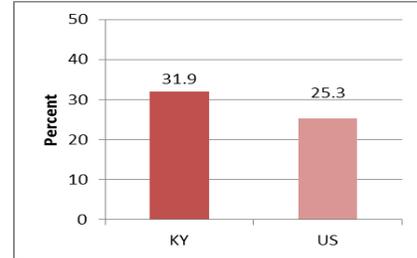
**Question:** Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?

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

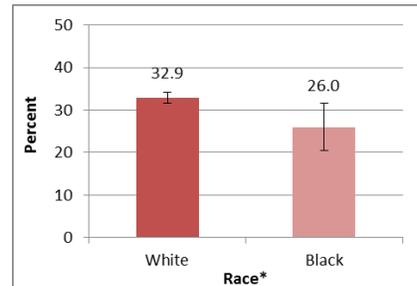
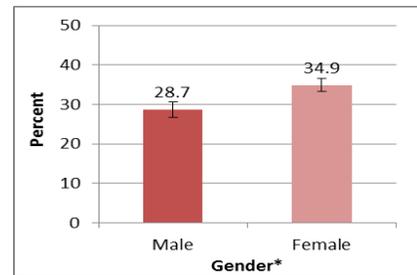
## Who is at risk in Kentucky?

- An estimated 31.9% of Kentucky adults have been told by a health professional that they have arthritis; this was a higher estimate compared to 25.3% in the United States.
- Prevalence of arthritis was significantly higher among women (34.9%) than men (28.7%).
- Prevalence of arthritis was significantly higher among white adults (32.9) compared with black adults (26.0%).
- As expected, the proportion of adults with arthritis increased significantly with age; the highest prevalence was among adults aged 65 years or older (57.2%).
- An estimated 45.3% of adults with less than a high school education reported having arthritis; prevalence of arthritis decreased significantly as education level increased.
- 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 (43.4% vs. 23.2%).

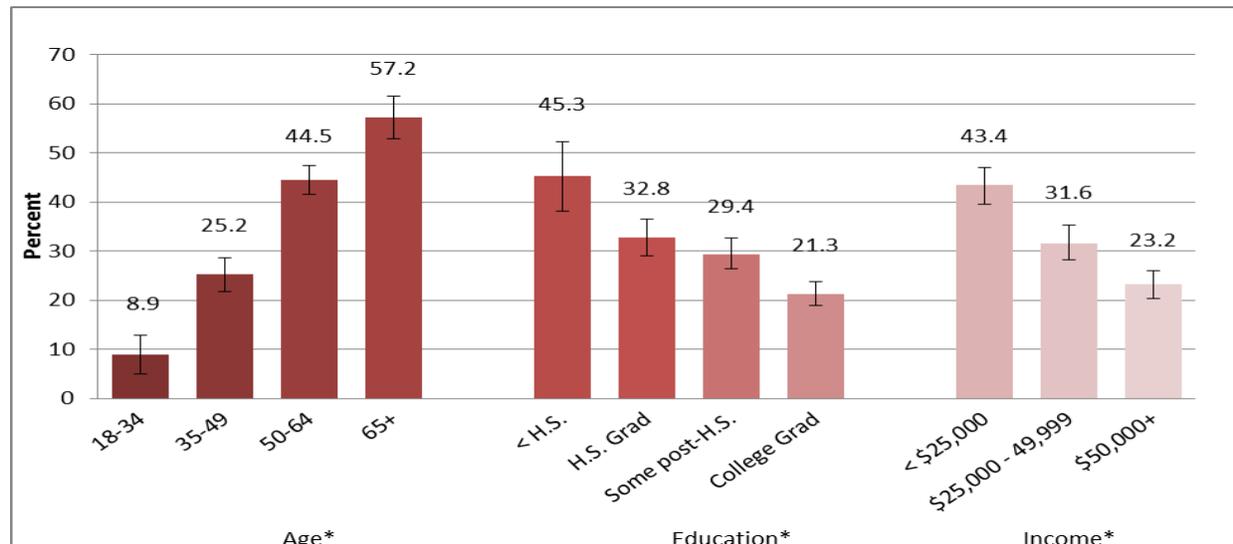
**Percent of Adults who have Arthritis: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who have Arthritis, by Gender\*, and by Race\* — 2013**



**Percent of Kentucky Adults who have Arthritis, by Age\*, Education\*, and Income\* — 2013**



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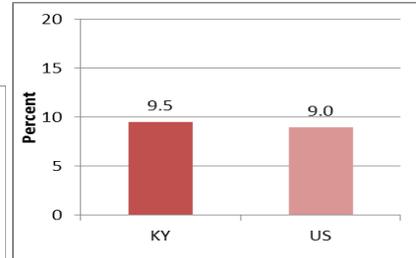
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# 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.)

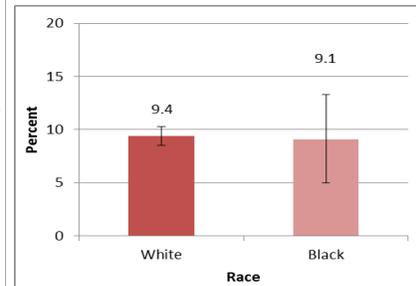
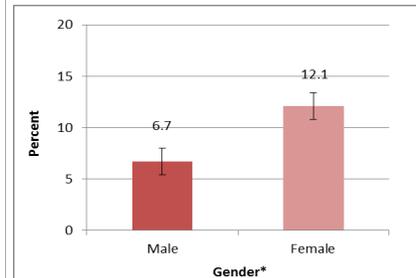
**Percent of Adults who have Current Asthma: Kentucky vs. Nationwide (States and DC) — 2013**



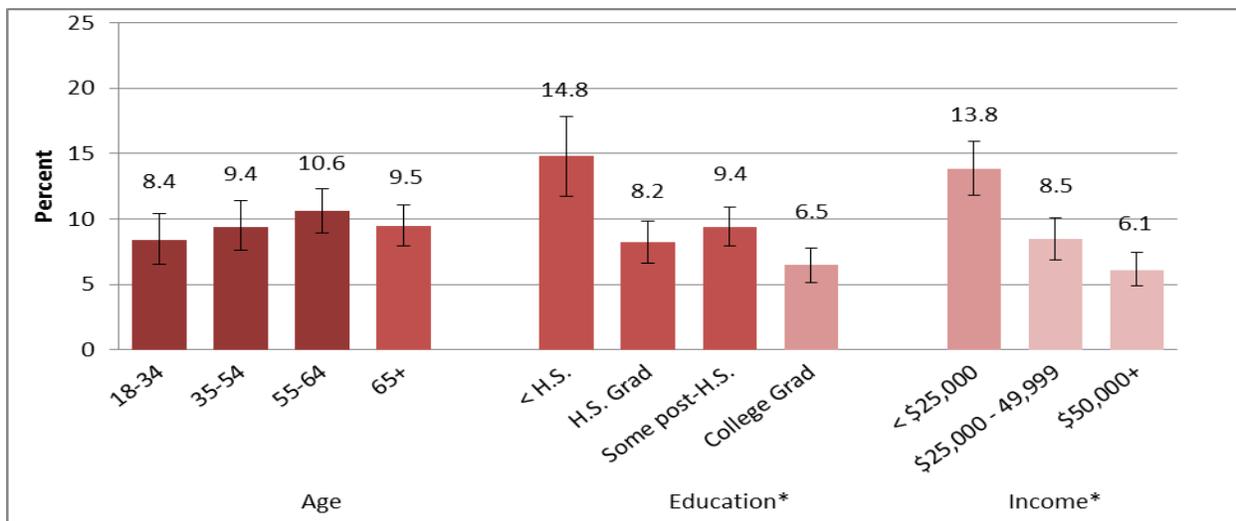
## Who is at risk in Kentucky?

- In 2013, an estimated 9.5% of Kentucky adults reported that they currently have asthma as compared 9.0% in the nation.
- Women (12.1%) were significantly more likely to report that they currently have asthma than men (6.7%).
- Current asthma prevalence did not significantly differ by race.
- Current asthma prevalence did not significantly differ across age groups.
- When compared by education level, current asthma prevalence was significantly higher among adults with less than a high school education as compared to those with a college education (14.8% vs. 6.5%).
- Prevalence of current asthma significantly decreased as household income increased; 13.8% of adults with household income of less than \$25,000 a year reported that they currently have asthma compared with 6.1% of those with household income of \$50,000 or more.

**Percent of Kentucky Adults who have Current Asthma, by Gender\*, and by Race — 2013**



**Percent of Kentucky Adults who have Current Asthma, by Age, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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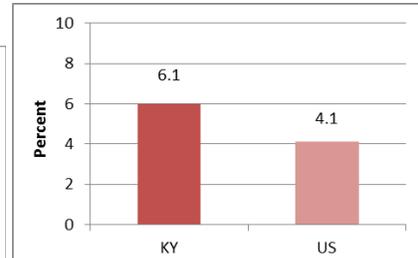
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# 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.

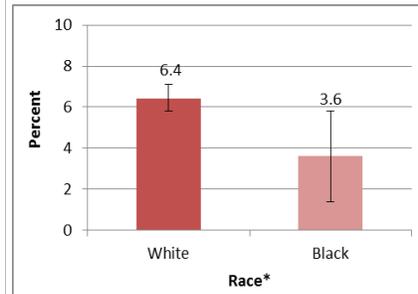
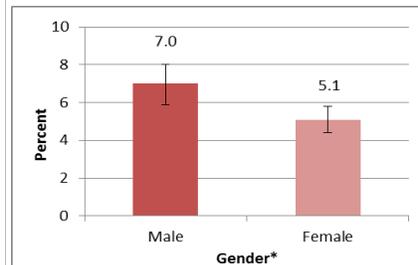
**Percent of Adults who have Coronary Heart Disease: Kentucky vs. Nationwide (States and DC) — 2013**



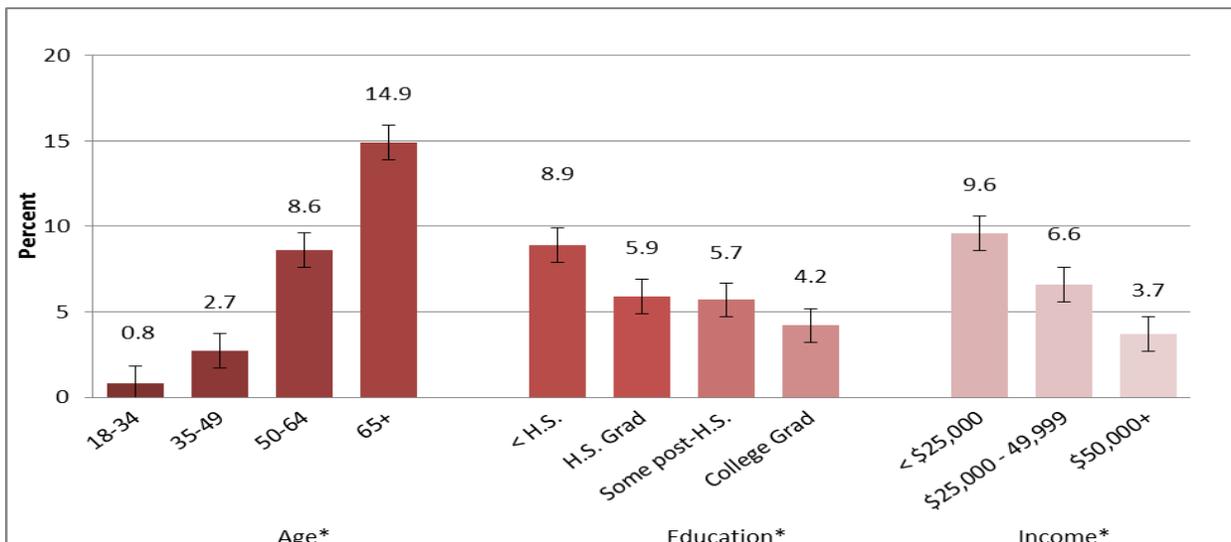
## Who is at risk in Kentucky?

- In 2013, an estimated 6.1% of adults in Kentucky have been told by a health professional that they have coronary heart disease or angina; this was a higher estimate compared to the U.S median of 4.1%.
- Prevalence of coronary heart disease was significantly higher among men (7.0%) than women (5.1%) .
- Prevalence of coronary heart disease was significantly higher among white adults (6.4%) compared to black adults (3.6%) .
- As would be expected, prevalence of coronary heart disease was significantly higher among adults aged 65+ years compared to other age groups.
- Adults with less than a high school education reported a significantly higher prevalence of coronary heart disease compared to those with a college degree (8.9% vs. 4.2%)
- Prevalence of coronary heart disease was significantly higher among adults with an annual household income of less than \$25,000 compared to adults with an annual household income of \$50,000.

**Percent of Kentucky Adults who have Coronary Heart Disease by Gender\*, and by Race\* — 2013**



**Percent of Kentucky Adults who have Coronary Heart Disease, by Age\*, Education\*, and Income\* — 2013**



\* 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 2013 cannot be directly compared to estimates from years prior to 2011.

# DIABETES

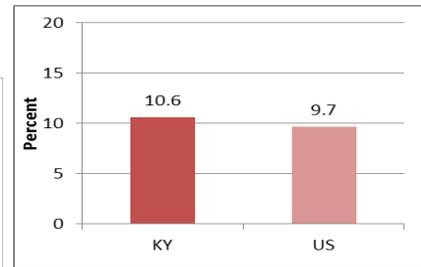
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you have diabetes?

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

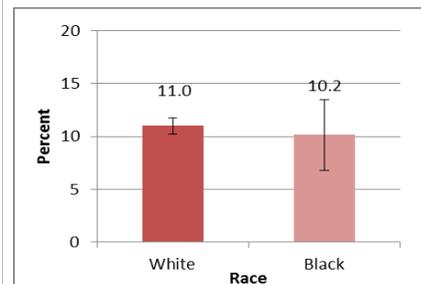
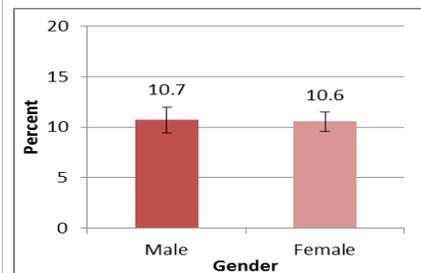
## Who is at risk in Kentucky?

- In 2013, 10.6% of Kentucky adults reported that they have been told by a doctor that they have diabetes compared to 9.7% in the United States.
- Diabetes prevalence was slightly higher among men (10.7%) than women (10.6%).
- Diabetes prevalence did not significantly differ by race.
- Diabetes prevalence increased significantly with age; adults 65 years or older had the highest prevalence of diabetes (23.2%).
- Diabetes prevalence was significantly higher among adults with less than a high school education (13.8%) compared to adults with a college degree (7.4%).
- Adults with an annual household income of less than \$25,000 had a significantly higher prevalence of diabetes compared to adults with household income of \$50,000 or more a year (14.5% vs. 6.8%).

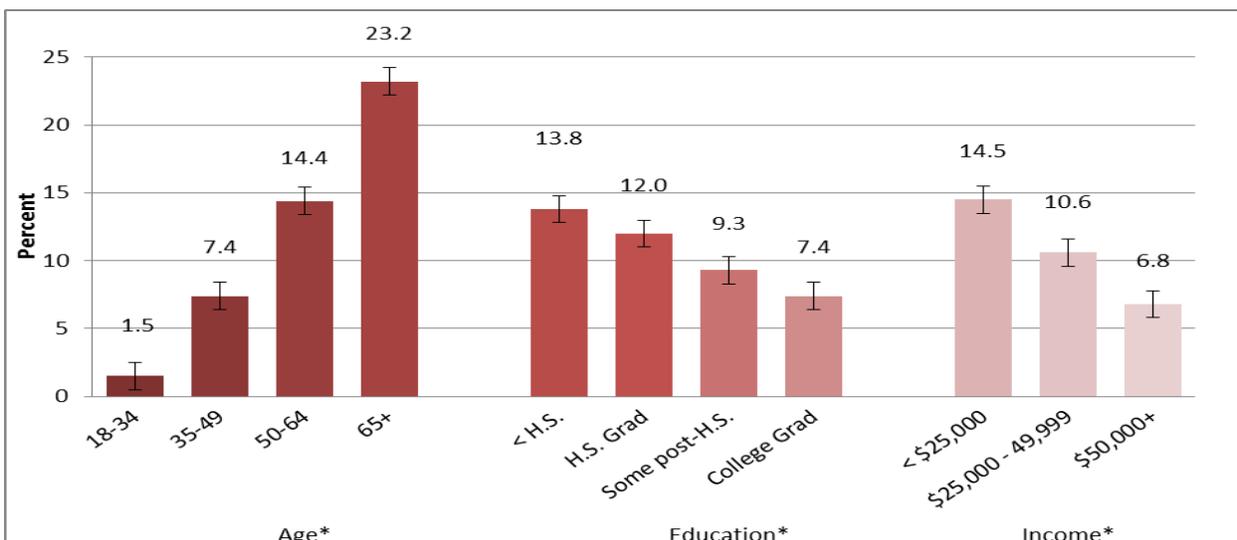
**Percent of Adults who have Diabetes: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who have Diabetes by Gender, and by Race — 2013**



**Percent of Kentucky Adults who have Diabetes, by Age\*, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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

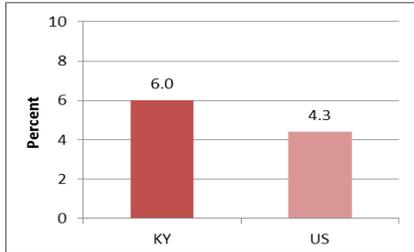
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# 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.

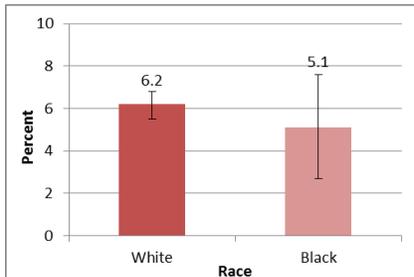
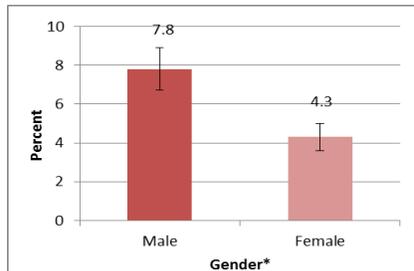
**Percent of Adults who have ever been told that they had a Heart Attack: Kentucky vs. Nationwide (States and DC) — 2013**



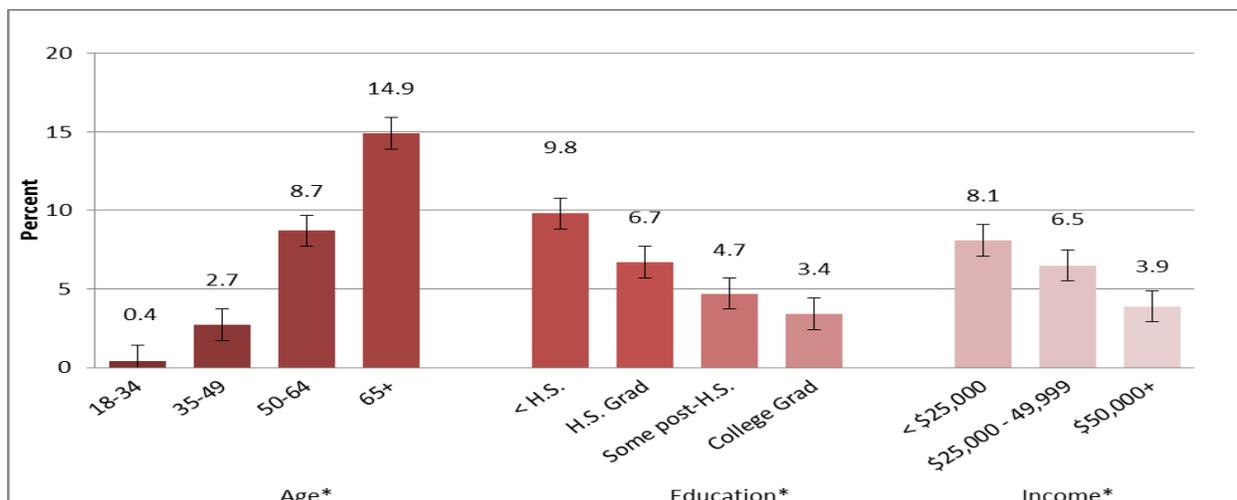
## Who is at risk in Kentucky?

- An estimated 6% of adults in Kentucky have been told by a health professional that they had a heart attack; this was a higher estimate compared to the U.S median of 4.3%.
- Men (7.8%) reported a significantly higher prevalence of heart attack than women (4.3%).
- Prevalence of heart attack did not differ significantly by race.
- As expected, prevalence of heart attack increased significantly with age; the highest prevalence was among adults 65 years or older (14.9%).
- Heart attack prevalence was significantly higher among adults with less than a high school education (9.8%) compared to adults with other levels of educational attainment.
- Heart attack prevalence 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 (8.1% vs. 3.9%).

**Percent of Kentucky Adults who have ever been told they had a Heart Attack, by Gender\*, and by Race — 2013**



**Percent of Kentucky Adults who have ever been told that they had a Heart Attack , by Age\*, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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

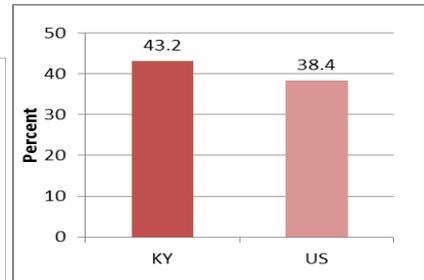
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# HIGH BLOOD CHOLESTEROL

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

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

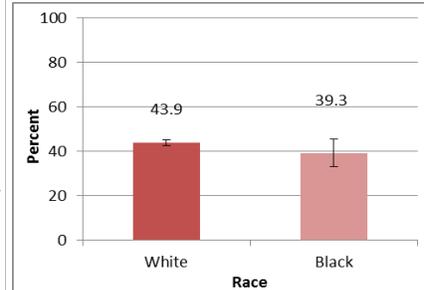
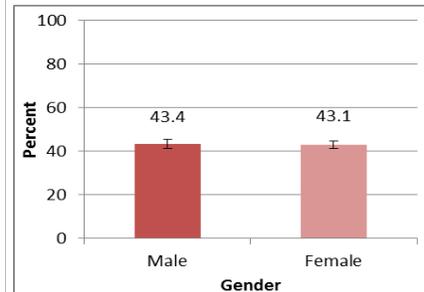
**Percent of Adults who have High Blood Cholesterol: Kentucky vs. Nationwide (States and DC) — 2013**



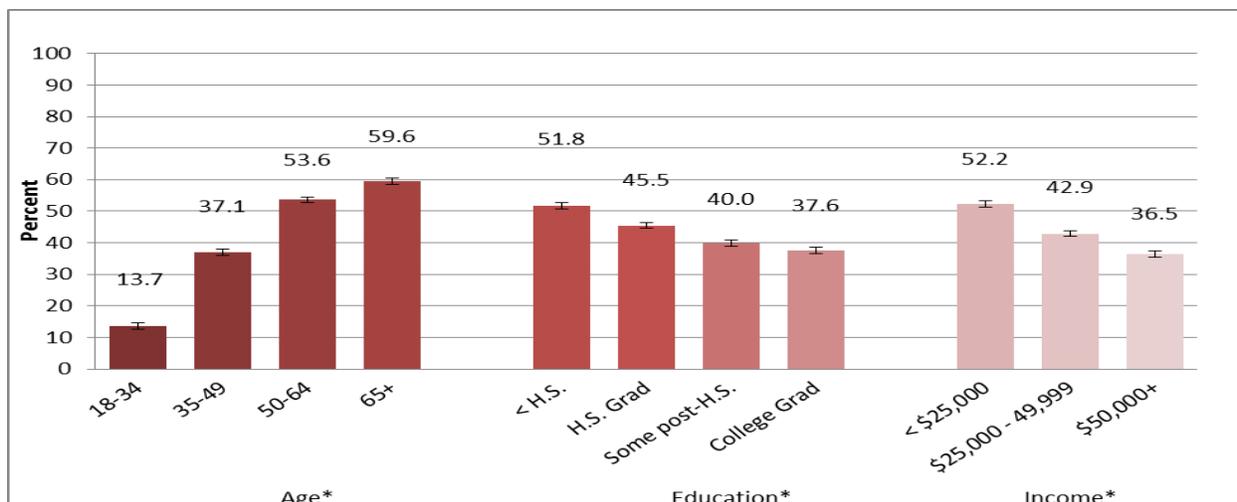
## Who is at risk in Kentucky?

- In 2013, there were 43.2% of Kentucky adults who had been told by a health professional that they have high blood cholesterol; this estimate was higher compared to 38.4% in the nation.
- Prevalence of high blood cholesterol was slightly higher among men (43.4%) than women (43.1%).
- Prevalence of high blood cholesterol did not differ significantly by race.
- Prevalence of adults with high blood cholesterol increased significantly with age; the highest prevalence was among adults aged 65 years or older (59.6%).
- Prevalence of high blood cholesterol significantly decreased as education level increased. Around 51.8% of adults with less than high school education reported high blood cholesterol compared with 37.6% of college graduates.
- Prevalence of high blood cholesterol significantly decreased as annual household income increased. Adults with annual household income under \$25,000 reported a higher prevalence of high blood cholesterol than adults with annual household income of \$50,000 or more (52.2% vs. 36.5%).

**Percent of Kentucky Adults who have High Blood Cholesterol, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who have High Blood Cholesterol, by Age\*, Education\*, and Income\* — 2013**



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

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# HIGH BLOOD PRESSURE

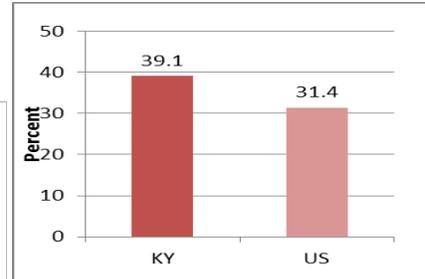
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?

**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

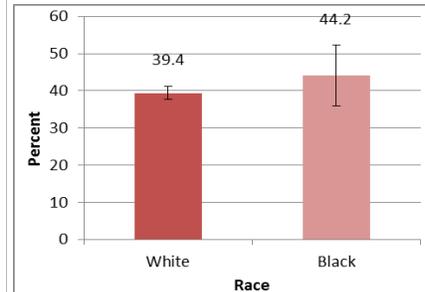
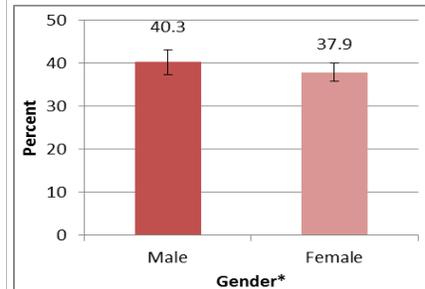
## Who is at risk in Kentucky?

- In 2013, 39.1% of Kentucky adults had been told by a health professional that they have high blood pressure; this estimate was higher compared to 31.4% in the United States.
- Males (40.3%) reported a higher prevalence of high blood pressure than females (37.9%).
- Prevalence of high blood pressure did not significantly differ by race.
- Prevalence of adults with high blood pressure increased significantly with age, with the highest prevalence been reported among adults aged 65 years or older (65.8%).
- High blood pressure was significantly more prevalent among adults with less than high school education compared with adults who graduated from college (45.6% vs 31.9%).
- Prevalence of high blood pressure significantly decreased as household income increased; 47.5% of adults with annual household income under \$25,000 a year have had high blood pressure compared with 34.3% adults with annual household income of \$50,000 or more.

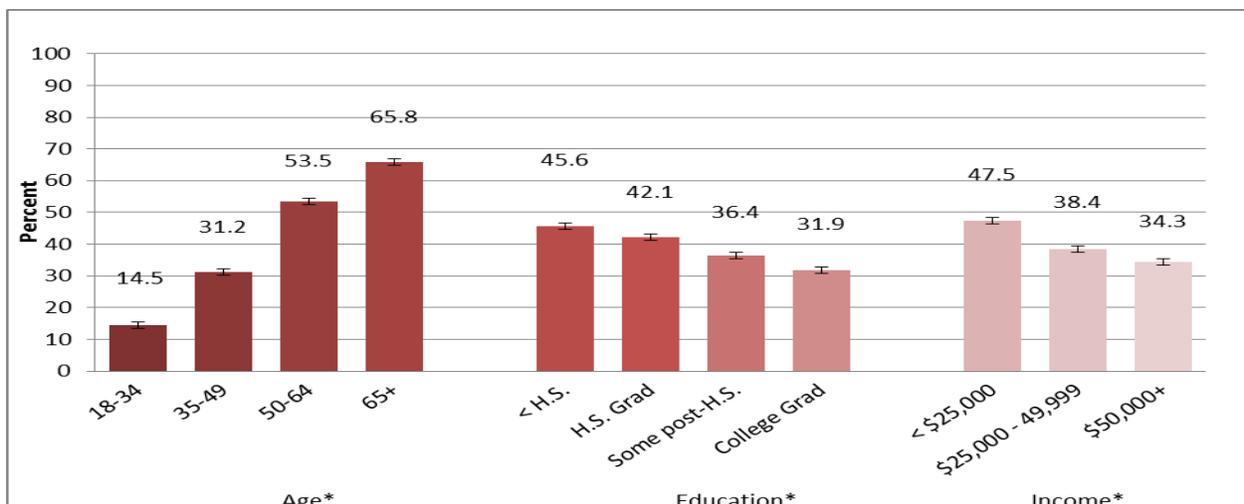
**Percent of Adults who have High Blood Pressure: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who have High Blood Pressure, by Gender\*, and by Race — 2013**



**Percent of Kentucky Adults who have High Blood Pressure, by Age\*, Education\*, and Income\* — 2013**



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# OBESITY

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

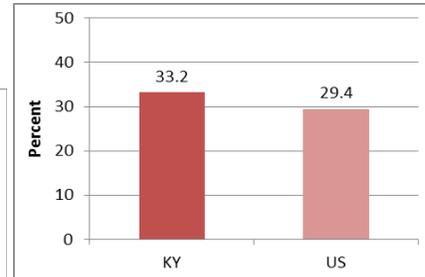
- 1) How much do you weigh without shoes?
- 2) How tall are you without shoes?

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

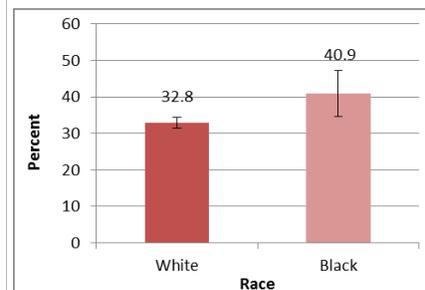
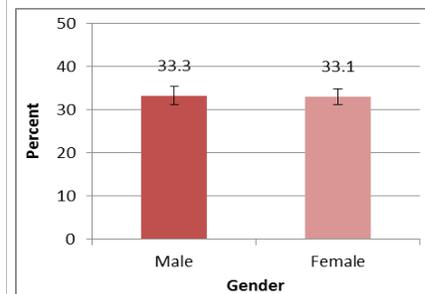
## Who is at risk in Kentucky?

- An estimated 33.2% of adults in Kentucky were classified as obese (i.e. Body Mass Index greater or equal to 30); this was a higher estimate compared to 29.4% in the United States.
- Prevalence of obesity was similar among men and women (33.3% vs 33.1%).
- Obesity prevalence was higher among black adults than among white adults (40.9% vs. 32.8%). However, this estimate was not statistically significant.
- Among the different age groups used in this report, obesity prevalence was highest among adults aged 50-64 years (39.3%); this was a significantly higher estimate compared to obesity prevalence among adults aged 18-34 years (24.5%).
- Prevalence of obesity was significantly higher among adults with less than a high school education (34.2%) compared to adults who graduated with a college degree (25.7%).
- Obesity prevalence was significantly higher among adults with household income of less than \$25,000 a year, compared to those with household income of \$50,000 or more a year (37.8% vs. 30.7%).

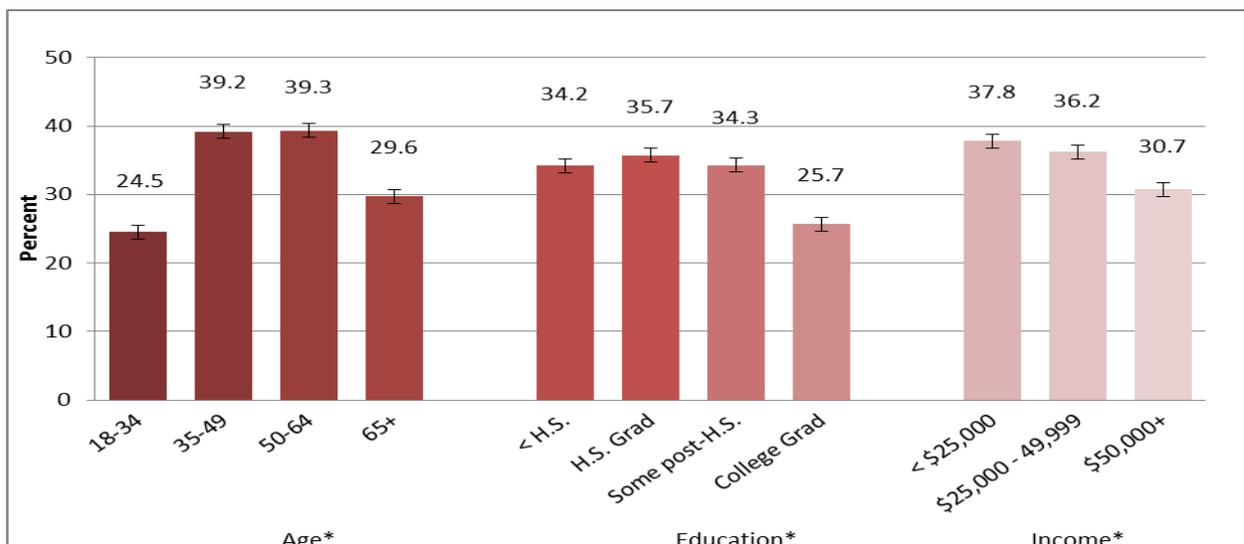
**Percent of Adults who are Obese: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who are Obese, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who are Obese, by Age\*, Education\*, and Income\* — 2013**



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# STROKE

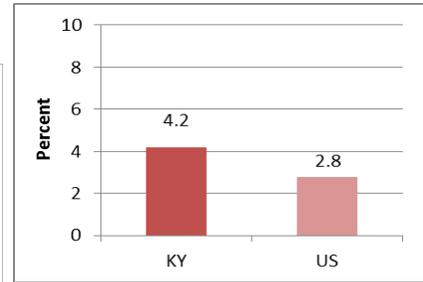
**Question:** Have you ever been told by a doctor, nurse, or other health professional that you had a stroke?

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

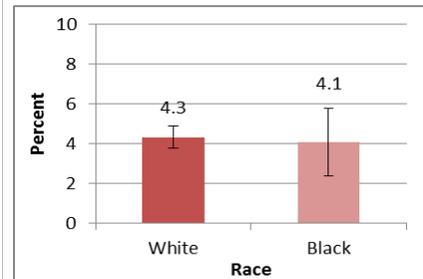
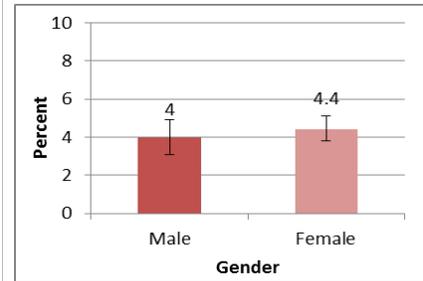
## Who is at risk in Kentucky?

- An estimate 4.2% of adults in Kentucky have been told by a health professional that they had a stroke; this was a higher estimate than the U.S median prevalence (2.8%).
- Prevalence of stroke did not differ significantly by gender.
- There were no statistically significant differences in the prevalence of stroke between white and black adults.
- Prevalence of stroke increased significantly as age increased. The highest prevalence was among adults 65 years or older (9.3%).
- When compared by educational level, prevalence of stroke was significantly higher among adults with less than a high school education (7.4%) than those with other levels of educational attainment.
- Prevalence of stroke significantly decreased as household income increased. Adults with an annual household income of less than \$25,000 had a higher prevalence of stroke compared to adults with household income of \$50,000 or more a year (7.3% vs. 1.3%).

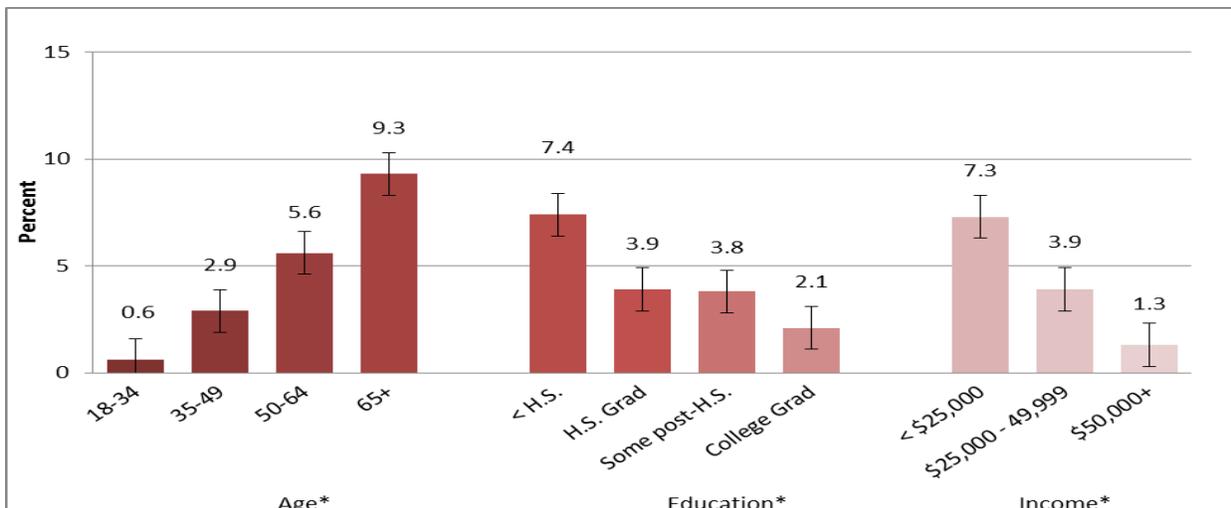
**Percent of Adults who have ever been told that they had a Stroke: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who have ever been told they had a Stroke, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who have ever been told they had a Stroke, by Age\*, Education\*, and Income\* — 2013**



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## DISABILITY

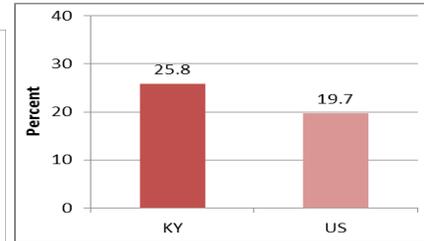
**Question:** Are you limited in any way in any activities because of physical, mental, or emotional problems?

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

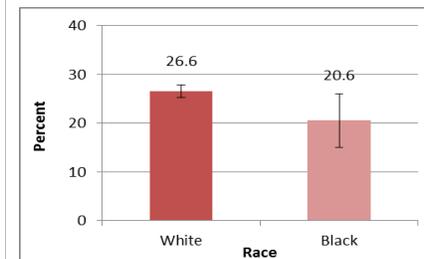
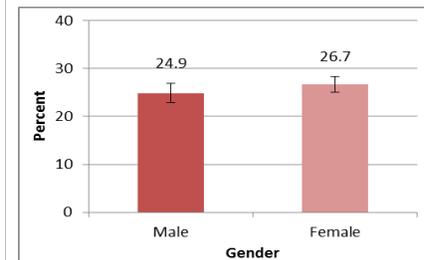
### Who is at risk in Kentucky?

- In 2013, 25.8% of Kentucky’s adult population reported limited activities due to physical, mental, or emotional problems; this was higher than the United States estimate of 19.7%.
- Prevalence of activity limitations did not significantly differ by gender.
- There were no significant differences in the prevalence of activity limitations between white and black adults.
- As would be expected, the prevalence of disability increased as age increased. Adults 50 years or older reported significantly higher activity limitations compared to younger adults.
- Adults with less than high school (36.6%) were significantly more likely to report activity limitations compared to adults who graduated from college (16.3%).
- Prevalence of activity limitations significantly decreased as household income increased. Approximately, 41.5% of adults with less than \$25,000 a year reported activity limitations, compared with 14.8% of adults with household income of \$50,000 or more a year.

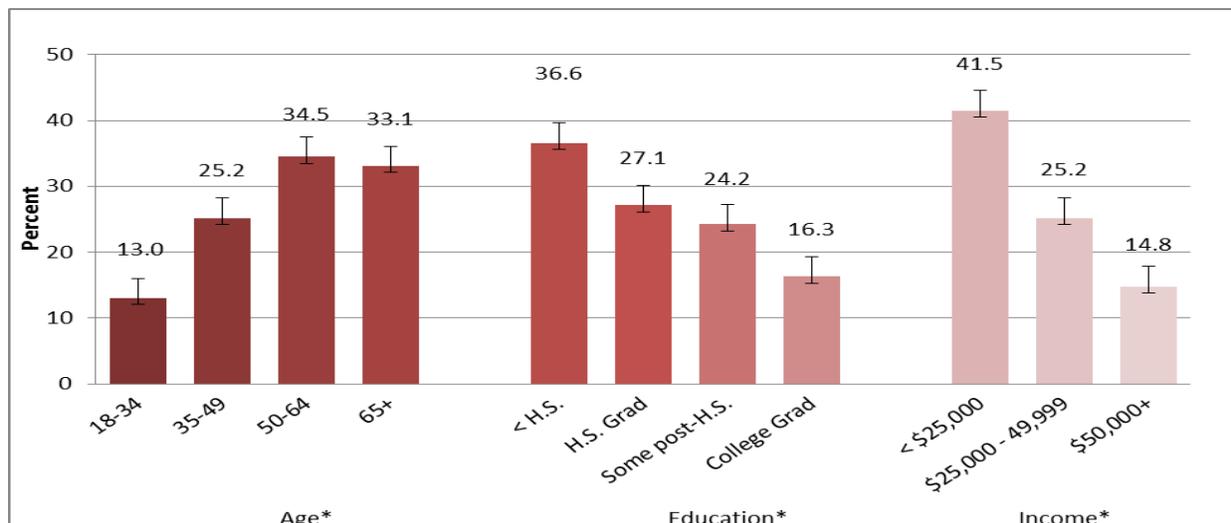
**Percent of Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who reported Limited Activity due to Physical, Mental, or Emotional Problems, by Age\*, Education\*, and Income\* — 2013**



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Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## GENERAL HEALTH

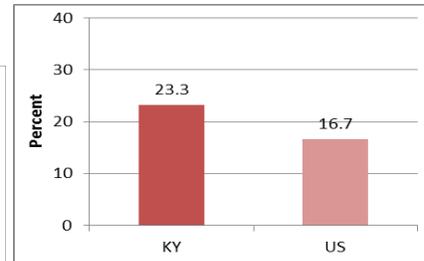
**Question:** Would you say that your general health is “Excellent”, “Very good”, “Good”, “Fair”, or “Poor”?

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

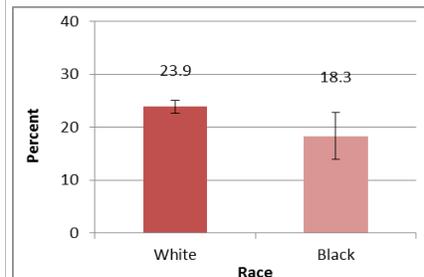
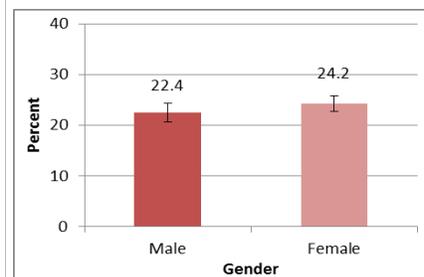
### Who is at risk in Kentucky?

- In 2013, 23.3% of Kentucky adults rated their general health as fair or poor compared to about 16.7% in the United States.
- Prevalence of fair or poor health ratings did not significantly differ by gender.
- 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 significantly increased as age increased.
- Fair or poor general health ratings significantly decreased with increasing levels of educational attainment; 46.6% of adults with less than a high school education rated their general health as fair or poor.
- Prevalence of fair or poor health ratings decreased significantly as household income increased. Around 43.1% of adults with an annual household income of less than \$25,000 rated their general health as fair or poor, compared to only 8.3% of adults with household income of \$50,000 or more a year.

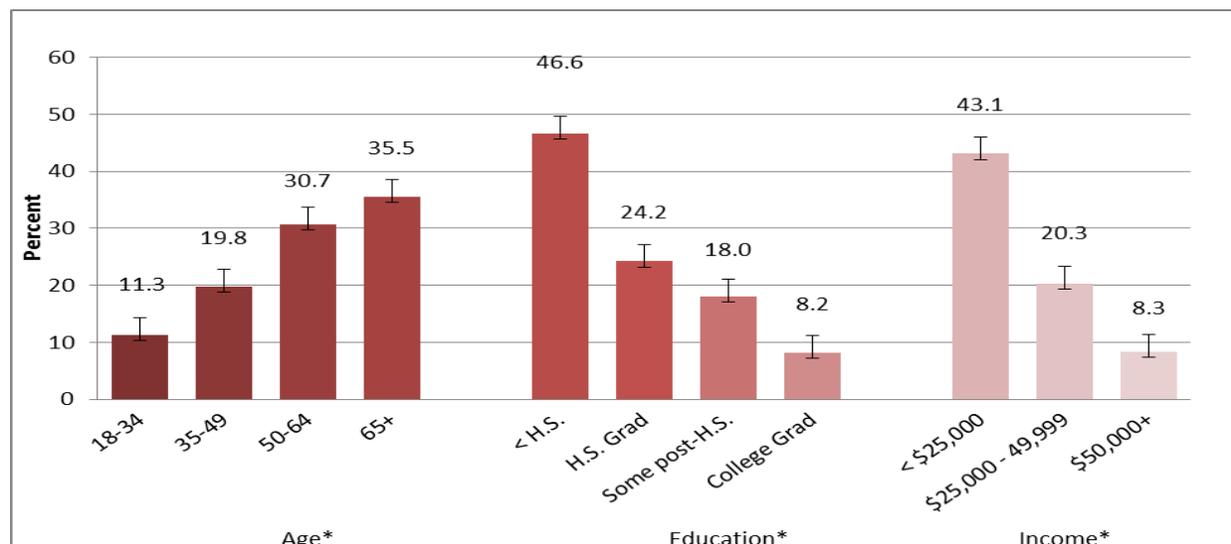
**Percent of Adults who reported their General Health as Fair or Poor: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Gender, and by Race — 2013**



**Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Age\*, Education\*, and Income\* — 2013**



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# HEALTH CARE ACCESS/COVERAGE

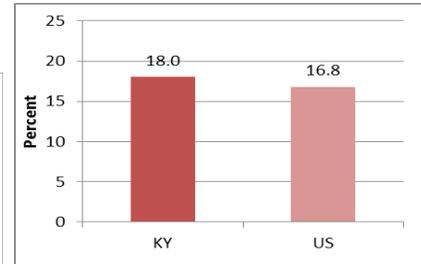
**Question:** Do you have any kind of health care coverage, including health insurance, pre-paid plans such as HMOs or governmental plans such as Medicare?

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

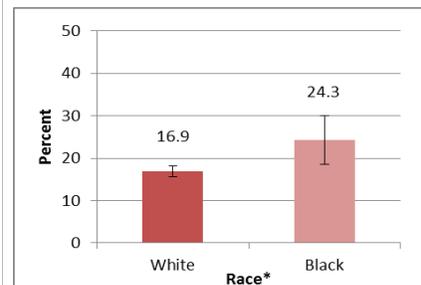
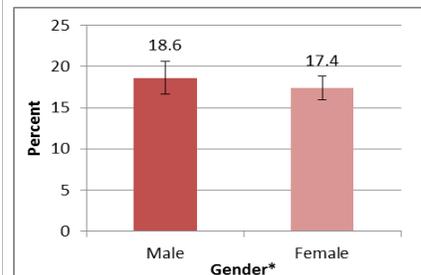
## Who is at risk in Kentucky?

- About 18% of Kentucky adults did not have any form of health insurance in 2013; this was similar to the estimate of uninsured adults in the United States.
- The percentage of men who did not have health insurance was significantly higher when compared to the percentage of women without health insurance (18.6% vs. 17.4%).
- About 24.3% of black adults did not have health insurance; this estimate was significantly higher when compared to white adults (16.9%).
- Lack of health insurance decreased significantly with age; about 29.7% of adults aged 18-34 years did not have health insurance.
- About 23.9% of adults with less than a high school education did not have health insurance; this was a significantly higher estimate compared to adults with other levels of educational attainment.
- About a third of adults (34.3%) with household income under \$25,000 a year did not have health insurance; this was a significantly higher estimate compared to only 6.6% of adults with household income of \$50,000 or more.

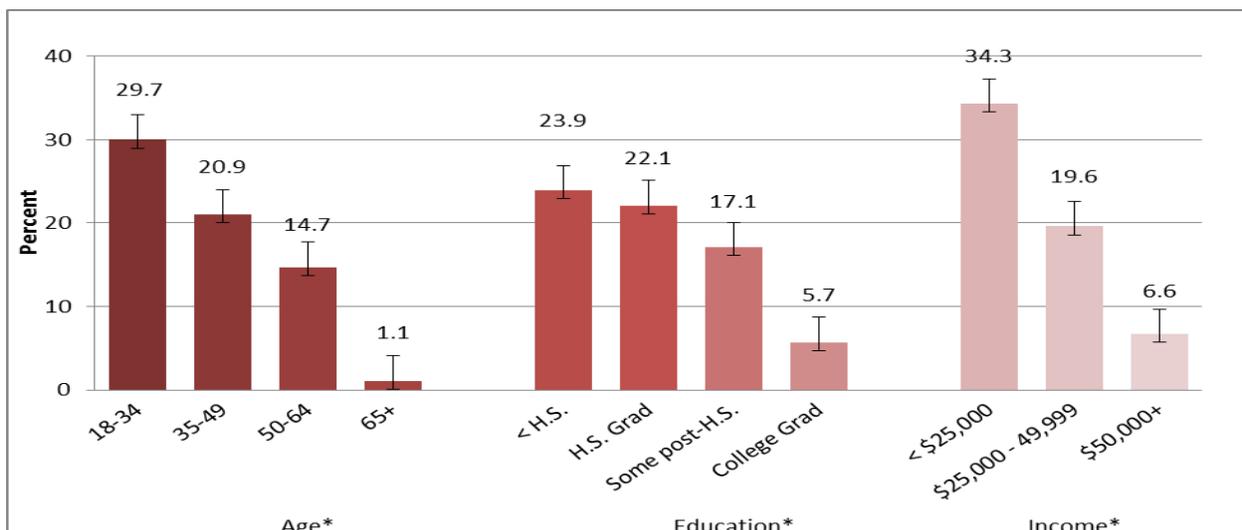
**Percent of Adults with No Health Insurance: Kentucky vs. Nationwide (States and DC) — 2013**



**Percent of Kentucky Adults with No Health Insurance, by Gender\*, and by Race\* — 2013**



**Percent of Kentucky Adults with No Health Insurance, by Age\*, Education\*, and Income\* — 2013**



\* Denotes a statistically significant difference among the values.

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

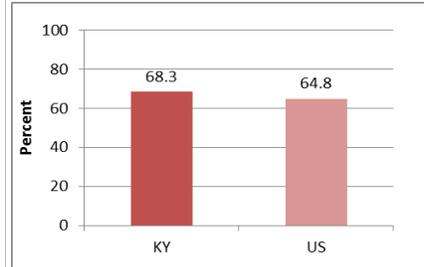
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# HIV/AIDS SCREENING

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

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

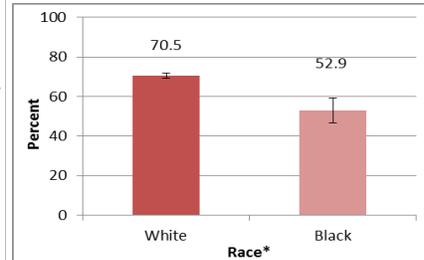
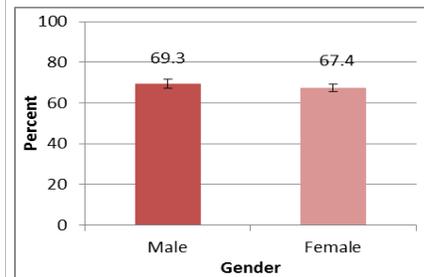
**Percent of Adults who have never been tested for HIV: Kentucky vs. Nationwide (States and DC) — 2013**



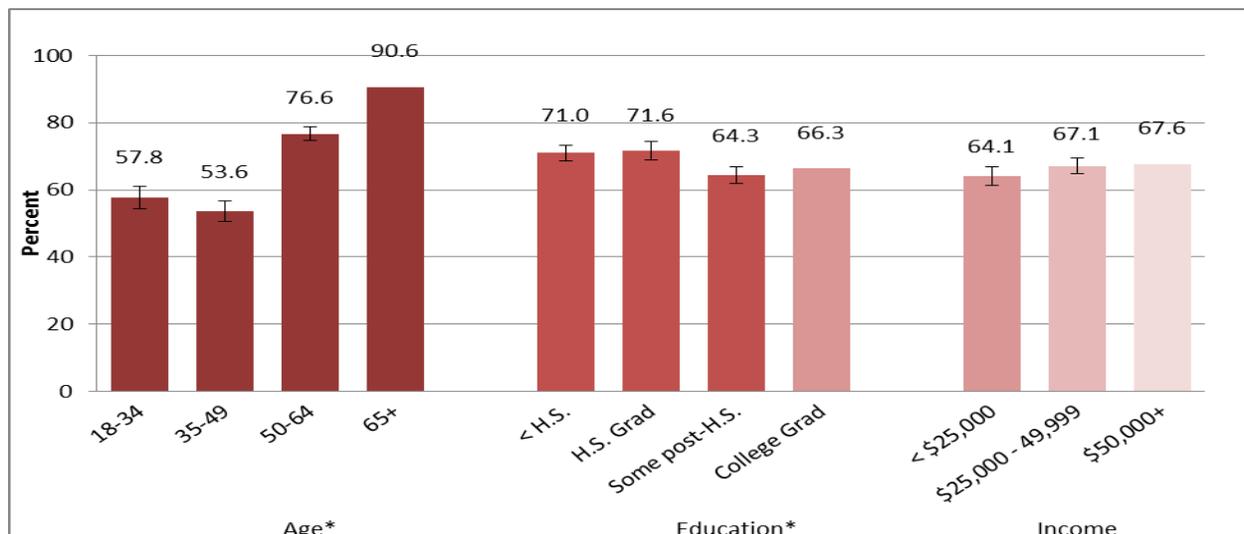
## Who is at risk in Kentucky?

- In 2013, 68.3% of adults in Kentucky have never been tested for HIV. The estimate was higher compared to 64.8% in the United States.
- The prevalence of HIV testing did not significantly differ by gender.
- The prevalence of white adults who have never been tested for HIV was significantly higher when compared to black adults (70.5% vs. 52.9%).
- About 90.6% of adults aged 65+ years have never been tested for HIV; this was a significantly higher estimate compared to adults aged 18-34 years (57.8%).
- About 71.6% of adults with a high school diploma as their highest level of educational attainment, have never been tested for HIV; this was a significantly higher estimate compared to adults with some post-high school education (64.3%) or those who graduated from college (66.3%).
- A higher proportion of adults with annual household income of \$50,000 or more (67.6%) have never been tested for HIV, compared to adults with household income of less than \$25,000 per year (64.1%). However this estimate was not statistically significant.

**Percent of Kentucky Adults who have never been tested for HIV, by Gender, and by Race\* — 2013**



**Percent of Kentucky Adults who have never been tested for HIV, by Age\*, Education\*, and Income — 2013**



\* Denotes a statistically significant difference among the values.

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

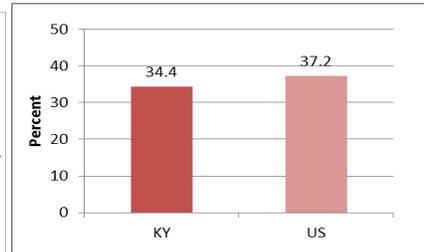
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

# 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.

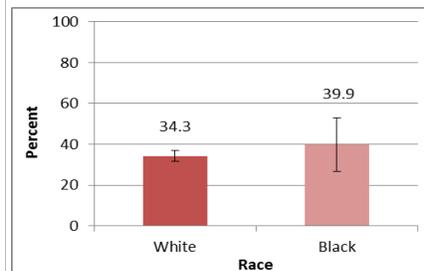
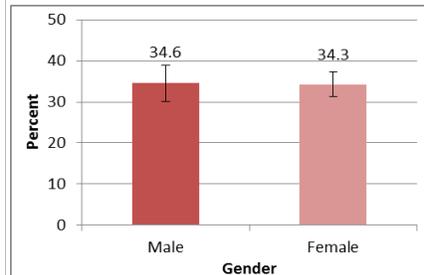
**Percent of Adults (aged 65+) who did not get a Flu shot in the Past Year: Kentucky vs. Nationwide (States and DC) — 2013**



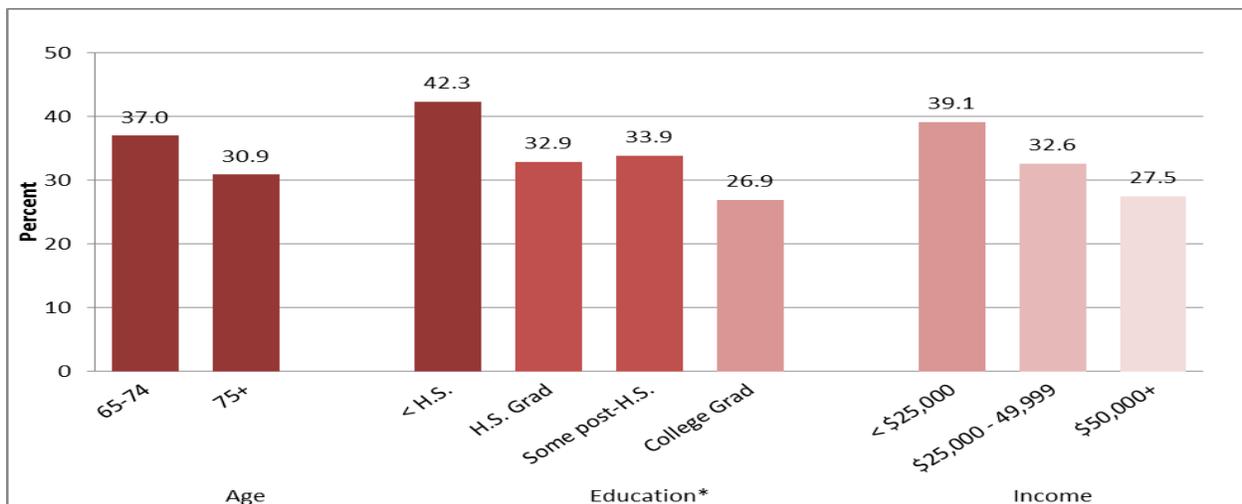
## Who is at risk in Kentucky?

- An estimate 34.4% of Kentucky adults aged 65 years or older reported that they did not get a flu shot in the past year; in the same year, this was a lower estimated compared to 37.2% of 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 year.
- 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, the differences were not statistically significant.
- A higher percentage of adults aged 65-74 years did not get a flu shot in the past year, compared to adults aged 75 years or older (37% vs. 30.9%).
- 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 (42.3% vs 26.9%).
- The prevalence of adults (aged 65+) who did not get a flu shot in the past year did not differ significantly by annual household

**Percent of Kentucky Adults (aged 65+) who did not get a Flu shot in the Past Year, by Gender, and by Race — 2013**



**Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Age, Education\*, and Income — 2013**



\* Denotes a statistically significant difference among the values.

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

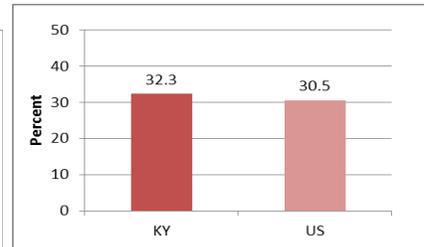
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## 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.

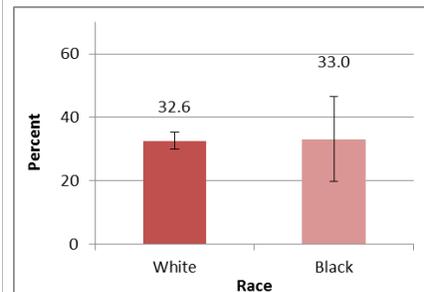
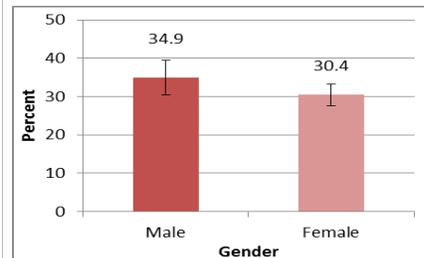
**Percent of Adults (aged 65+) who have never had a Pneumococcal Vaccination: Kentucky vs. Nationwide (States and DC) — 2013**



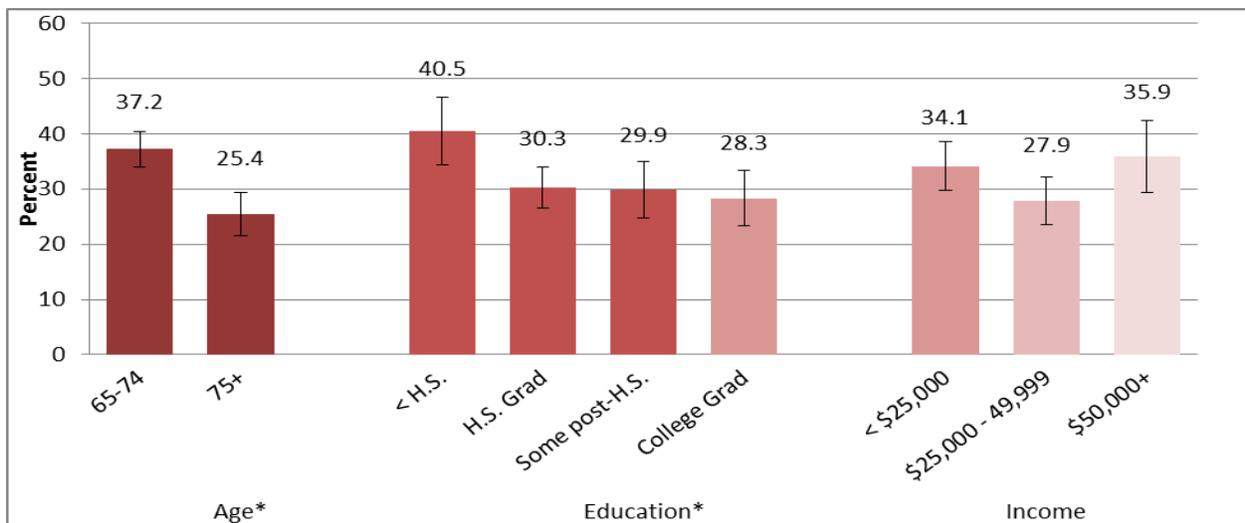
### Who is at risk in Kentucky?

- In 2013, 32.3% of Kentucky adults 65 years or older have never had a pneumococcal vaccination; this was slightly higher than the United States estimate of 30.5%.
- 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 black and white (aged 65+) who have never had a pneumococcal vaccination (33.0% vs. 32.6%).
- Adults aged 65-74 years were significantly more likely to have never had a pneumococcal vaccination compared to adults who are 75 years or older (37.2% vs. 25.4%).
- Adults (aged 65+) with less than high school education were significantly more likely to have never had pneumococcal vaccination compared to adults with a college education (40.5% vs 28.3%).
- The prevalence of adults (aged 65+) who have never had a pneumococcal vaccination did not differ significantly by annual household income.

**Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Gender, and by Race — 2013**



**Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Age\*, Education\*, and Income — 2013**



\* Denotes a statistically significant difference among the values.

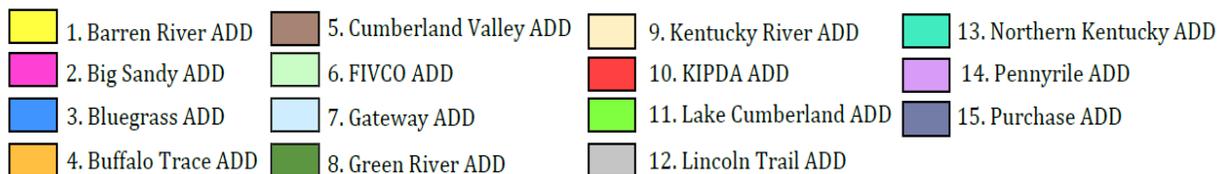
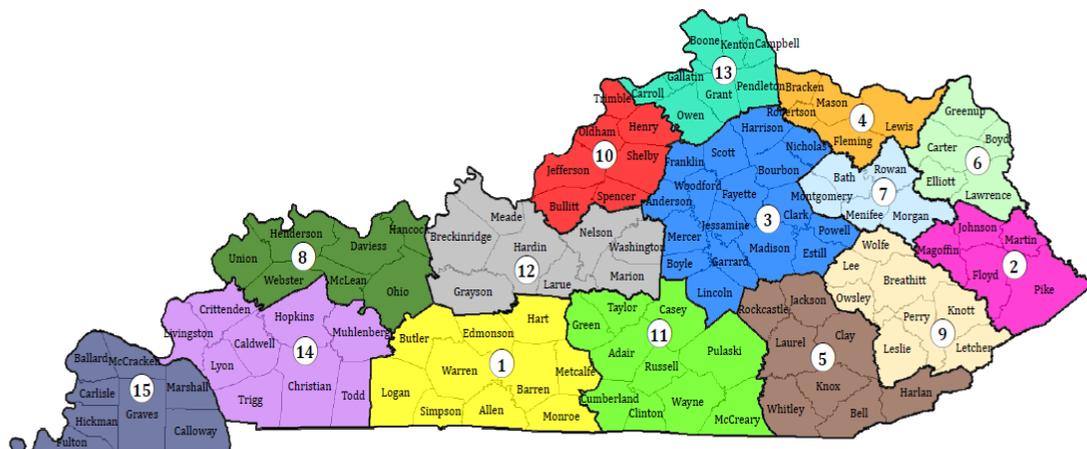
In this report, the term 'significant' only refers to statistically significant differences in prevalence.

Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Prevalence Estimates by Area Development District (ADD)

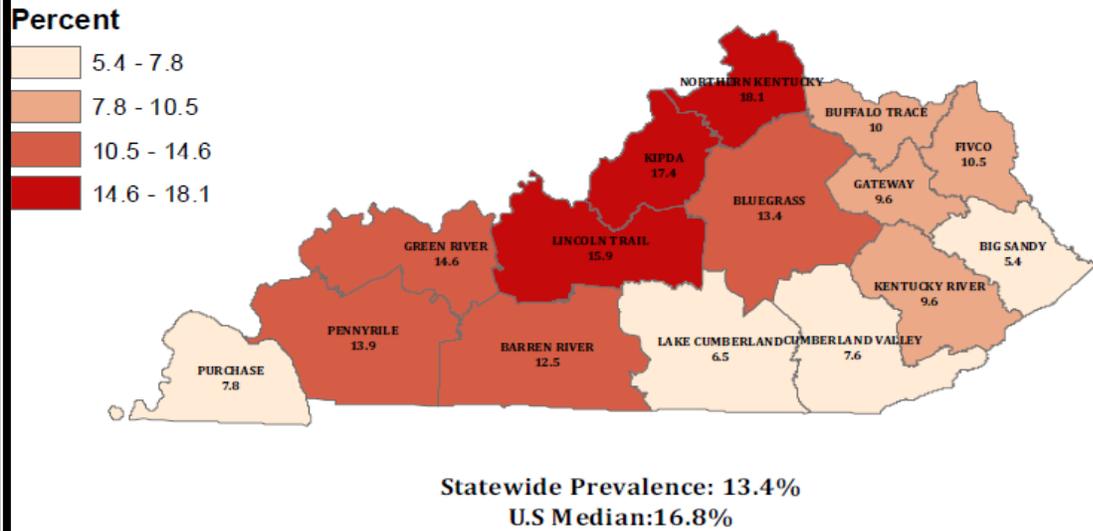
The remainder of this report incorporates ArcGIS mapping to illustrate prevalence estimates by Area Development District (ADD) for each risk factor, condition, or indicator presented in the preceding pages.

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.

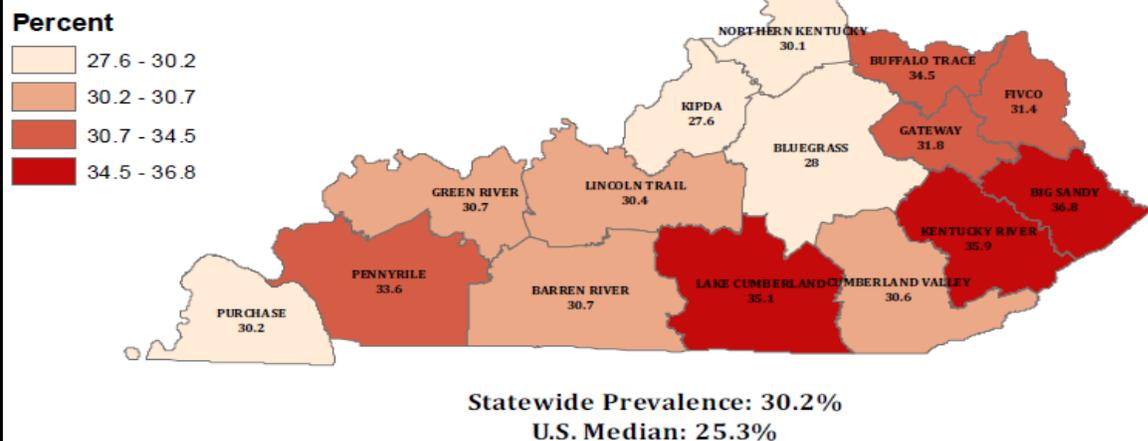


Counties in each ADD	
Barren River:	Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, Warren
Big Sandy:	Floyd, Johnson, Magoffin, Martin, Pike
Bluegrass:	Anderson, Bourbon, Boyle, Clark, Estill, Fayette, Franklin, Garrard, Harrison, Jessamine, Lincoln, Madison, Mercer, Nicholas, 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, 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, 2013

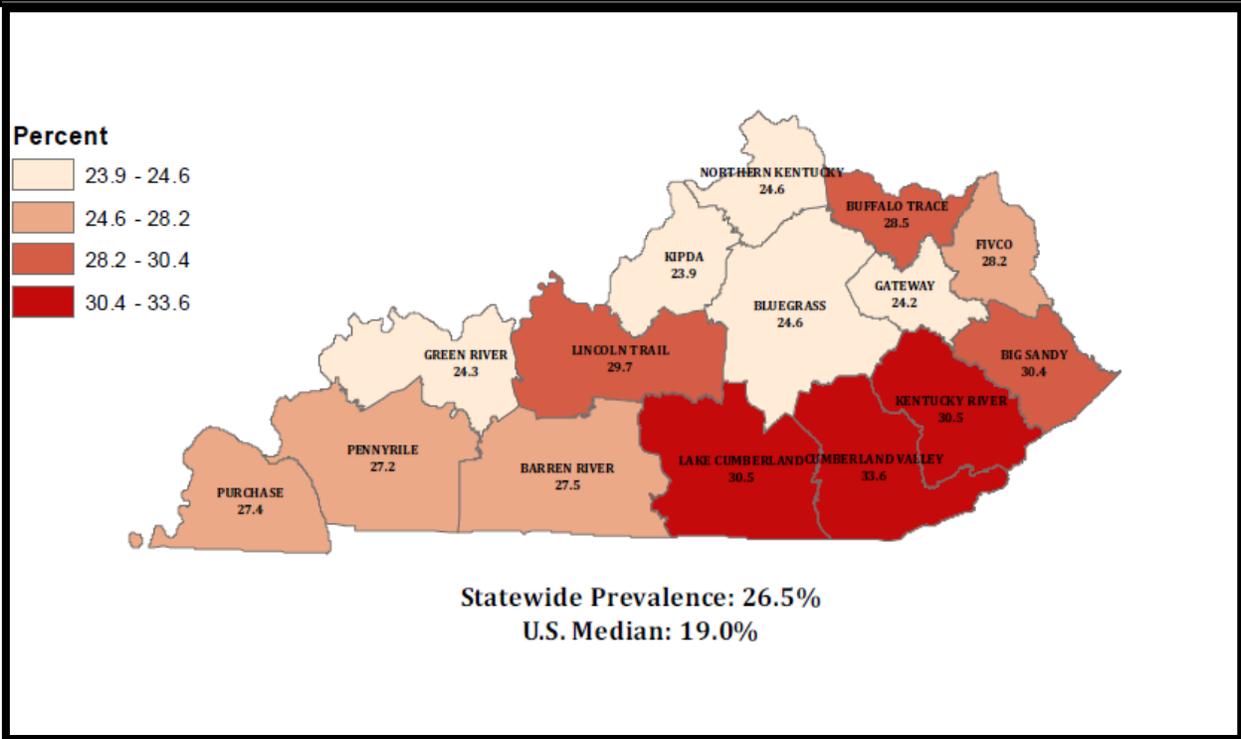


## Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Area Development District, 2013

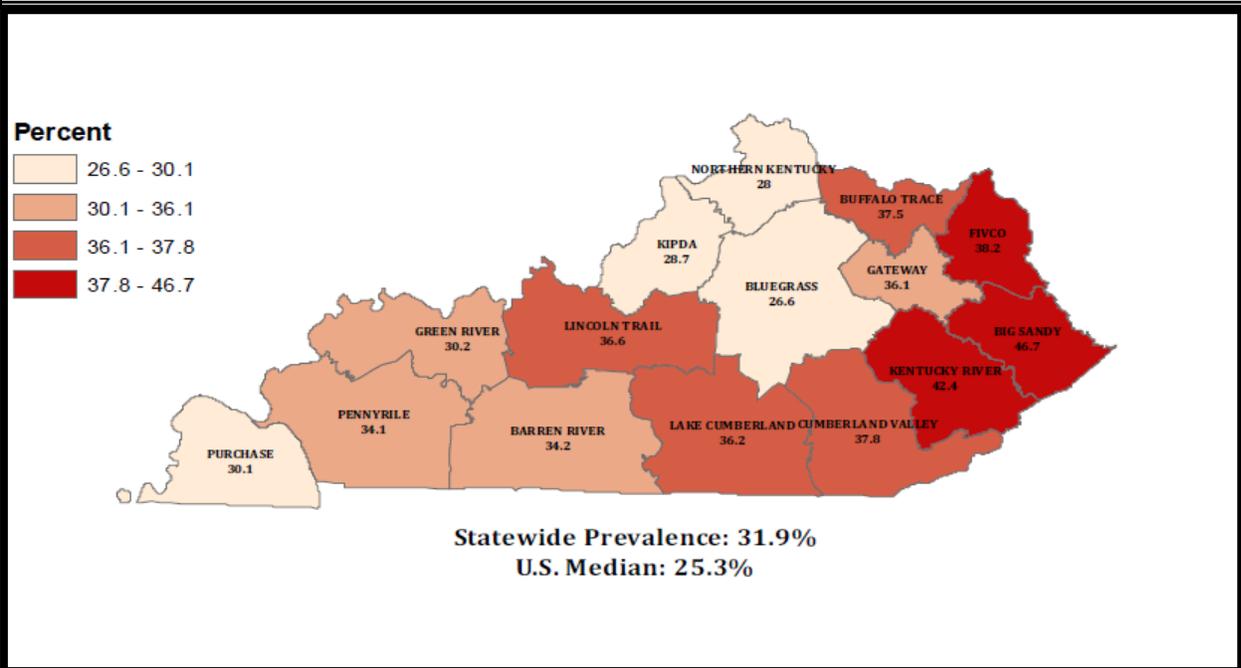


Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who are Current Smokers, by Area Development District, 2013

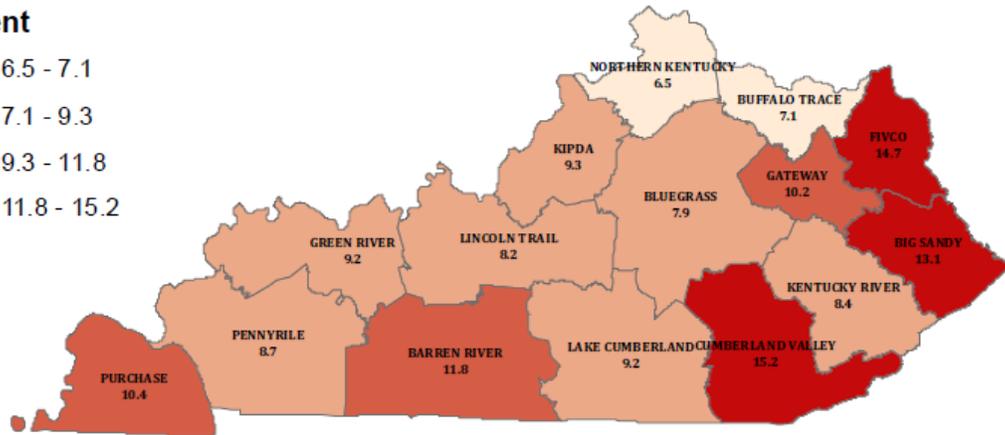
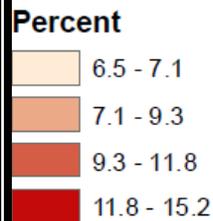


## Percent of Kentucky Adults who have Arthritis, by Area Development District, 2013



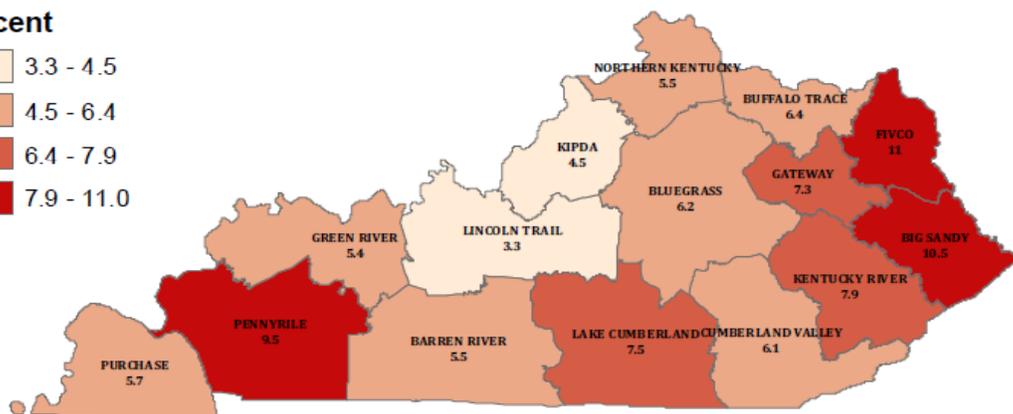
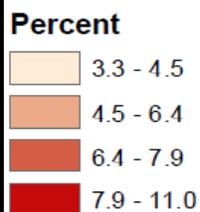
Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have Current Asthma, by Area Development District, 2013



Statewide Prevalence: 9.5%  
U.S. Median: 9%

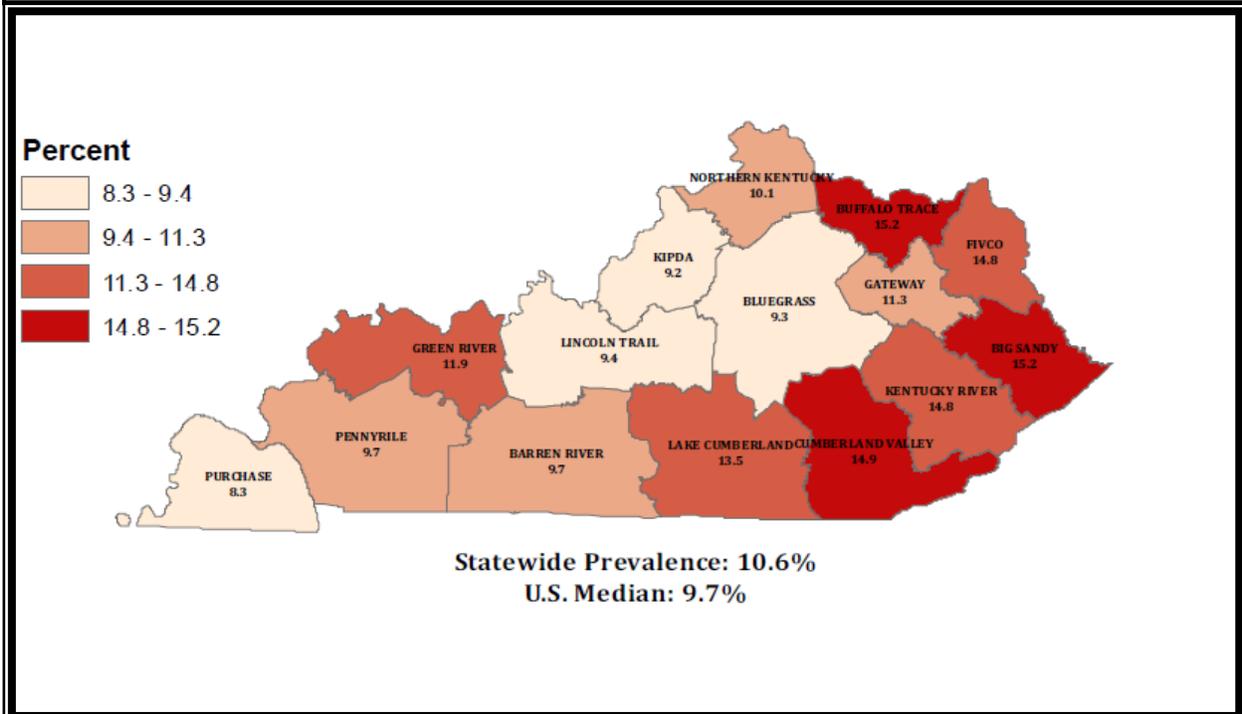
## Percent of Kentucky Adults who have Coronary Heart Disease, by Area Development District, 2013



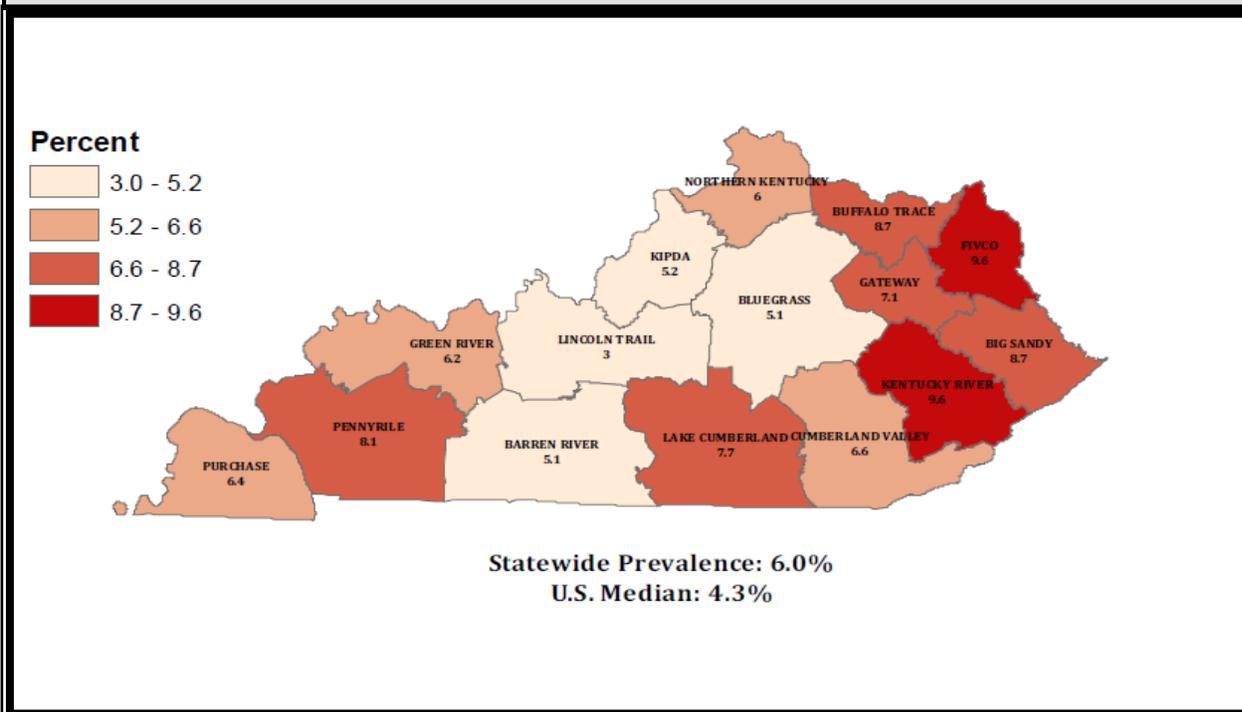
Statewide Prevalence: 6.1%  
U.S. Median: 4.1%

Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have Diabetes, by Area Development District, 2013



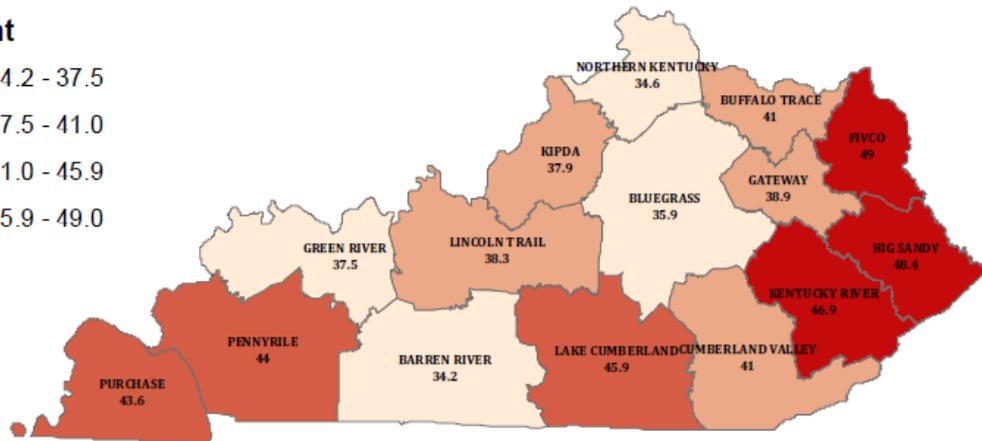
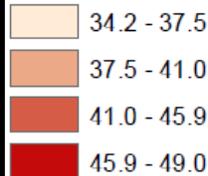
## Percent of Kentucky Adults who have ever had a Heart Attack, by Area Development District, 2013



Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults who have High Blood Pressure, by Area Development District, 2013

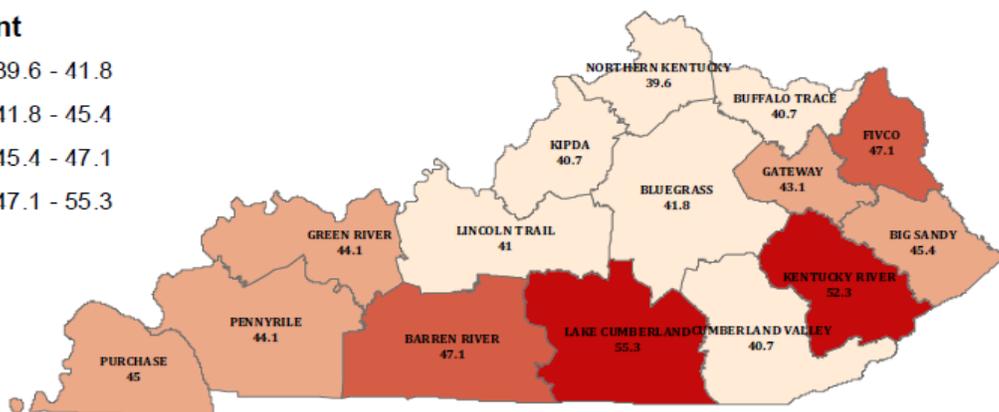
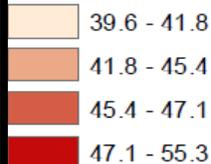
### Percent



Statewide Prevalence: 43.2%  
U.S. Median: 38.4%

## Percent of Kentucky Adults who have High Blood Cholesterol by Area Development District, 2013

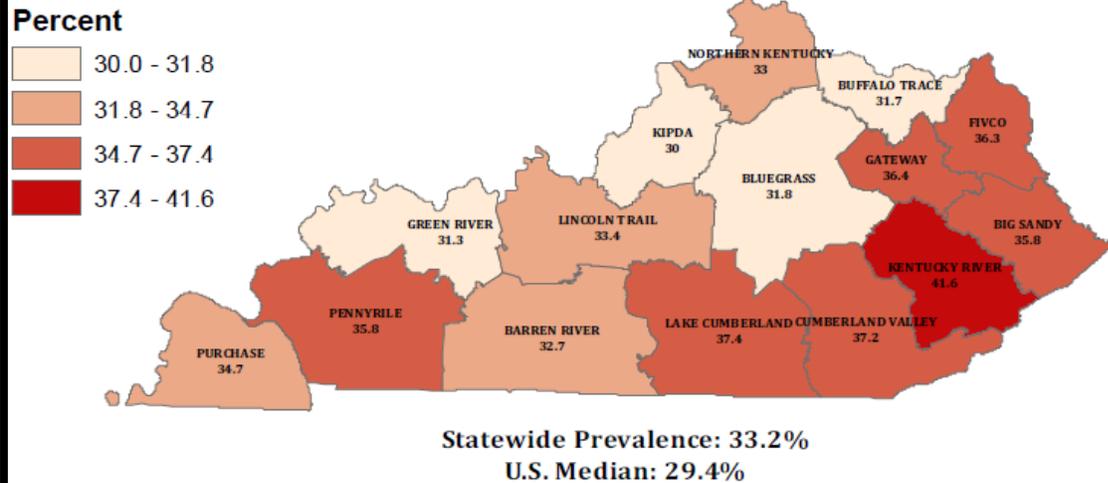
### Percent



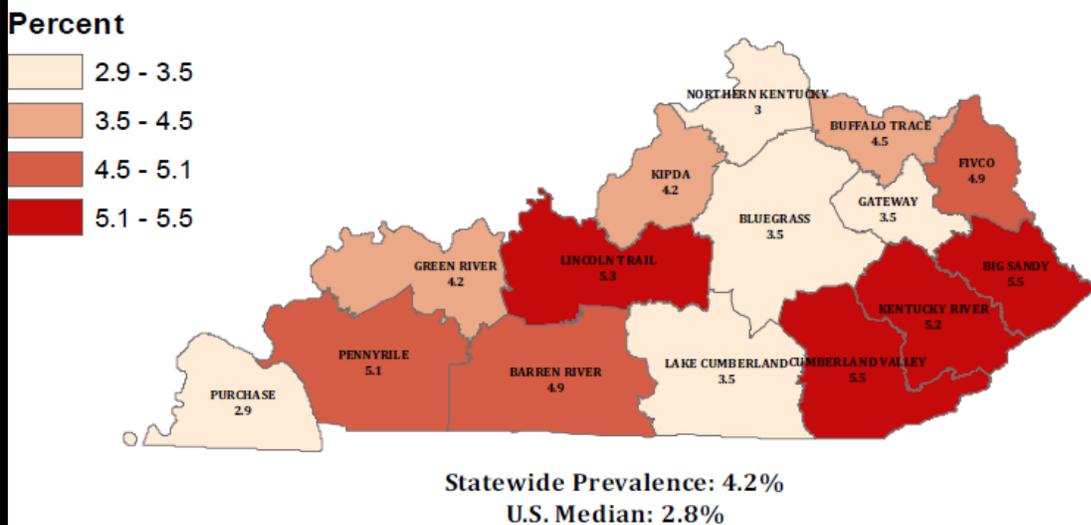
Statewide Prevalence: 39.1%  
U.S. Median: 31.4%

Due to BRFSS methodology changes in 2011, estimates from 2013 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, 2013

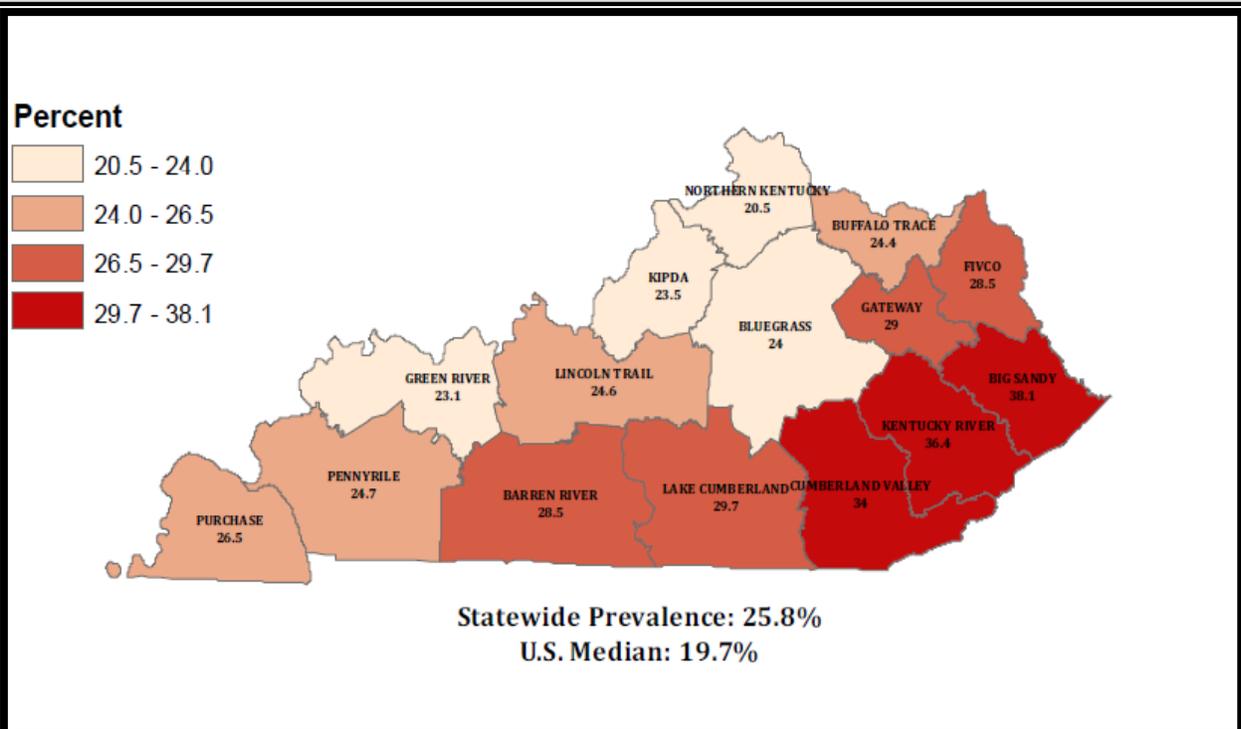


## Percent of Kentucky Adults who have ever had a Stroke, by Area Development District, 2013

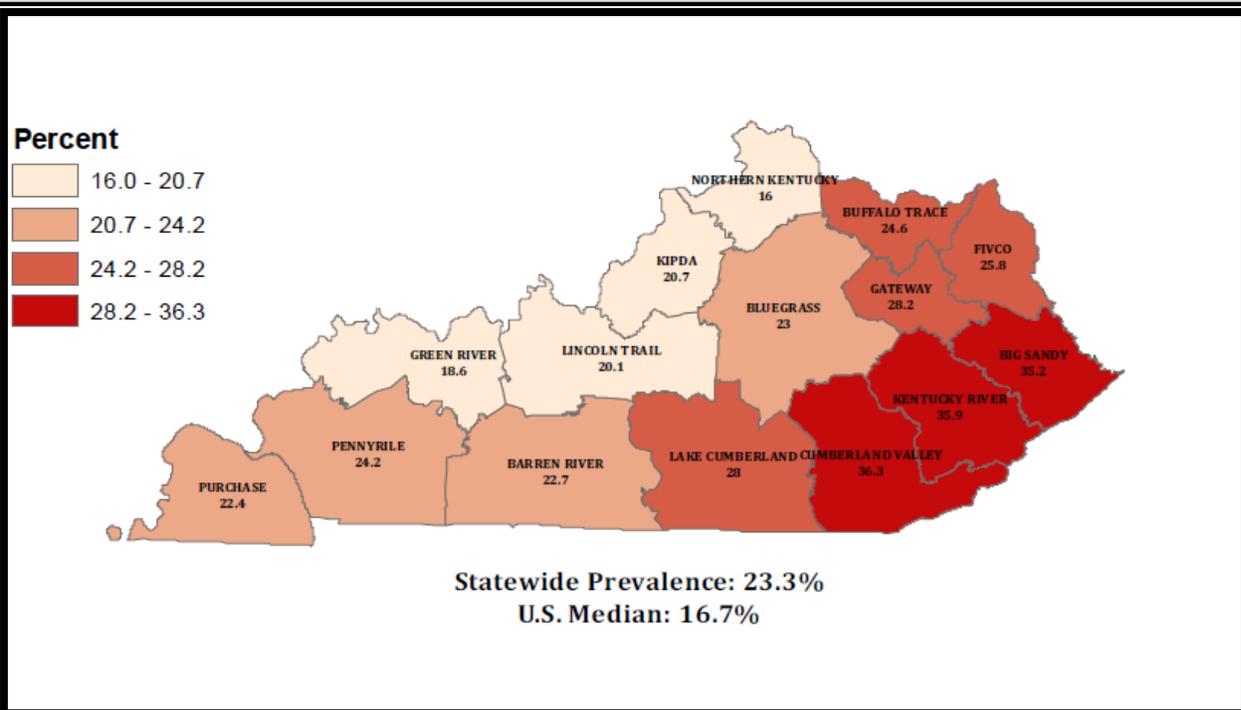


Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults with Activity Limitations due to Health Problems, by Area Development District, 2013



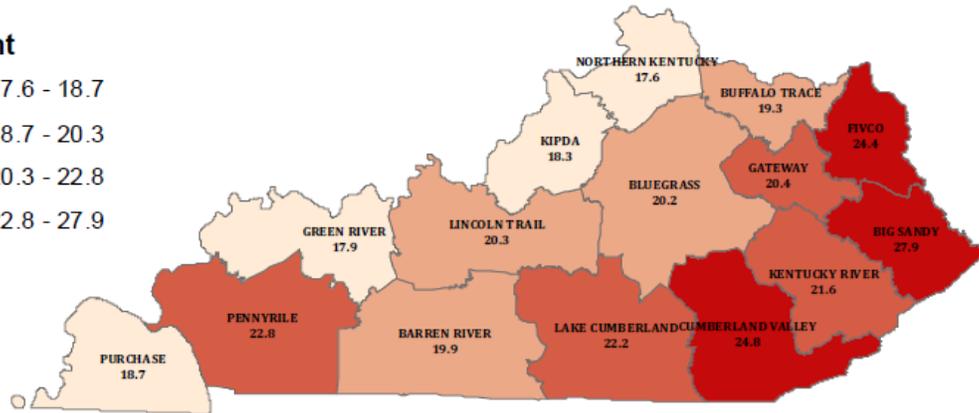
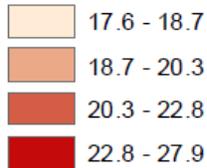
## Percent of Kentucky Adults with Fair or Poor General Health, by Area Development District, 2013



Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.

## Percent of Kentucky Adults with Depression, by Area Development District, 2013

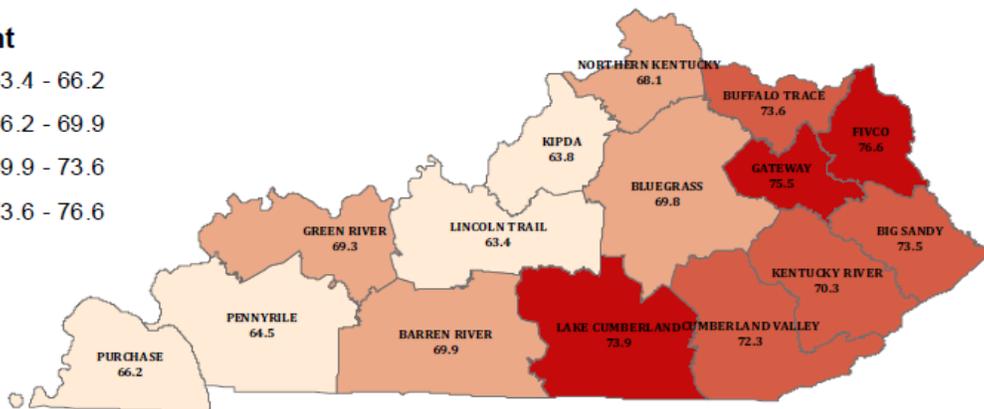
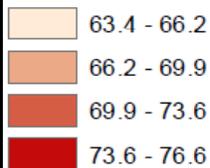
### Percent



Statewide Prevalence: 20.2%  
U.S. Median: 18.7%

## Percent of Kentucky Adults who have never been tested for HIV, by Area Development District, 2013

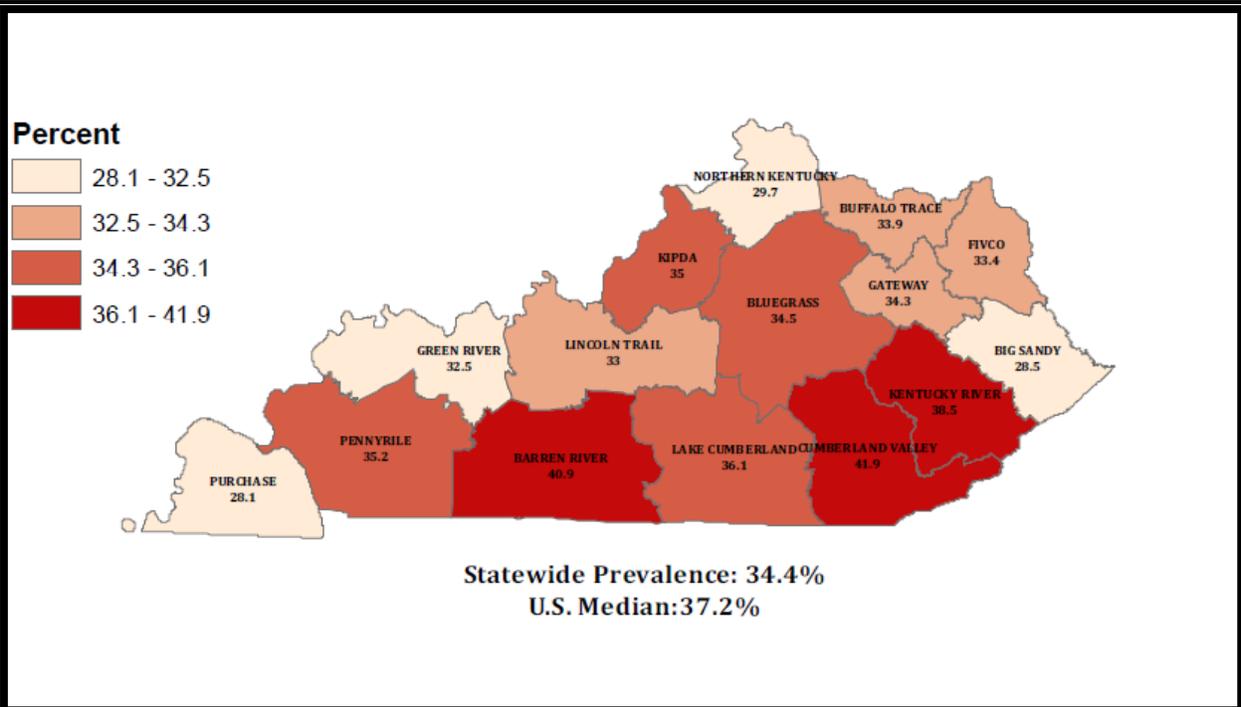
### Percent



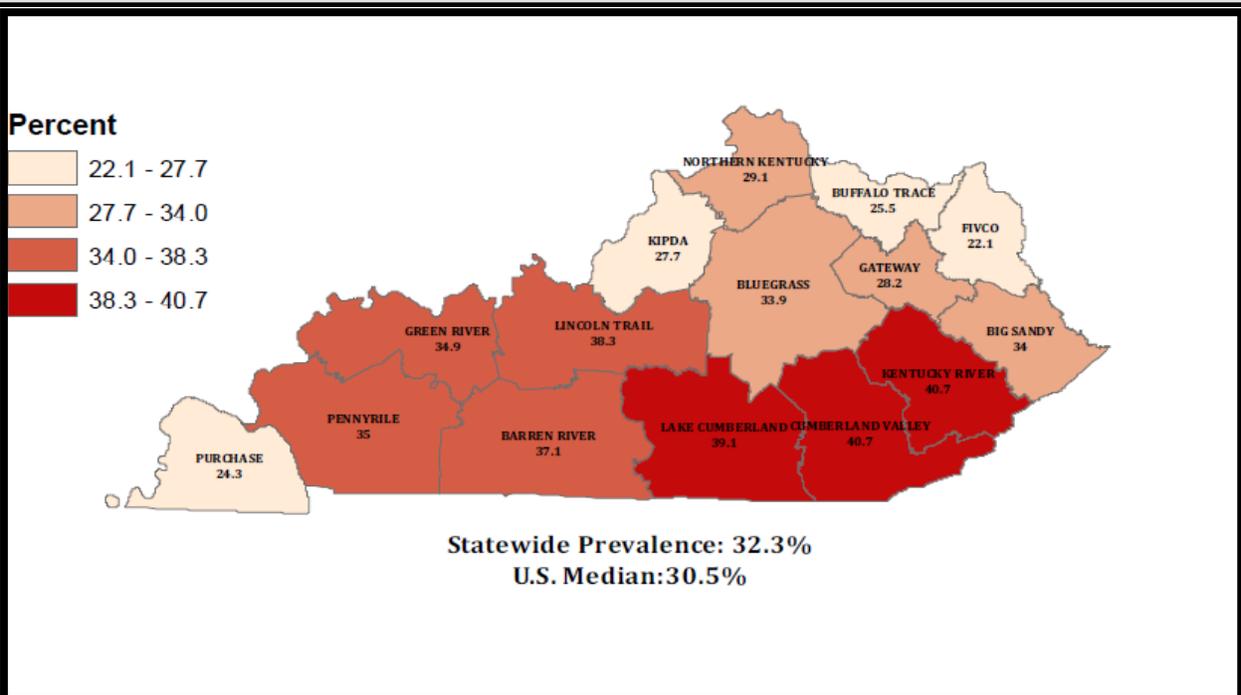
Statewide Prevalence: 68.3%  
U.S. Median: 64.8%

Due to BRFSS methodology changes in 2011, estimates from 2013 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, 2013



## Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Area Development District, 2013



Due to BRFSS methodology changes in 2011, estimates from 2013 cannot be directly compared to estimates from years prior to 2011.