Kentucky Behavioral Risk Factor Survey (KyBRFS)

2019 Annual Report

Data Source: Kentucky Behavior Risk Factor Survey 2017

Kentucky Department for Public Health
Division of Prevention and Quality Improvement
Chronic Disease Prevention & Control Branch
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Kentucky Public Health
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ACKNOWLEDGMENTS

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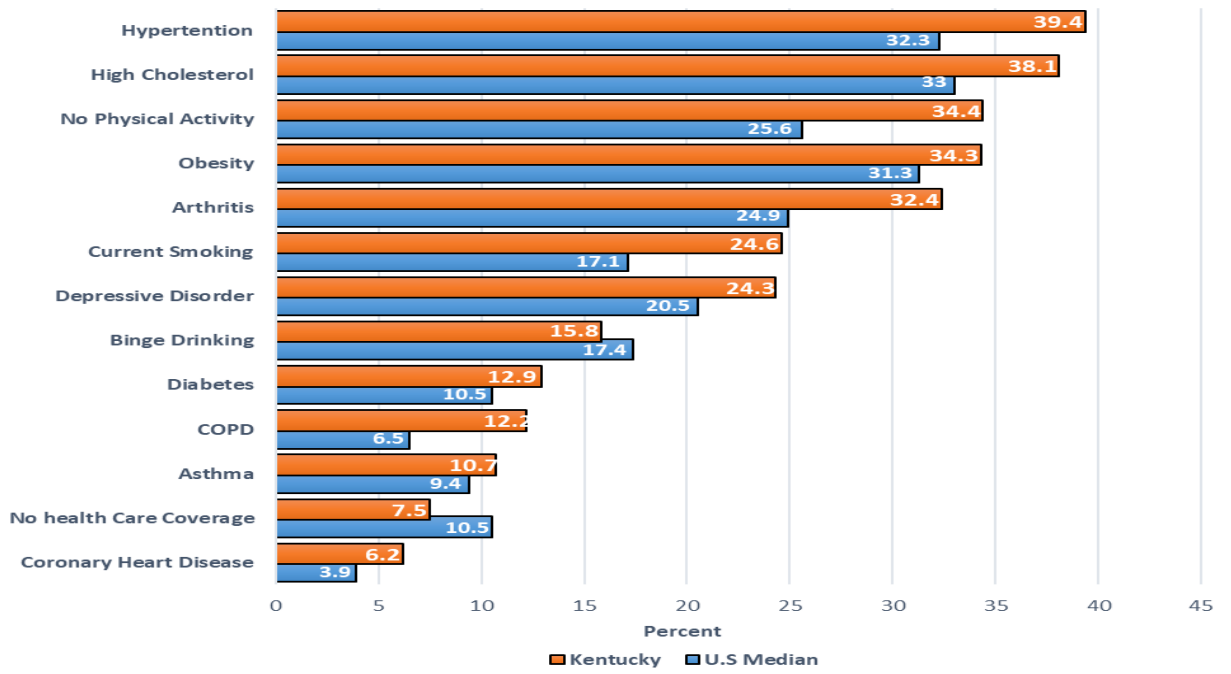
Executive Summary

The 2019 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 8,642 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 2017 survey are listed below.

Selected Indicators — 2017 KyBRFS

United States vs. Kentucky



Alcohol Consumption:

Binge drinking can lead to alcohol dependence which is known to cause liver diseases, high blood pressure, sexually transmitted diseases, and other chronic conditions.[1] In 2017, an estimated 15.8% of Kentucky adults reported binge drinking in the past month. Binge drinking among Kentucky adults remains lower than the U.S. median (17.4%). In Kentucky, binge drinking is more common among males, young adults aged 18-34 year old, adults with higher educational levels and adults with household income of $50,000 or more.

Arthritis:

Arthritis is the leading cause of disability in the United States[2]. This condition has been diagnosed in nearly 54 million U.S adults and is expected to rise to $78 million cases by 2040[1]. About two in five adults with arthritis also have limitations in their usual activities due to their arthritis. In 2017, almost 1 in 3 Kentucky adults (32.4%) reported ever being told by a health professional that they had arthritis. This means an estimated 1.1 million Kentucky adults had arthritis. This was higher compared to the United States estimate of 24.9%. When compared by gender, the prevalence of arthritis was significantly higher among women than men (36.1% vs. 28.4%). The prevalence of arthritis increased significantly with age.

Asthma:

Asthma affects 9.4 percent of adults in the United States, or about 25 million people.[3] In 2017, over one in ten Kentucky adults or 10.7% reported that they had asthma. The prevalence of asthma was significantly higher in women than men (12.6% vs. 8.7%). Asthma was about three times more common in adults with less than high school education compared to those with a college degree (20.0% vs. 6.9%).

Executive Summary (continued)

Cardiovascular Diseases:
Heart Diseases is the leading cause of death in the United States.[4] More than 600,000 people in the United States die from heart diseases each year (nearly 1 in every 3 U.S. deaths).[1,4] In 2017, the prevalence of heart attack (6.5%), coronary heart disease (6.2%) and stroke (4.7%) among Kentucky adults were all higher than the U.S. median prevalence (heart attack: 4.2%; coronary heart disease:3.9% and stroke: 3.0%). The prevalence of all three diseases significantly increased with age and decreased with increasing educational and household income level.

Chronic Obstructive Pulmonary Disease (COPD):
Chronic Obstructive Pulmonary Disease, mainly COPD, is the fourth leading cause of death in the U.S[5]. While tobacco smoke is the primary cause, 1 in 4 people with COPD have never smoked[8]. In 2017, about 12.2% of Kentucky adults ever being told by a doctor that they had COPD. This prevalence was approximately twice the U.S. median prevalence (6.5%). The following groups were more likely to report COPD: women, adults aged 65 years and older, adults with less than high school education, current and former smoker and adults with household income less than $25,000.

Diabetes:
Diabetes is now the seventh leading cause of death in the United States.[6] According to CDC, more than 100 million Americans have diabetes or prediabetes. In 2017 about 12.9% of Kentucky adults reported ever being told by a doctor that they had diabetes. This estimate was higher when compared to the U.S. median prevalence of 10.5%. The prevalence of diabetes varied significantly by education. Among Kentucky adults with less than a high school education, 20.4% had diabetes compared to 9.1% among those with a college degree. The prevalence of diabetes increased significantly with age. Among adults aged 35-49 years, 6.6% had diabetes, and among adults over age 65 years, 26.8% had diabetes.

Health Care Coverage:
When comparing the 2013 KyBRFS data -which is the year before the Affordable Care Act (ACA) took effect- with the 2017 data, we found that the rate of adults with no health care coverage has dropped nearly 11 percentage points, from 18.0% to 7.5%.The prevalence of no health care coverage in Kentucky was also lower compared to 10.5% in the United States. The prevalence of no health care coverage also declined in all demographic groups in 2017. The major differences were among adults with low annual household income(<25,000). In 2013, the prevalence of no health care coverage among Kentucky adults with low income was 34.3%.In 2017, the rate plunged as low as 7.3%.

Obesity:
In 2017, the medical care cost associated with adults obesity in the United States was $147 billon.[8] The prevalence of adults with obesity (BMI ≥ 30.0) varies by states, ranging from 22.6% in Colorado to 38.1% in West Virginia.[3] In 2017, Kentucky's adult obesity rate was 34.3%, and ranked as the eighth-worst state for obesity in the United Sates. The prevalence of obesity was higher in men (35.9%) than women (32.5%) and lower among adults with college degrees compared with those with less education; although the differences were not all statistically significant.

Tobacco Use:
Smoking causes more than 480,000 deaths in the United States every year[9]. 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%).

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.*

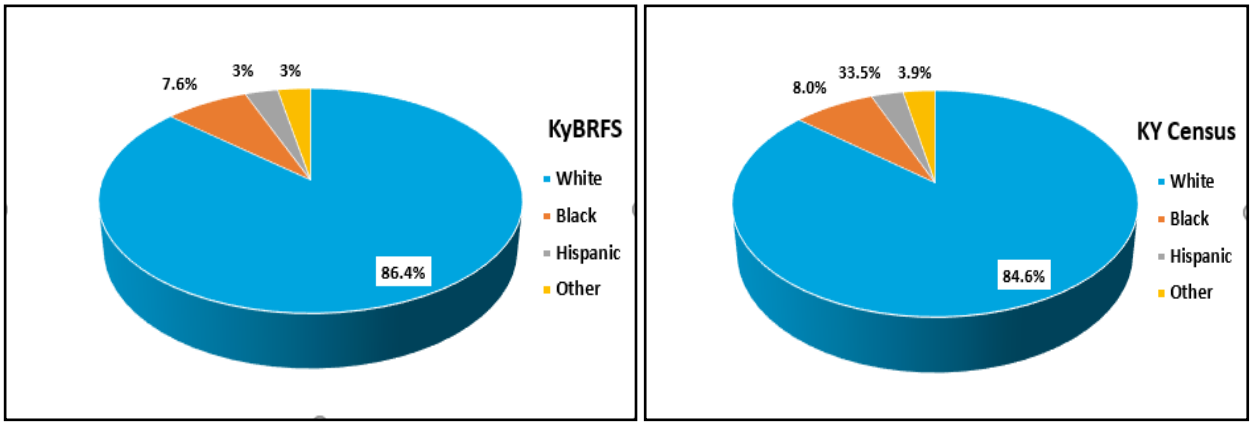
Introduction (continued)

Demographic Characteristics: Race/Ethnicity and Gender

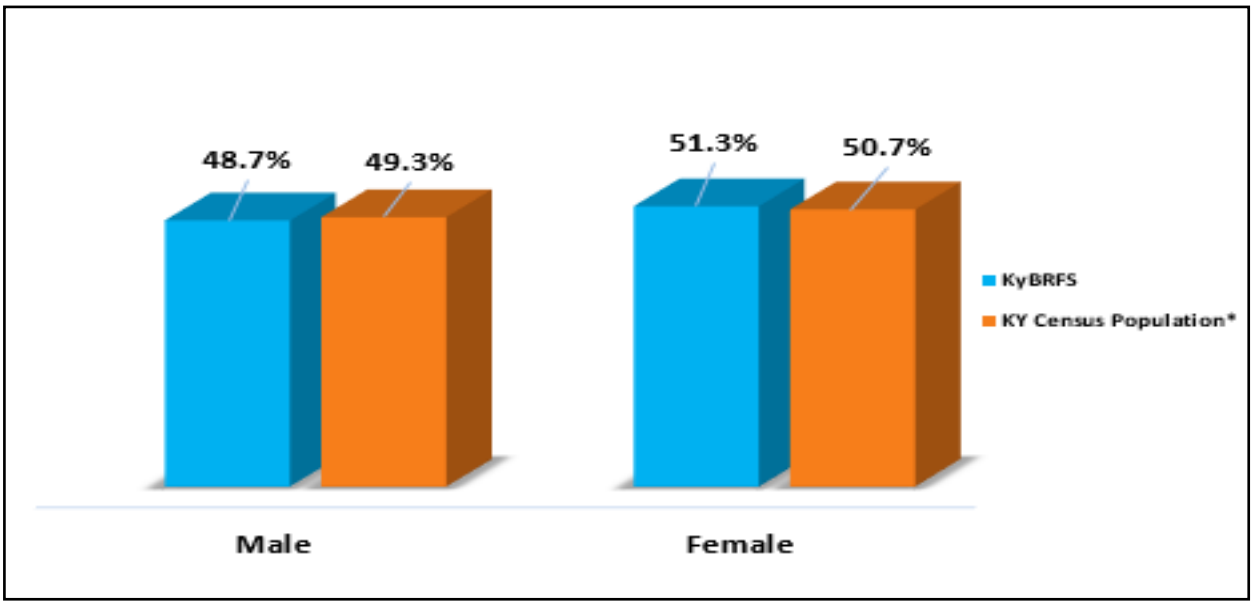
A total of 8,642 residents (18 years or older) participated in the 2017 Kentucky Behavioral Risk Factor Survey. The initial sample of 8,642 residents was used to "weight" these survey data in order to obtain representative estimates for the state of Kentucky.

The distribution of respondents by race and by gender on the 2017 KyBRFS was similar to the 2017 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 — 2017



Distribution of KyBRFS Adult Population vs KY Census Population, by Gender — 2017



***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

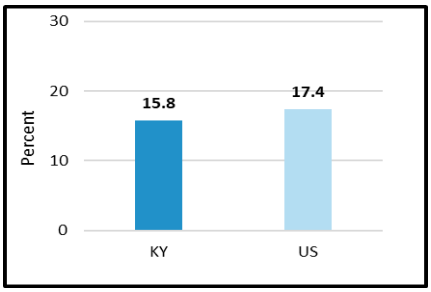
Question: Considering all types of alcoholic beverages, how many times during the past month did you have four or more drinks on one occasion?

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.

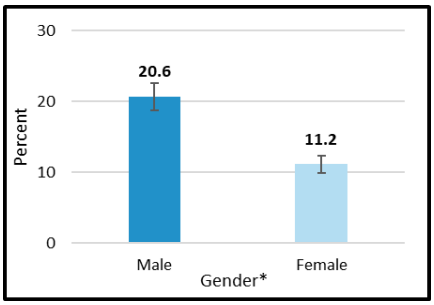
Who is at risk in Kentucky?

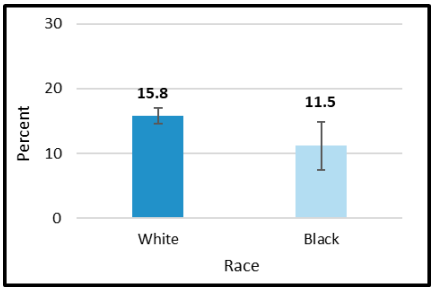
- In 2017, the prevalence of binge drinking among Kentucky adults was 15.8%. This estimate was lower compared to the 17.4% in the United States.
- The prevalence of binge drinking was significantly higher among males than among females (20.6% vs 11.2%).
- The prevalence of binge drinking did not significantly differ by race..
- The prevalence of binge drinking was significantly higher among young adults aged 18-34 years than the other age groups.
- When compared by education, binge drinking was significantly higher among adults with a college degree (19.3%) than among those with less than high school (9.6%).
- The prevalence of 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 (23.6% vs 10.6%).

Percent of Adults Classified as Binge Drinkers: Kentucky vs. Nationwide (States and DC) — 2017

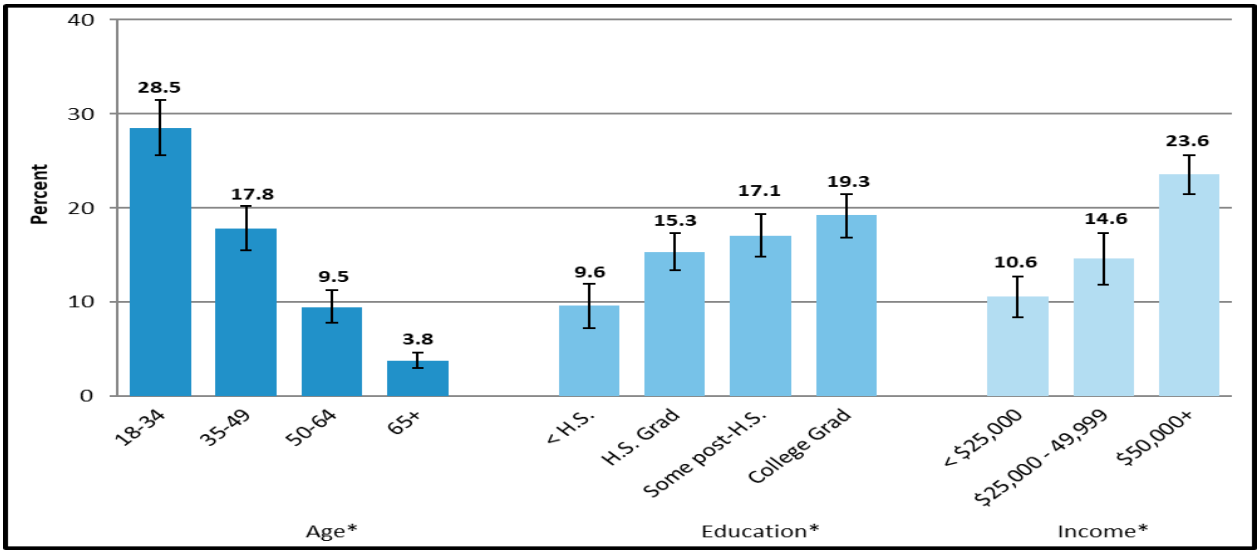


Percent of Kentucky Adults Classified as Binge Drinkers, by Gender*, and by Race — 2017





Percent of Kentucky Adults Classified as Binge Drinkers, by Age*, Education*, and Income* — 2017



* Denotes a statistically significant difference among the values.

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Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

NO LEISURE TIME PHYSICAL ACTIVITY

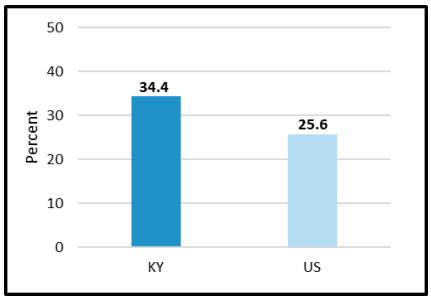
Question: During the past 30 days, other than your regular job, did you participate in any physical activity or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

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

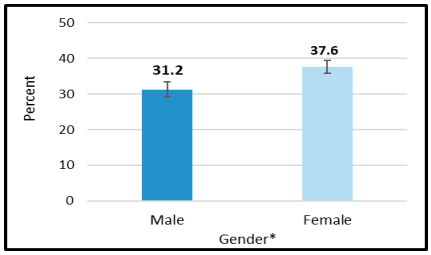
Who is at risk in Kentucky?

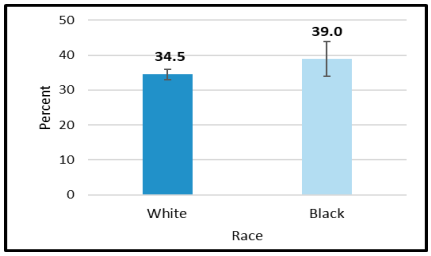
- About 34.4% of Kentucky adults reported not participating in any physical activity or exercise during the past month. This estimate was higher compared to 25.6% in the United States.
- Females (37.6%) reported a significantly higher percentage of not participating in any physical activity during the past month than males (31.2%).
- There were no statistically significant differences between white and black adults who reported not participating in any physical activity during the past month.
- Adults aged 65 and older were more likely to report not participating in any physical activity compared to younger age groups.
- When compared by education, the prevalence of lack of physical activity was significantly highest among adults with less than high school (47.4%), and lowest among those with a college degree (18.7%).
- The prevalence of lack of physical activity significantly decreased as annual household income increase.

Percent of Adults who did not Participate in any Physical Activity in the Past 30 days: Kentucky vs. Nationwide (States and DC) — 2017

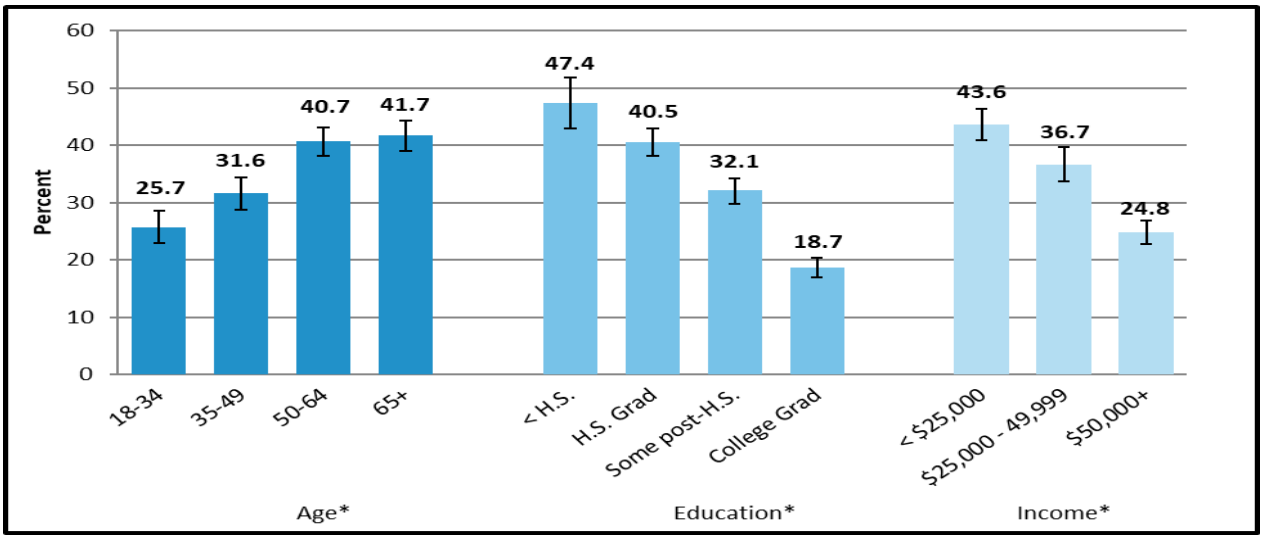


Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Gender*, and by Race — 2017





Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days by Age*, Education*, and Income* — 2017



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TOBACCO USE

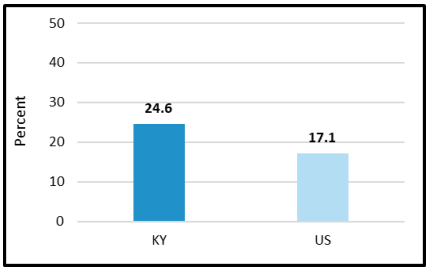
Question: If you have smoked at least 100 cigarettes in your entire life, are you now smoking everyday, some days, or not at all?

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

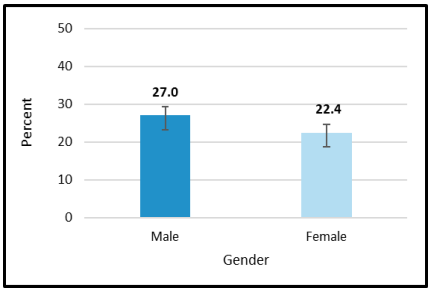
Who is at risk in Kentucky?

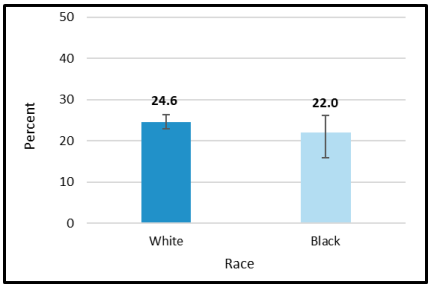
- In 2017, an estimated 24.6 % of Kentucky adults reported that they were current smokers. This prevalence was higher compared to 17.1% in the United States.
- The prevalence of current smoking did not significantly differ by gender.
- The prevalence of current smoking did not significantly differ by race.
- The prevalence of current smoking was significantly lower among adults aged 65 and older (12.5%) compared to other age groups.
- An estimated 42.2% of adults with less than a high school education reported that they were currently smokers, compared to just 9.4% of those with a college degree.
- The prevalence of current smoking decreased significantly with increasing annual household income.

Percent of Adults who are Current Smokers: Kentucky vs. Nationwide (States and DC) — 2017

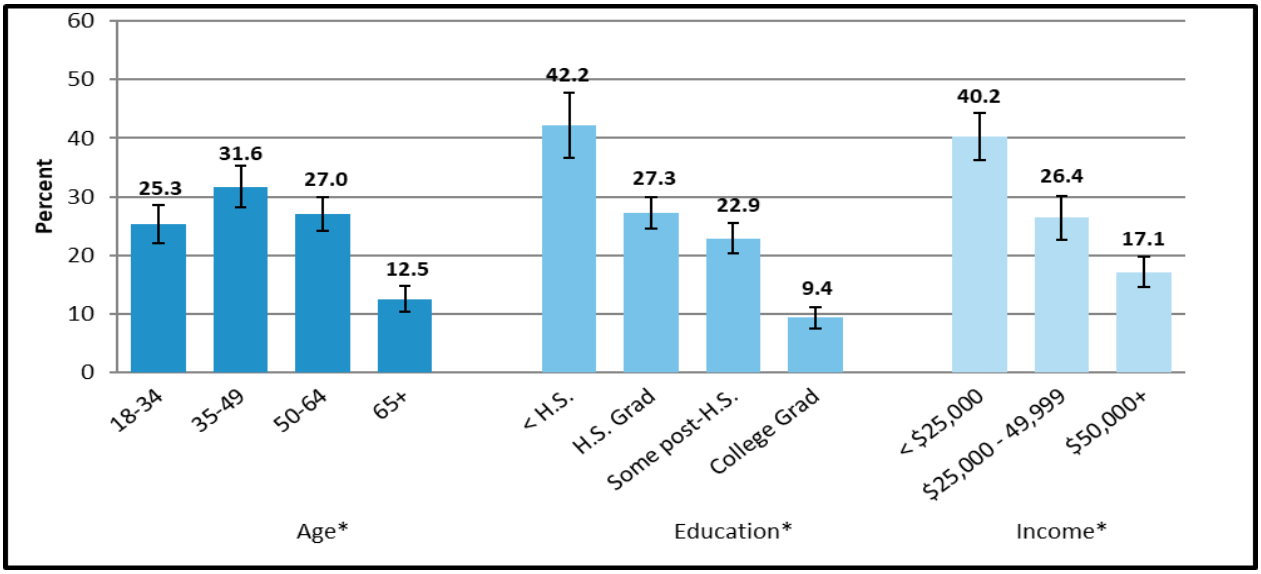


Percent of Kentucky Adults who are Current Smokers, by Gender, and by Race — 2017





Percent of Kentucky Adults who are Current Smokers, by Age*, Education*, and Income* — 2017



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ARTHRITIS

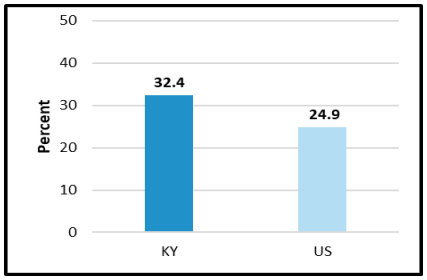
Question: Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?

At Risk: Adults who answered "Yes" are considered at risk.

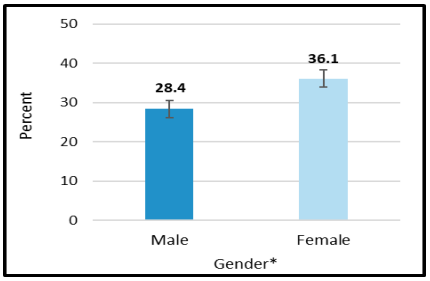
Who is at risk in Kentucky?

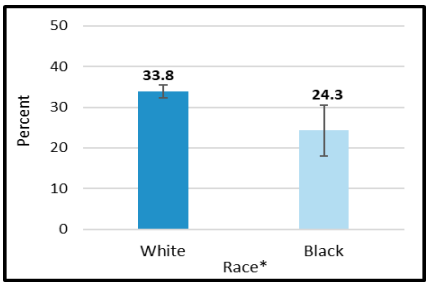
- An estimated 32.4% of Kentucky adults reported ever being told by a doctor or health professional that they had some form of arthritis. This was a higher compared to 24.9% in the United States.
- Females (36.1%) reported a significantly higher prevalence of arthritis than males (28.4%).
- White adults (33.8%) reported a significantly higher prevalence of arthritis than Black adults(24.3%).
- The prevalence of arthritis significantly increased with age. The highest prevalence was among adults aged 65 years or older (53.1%).
- The prevalence of arthritis among adults with less than high school (47.1%) was significantly higher compared to those with a college degree (19.6%).
- The prevalence of arthritis significantly decreased with increasing household income level.

Percent of Adults who have Arthritis: Kentucky vs. Nationwide (States and DC) — 2017

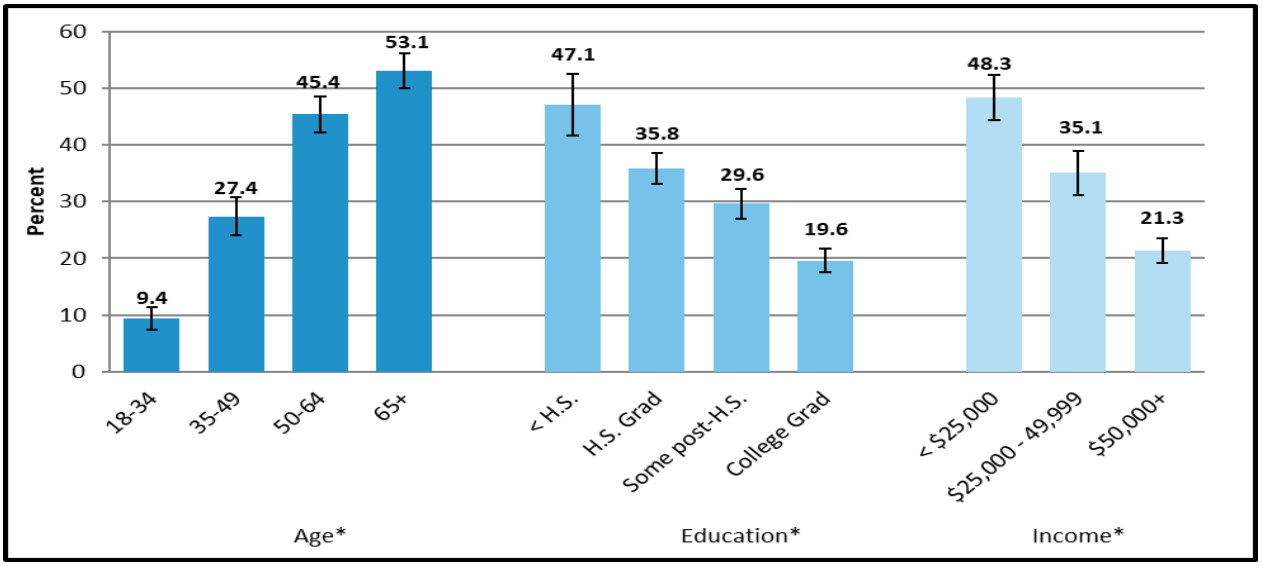


Percent of Kentucky Adults who have Arthritis, by Gender*, and by Race* — 2017





Percent of Kentucky Adults who have Arthritis, by Age*, Education*, and Income* — 2017



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ASTHMA

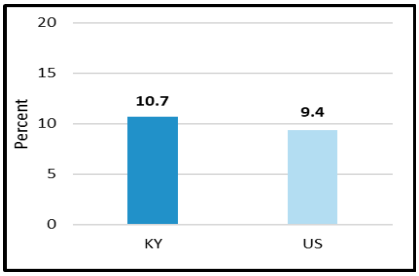
Question: 1. Have you ever been told by a doctor, nurse, or other health professional that you had asthma? (lifetime)
2. Do you still have asthma? (current)

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

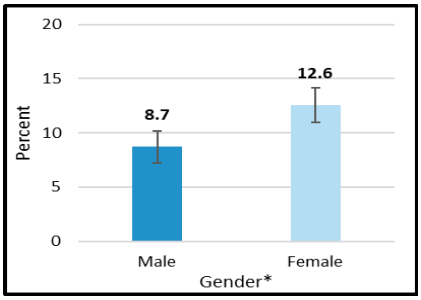
Who is at risk in Kentucky?

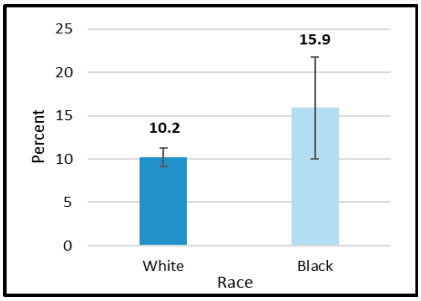
- In 2017, about 10.7% of Kentucky adults reported that they currently have asthma. This was higher compared to 9.4% in the United States.
- The prevalence of asthma was significantly higher among females than among males (12.6% vs 8.7%).
- The prevalence of asthma did not significantly differ by race.
- The prevalence of asthma did not significantly differ across age groups.
- Adults with less than high school education (20.0%) significantly had a higher prevalence of asthma than those with a college degree (6.9%).
- 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 (18.4% vs 6.4%).

Percent of Adults who have Current Asthma: Kentucky vs. Nationwide (States and DC) — 2017

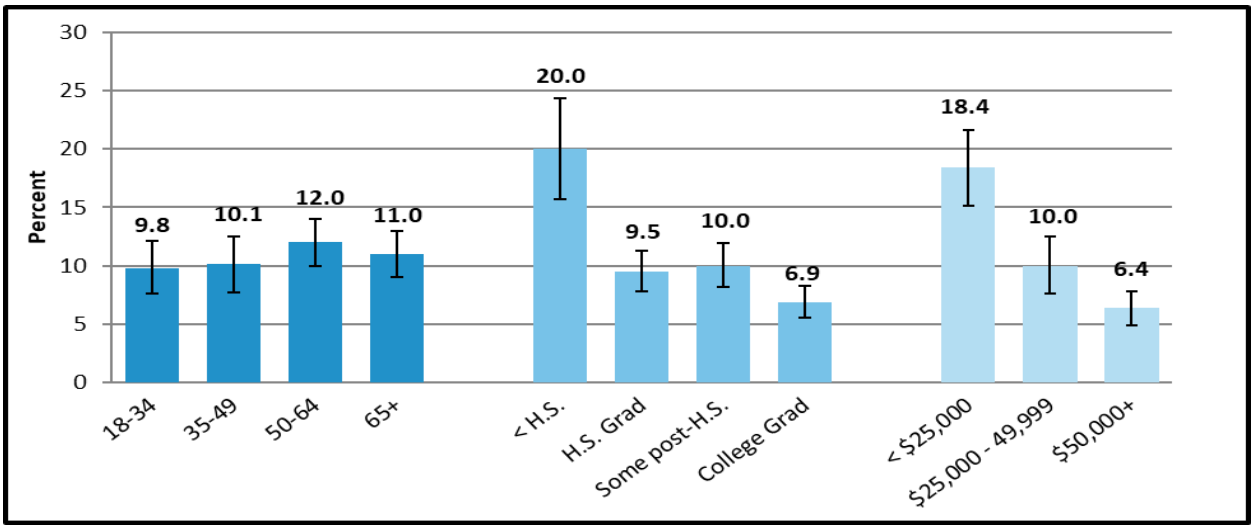


Percent of Kentucky Adults who have Current Asthma, by Gender*, and by Race — 2017





Percent of Kentucky Adults who have Current Asthma, by Age, Education*, and Income* — 2017



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Chronic Obstructive Pulmonary Disease (COPD)

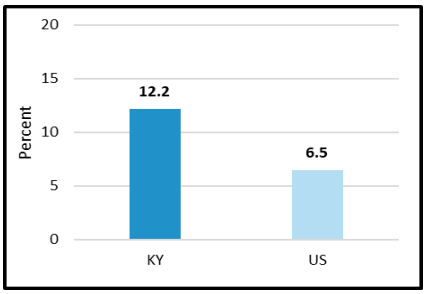
Question: Have you ever been told by a doctor, nurse, or other health professional that you that you have Chronic Obstructive Pulmonary Disease or COPD, emphysema, or chronic bronchitis?

At Risk: Adults who answered "Yes" are considered at risk.

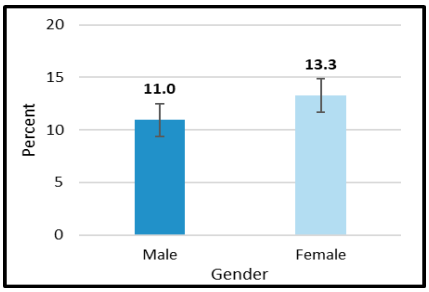
Who is at risk in Kentucky?

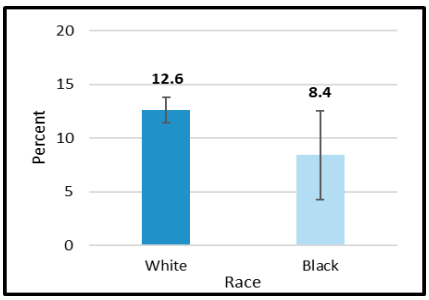
- An estimated 12.2% of Kentucky adults reported ever being told by a doctor or healthcare provider that they had COPD. This was higher compared to 6.5% in the United States.
- The prevalence of COPD did not significantly differ by gender.
- The prevalence of COPD did not significantly differ by race.
- The prevalence of COPD increased significantly with age. Adults aged 65 years and older had the highest prevalence of COPD (19.6%).
- The prevalence of COPD was significantly higher among adults with less than high school education (25.9%) compared to those with a college degree (3.7%).
- 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 (5.2%).

Percent of Adults who have COPD: Kentucky vs. Nationwide (States and DC) — 2017

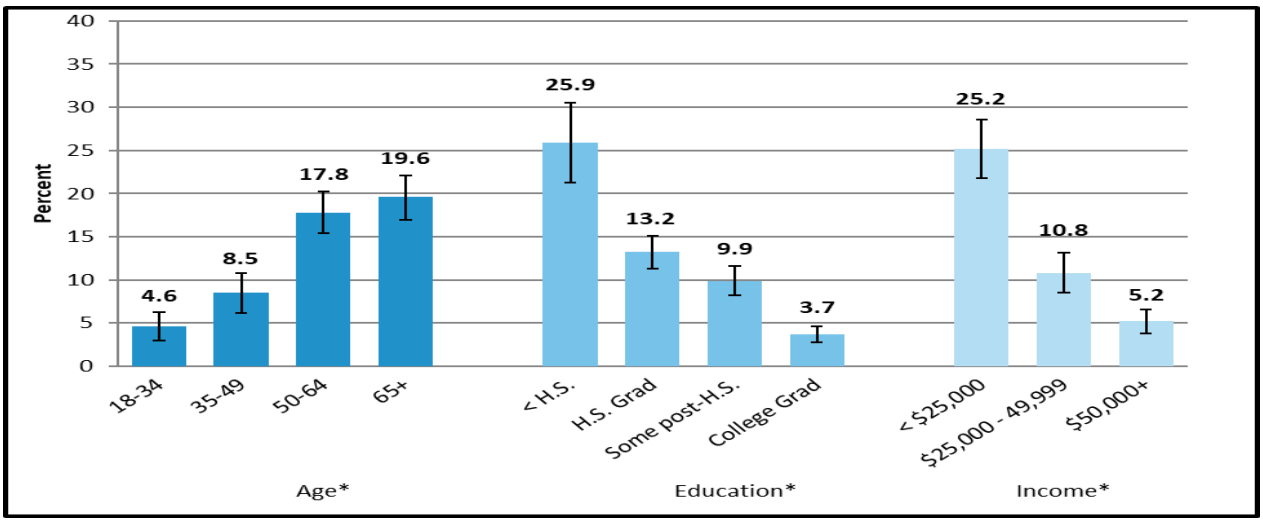


Percent of Kentucky Adults who have COPD by Gender, and by Race — 2017





Percent of Kentucky Adults who have COPD, by Age*, Education*, and Income* — 2017



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CORONARY HEART DISEASE

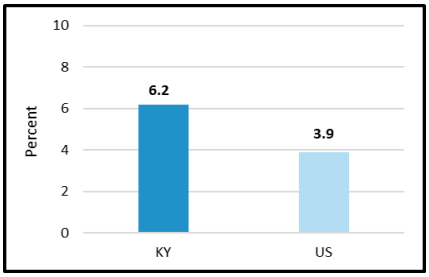
Question: Have you ever been told by a doctor, nurse, or other health professional that you had angina or coronary heart disease?

At Risk: Adults who answered "Yes" are considered at risk.

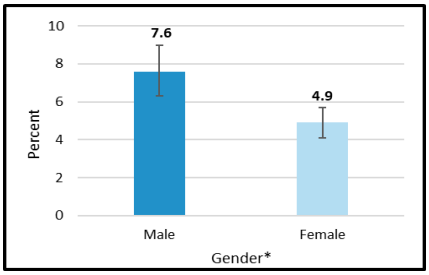
Who is at risk in Kentucky?

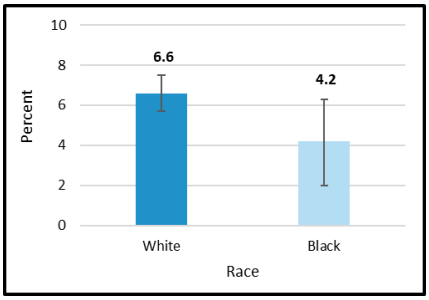
- In 2017, an estimated 6.2% of Kentucky adults reported ever being told by a doctor that they had coronary heart disease. This was higher compared to 3.9% in the United States.
- Males (7.6%) significantly reported higher prevalence of coronary heart disease than females (4.9%).
- The prevalence of coronary heart disease did not significantly differ by race.
- The prevalence of coronary heart disease increased significantly with age. Adults aged 65 years and older (15.5%) had a higher prevalence of coronary heart disease compared to younger age groups.
- The prevalence of coronary heart disease was significantly higher among adults with less than high school education than among those with a college degree (10.1% vs 4.3%).
- The prevalence of coronary heart disease increased with increasing annual household income. The lowest prevalence was among adults with a annual household income of $50,000 or more (3.8%).

Percent of Adults who have Coronary Heart Disease: Kentucky vs. Nationwide (States and DC) — 2017

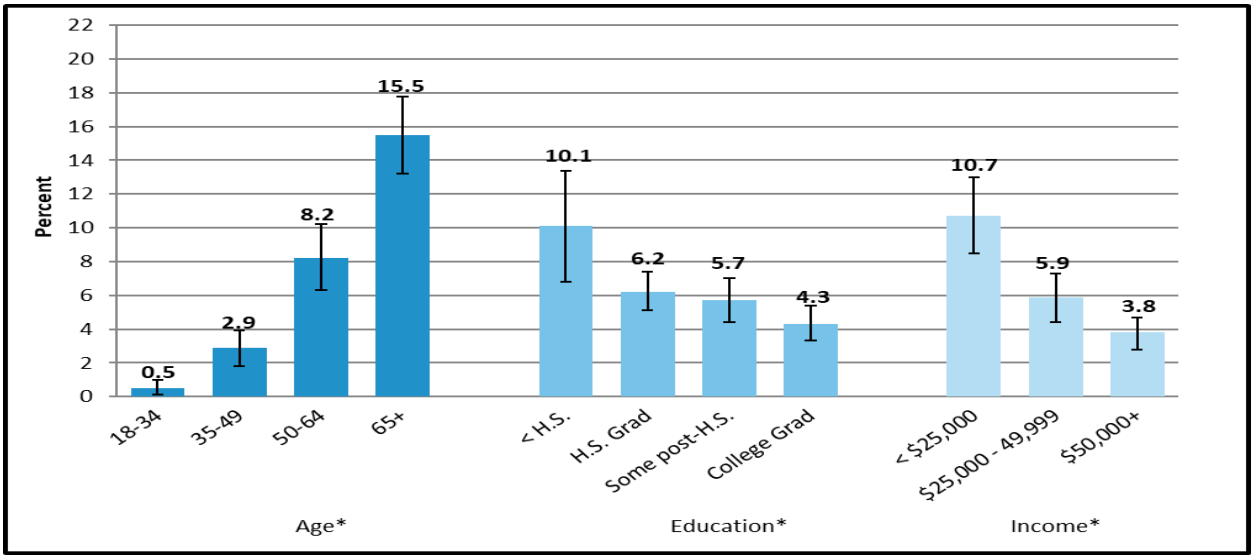


Percent of Kentucky Adults who have Coronary Heart Disease by Gender*, and by Race — 2017





Percent of Kentucky Adults who have Coronary Heart Disease, by Age*, Education*, and Income* — 2017



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DEPRESSIVE DISORDER

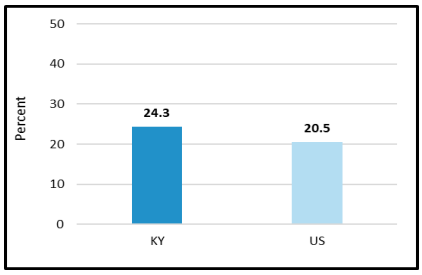
Question: Have you ever been told by a doctor, nurse, or other health professional that you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?

At Risk: Adults who answered "Yes" are considered at risk.

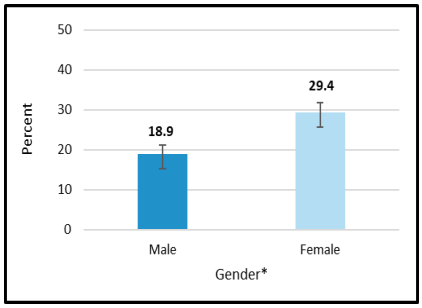
Who is at risk in Kentucky?

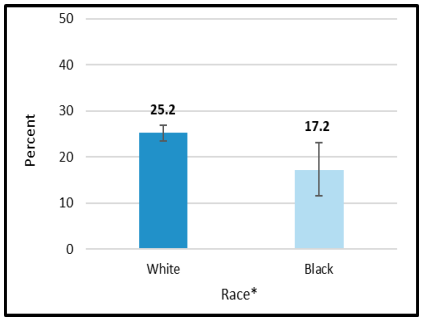
- Approximately 24.3% of Kentucky adults reported ever being told by a health professional that they had a depressive disorder. This was higher compared to 20.5% in the United States.
- Females (29.4%) reported a significantly higher prevalence of depression than males (18.9%).
- The prevalence of depression did not significantly differ by race.
- The prevalence of depression was significantly lower among adults aged 65 years and older compared to the other age groups.
- Adults with less than high school education (34.1%) reported a higher prevalence of depression compared to adults with higher levels of education attainment.
- The prevalence of depression decreased significantly with increasing income level.

Percent of Adults who have Depressive Disorder: Kentucky vs. Nationwide (States and DC) — 2017

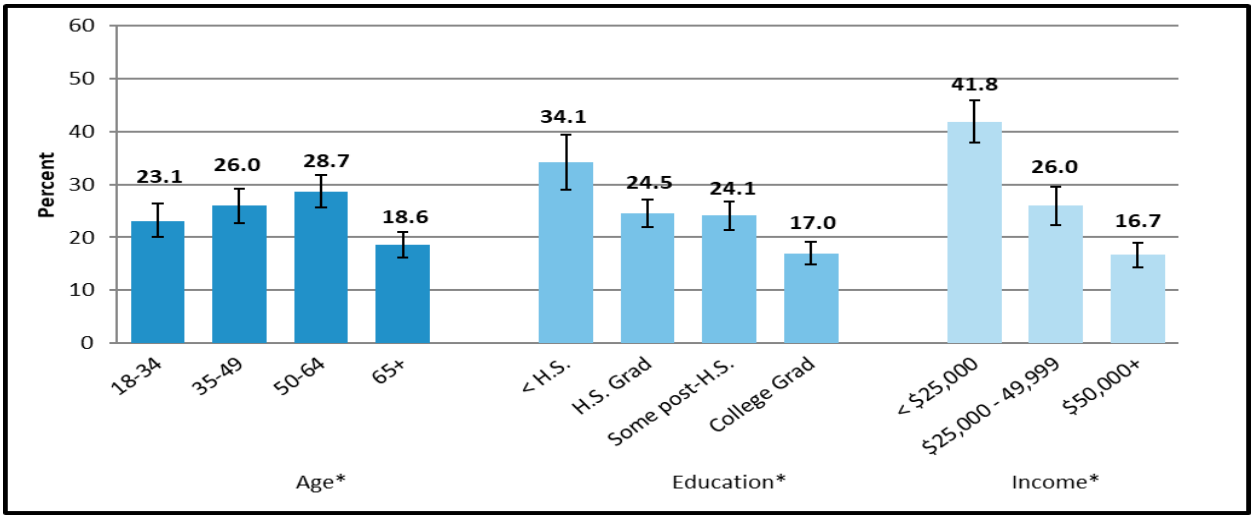


Percent of Kentucky Adults who have Depressive Disorder, by Gender*, and by Race* — 2017





Percent of Kentucky Adults who have Depressive Disorder by Age*, Education*, and Income* — 2017



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DIABETES

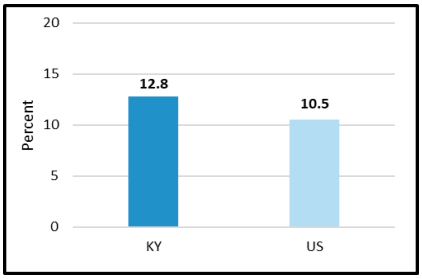
Question: Have you ever been told by a doctor, nurse, or other health professional that you have diabetes?

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

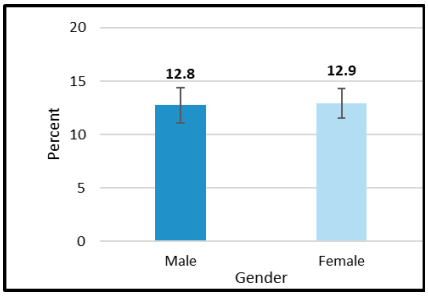
Who is at risk in Kentucky?

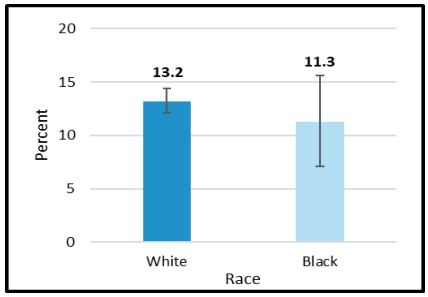
- In 2017, about 12.8% of Kentucky adults reported ever being told by a doctor that they had diabetes. This was a higher prevalence compared to 10.5% in the United States.
- The prevalence of diabetes was similar by gender.
- The prevalence of diabetes did not significantly differ by race.
- The prevalence of diabetes significantly increased with age. Adults aged 65 years and older (26.8%) had a higher prevalence of diabetes compared to the other age groups.
- The prevalence of diabetes decreased as education level increased. Adults with less than high school education (20.4%) reported a significantly higher prevalence of diabetes than those with a college degree (9.1%).
- The prevalence of Diabetes significantly increased with increasing annual household income. 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 (18.6% vs 8.4%).

Percent of Adults who have Diabetes: Kentucky vs. Nationwide (States and DC) — 2017

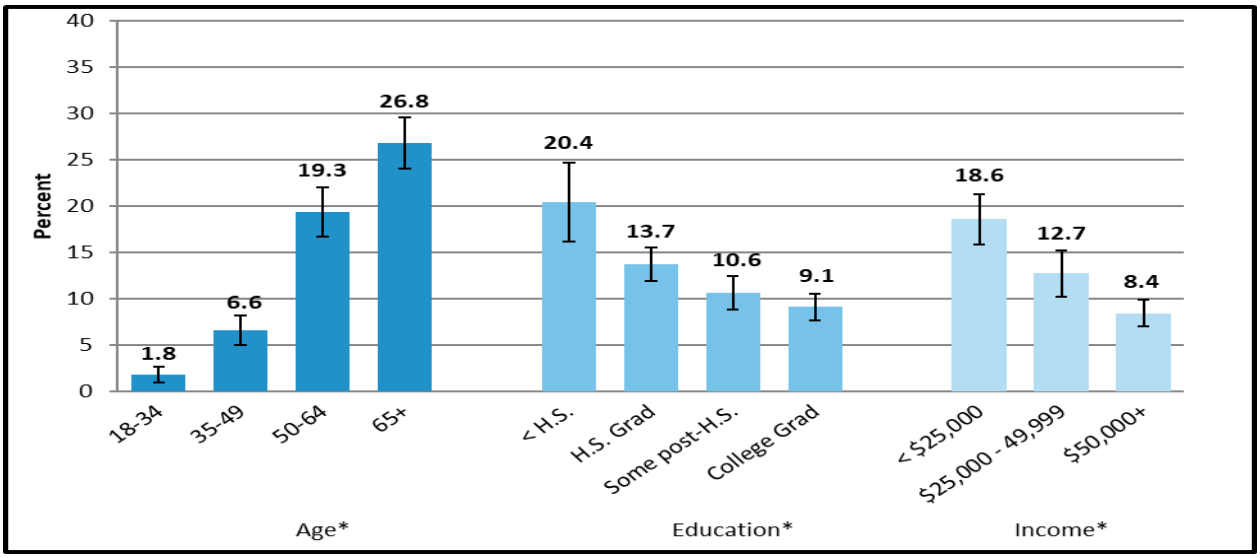


Percent of Kentucky Adults who have Diabetes by Gender, and by Race — 2017





Percent of Kentucky Adults who have Diabetes, by Age*, Education*, and Income* — 2017



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HEART ATTACK

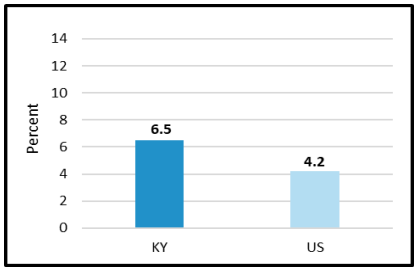
Question: Have you ever been told by a doctor, nurse, or other health professional that you had a heart attack, also called a myocardial infarction?

At Risk: Adults who answered "Yes" are considered at risk.

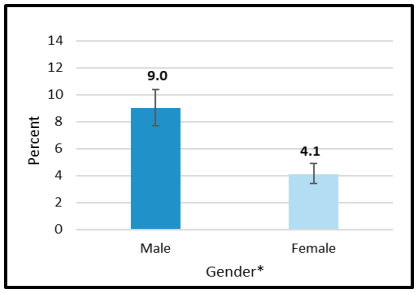
Who is at risk in Kentucky?

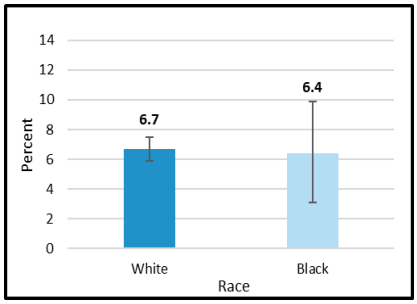
- About 6.5% of Kentucky adults reported ever being told by a doctor that they had a heart attack; this was a higher estimate compared to 4.2% in the United States.
- Males (9.0%) reported a significantly higher prevalence of heart attack than females (4.1%).
- The prevalence of heart attack did not significantly differ by race.
- The prevalence of heart attack significantly increased with age. Adults aged 65 and older reported a much higher prevalence of heart attack compared to the other age groups.
- The prevalence of heart attack was significantly higher among adults with less than high school education than among those with a college degree (12.9% vs 3.6%).
- The prevalence of heart attack decreased significantly with increasing annual household income. Adults with an annual household income of less than $25,000 reported a higher prevalence of heart attack compared to those with household income of $50,000 or more (11.7% vs 3.0%).

Percent of Adults who have ever been told that they had a Heart Attack: Kentucky vs. Nationwide (States and DC) — 2017

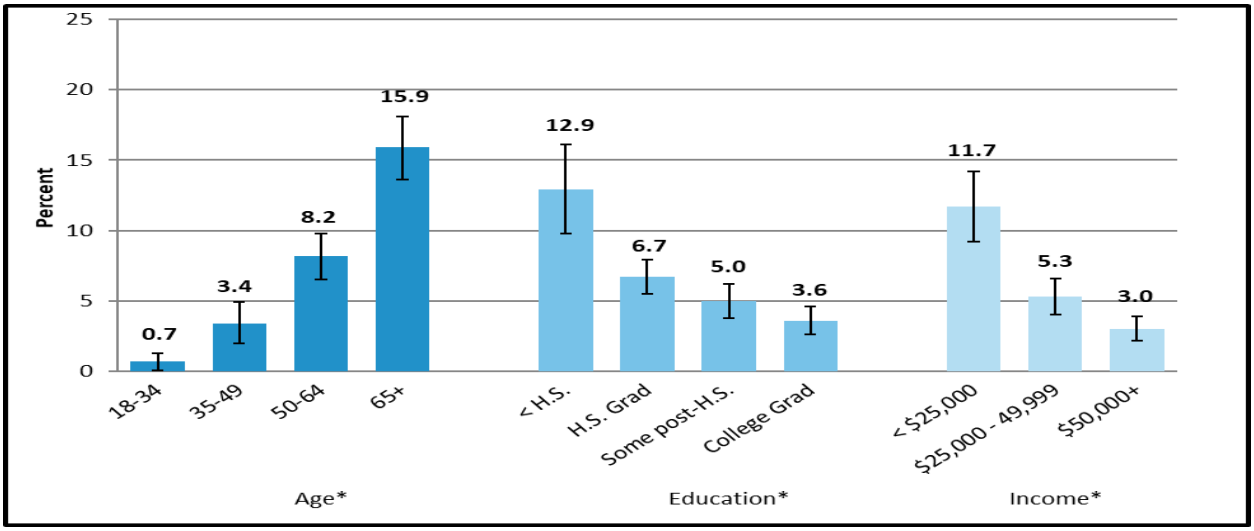


Percent of Kentucky Adults who have ever been told they had a Heart Attack, by Gender*, and by Race — 2017





Percent of Kentucky Adults who have ever been told that they had a Heart Attack , by Age*, Education*, and Income* — 2017



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HIGH BLOOD CHOLESTEROL

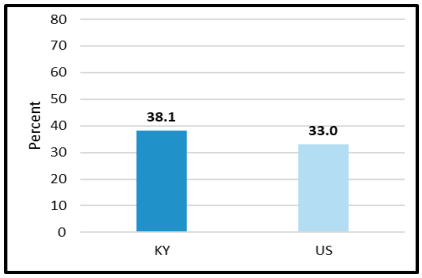
Question: Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?

At Risk: Adults who answered 'Yes' are considered at risk

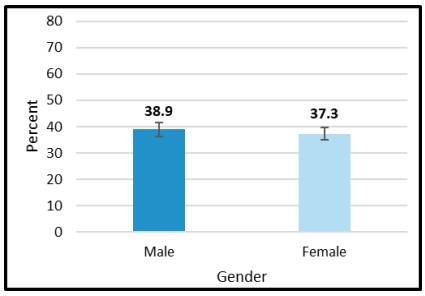
Who is at risk in Kentucky?

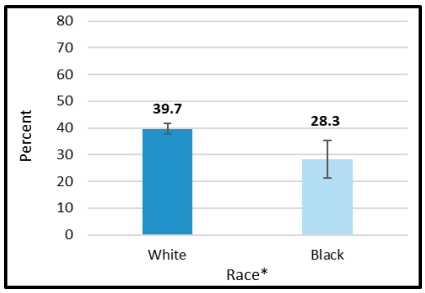
- In 2017, an estimated 38.1% of Kentucky adults reported ever being told by a health professional that they had high blood cholesterol. This estimate was higher compared to 33.0% in the United States.
- The prevalence of high blood cholesterol did not differ by gender.
- The prevalence of high blood cholesterol was significantly higher among white compared to black (39.7% vs. 28.3%).
- 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 (52.4% vs 32.1%).
- The prevalence of high blood cholesterol was significantly higher among adults with an annual household income of less than $25,000 compared to those with annual household income of $50,000 or more (46.7% vs 31.9%).

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

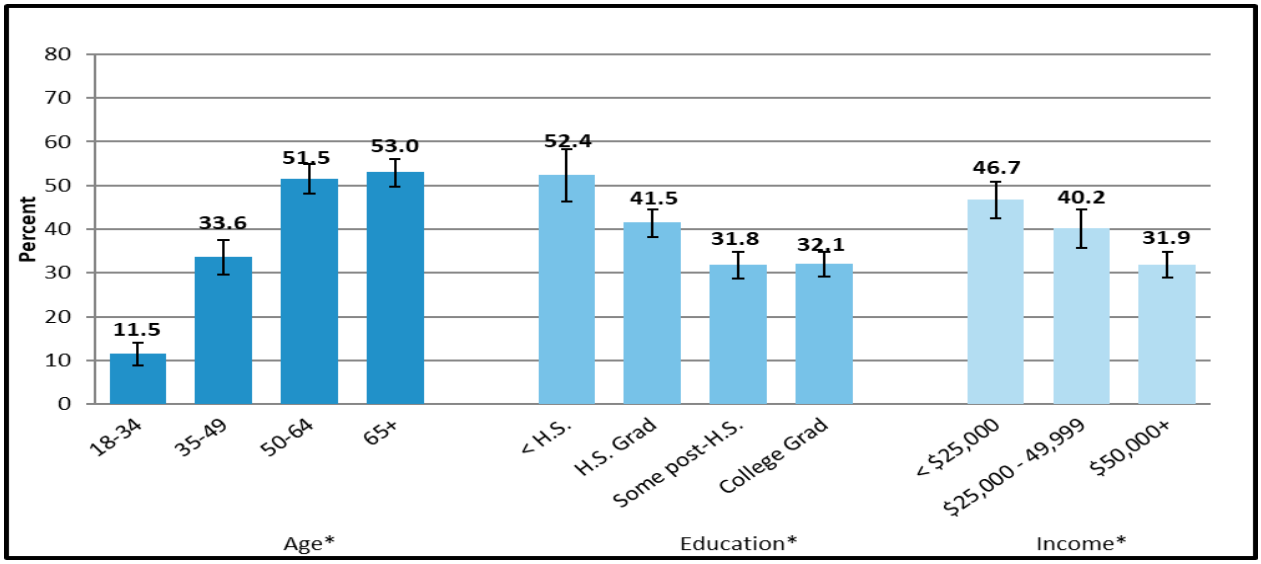


Percent of Kentucky Adults who have High Blood Cholesterol , by Gender, and by Race* — 2017





Percent of Kentucky Adults who have High Blood Cholesterol , by Age*, Education*, and Income* — 2017



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HIGH BLOOD PRESSURE

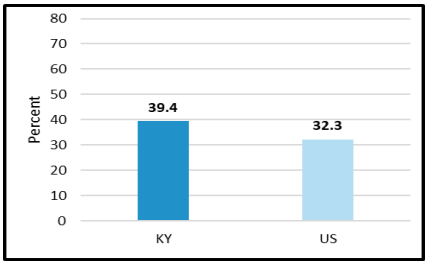
Question: Have you ever been told by a doctor, nurse or other health professional that you have High Blood Pressure?

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.

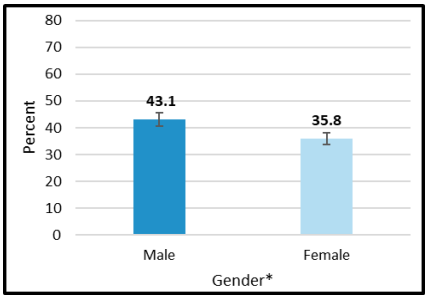
Who is at risk in Kentucky?

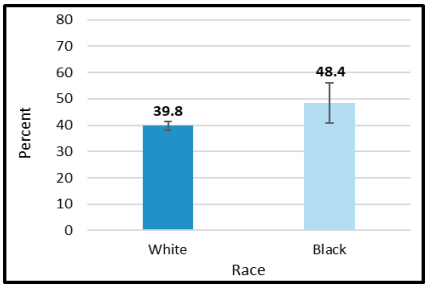
- About 39.4% of Kentucky adults reported ever being told by a health professional that they had high blood pressure compared to 32.3% in the United States.
- The prevalence of high blood pressure was significantly higher among men than among females (43.1% vs 35.8%).
- No significant differences were 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 (66.8%).
- 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 (52.0% vs 30.5%).
- 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) — 2017

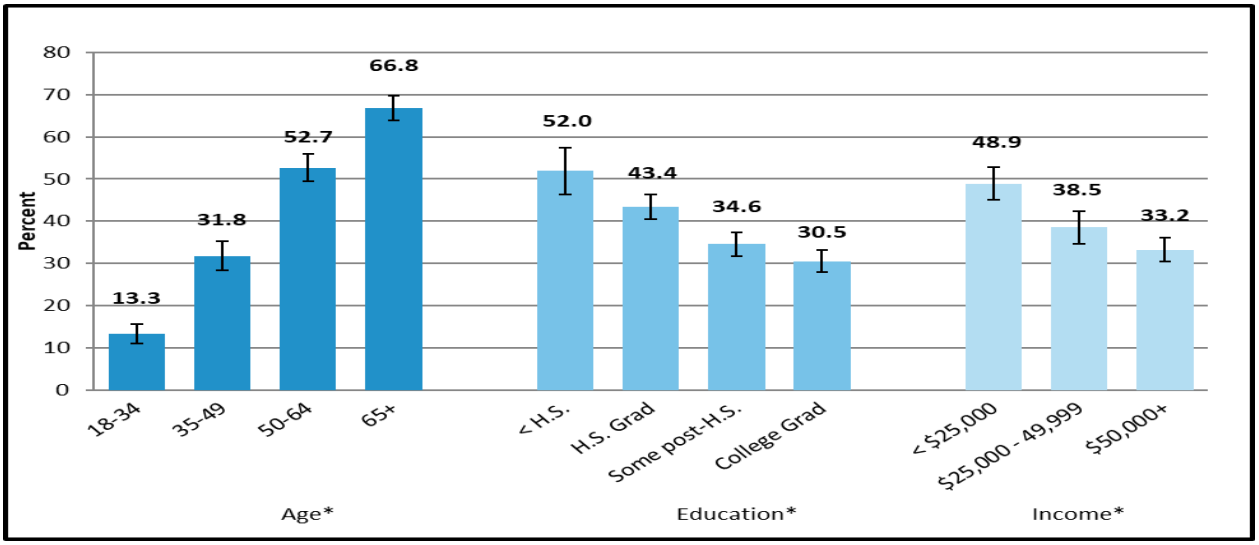


Percent of Kentucky Adults who have High Blood Pressure, by Gender*, and by Race — 2017





Percent of Kentucky Adults who have High Blood Pressure, by Age*, Education*, and Income* — 2017



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OBESITY

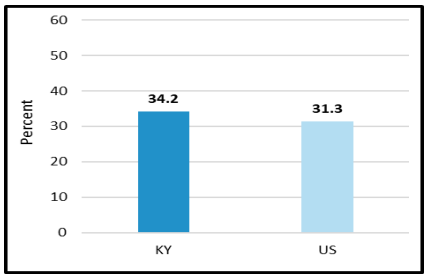
Question: Body Mass Index (BMI) was calculated based on data collected from:
1) How much do you weigh without shoes?
2) How tall are you without shoes?

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

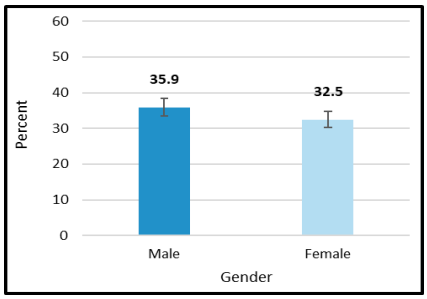
Who is at risk in Kentucky?

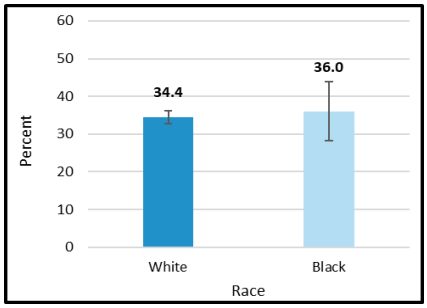
- In 2017, an estimated 34.2% of Kentucky adults were classified as being obese (i.e. Body Mass Index greater or equal to 30). This was higher compared to 31.3% in the United States.
- The prevalence of obesity did not significantly differ by gender.
- The prevalence of obesity did not significantly differ by race.
- The prevalence of obesity was significantly higher among middle-aged adults aged 35-64 years than among adults aged 65 years and older.
- Adults with college degree had a lower prevalence of obesity compared to those with less education; however the differences were not statistically significant.
- The prevalence of obesity did not significantly differ by income.

Percent of Adults who are Obese: Kentucky vs. Nationwide (States and DC) — 2017

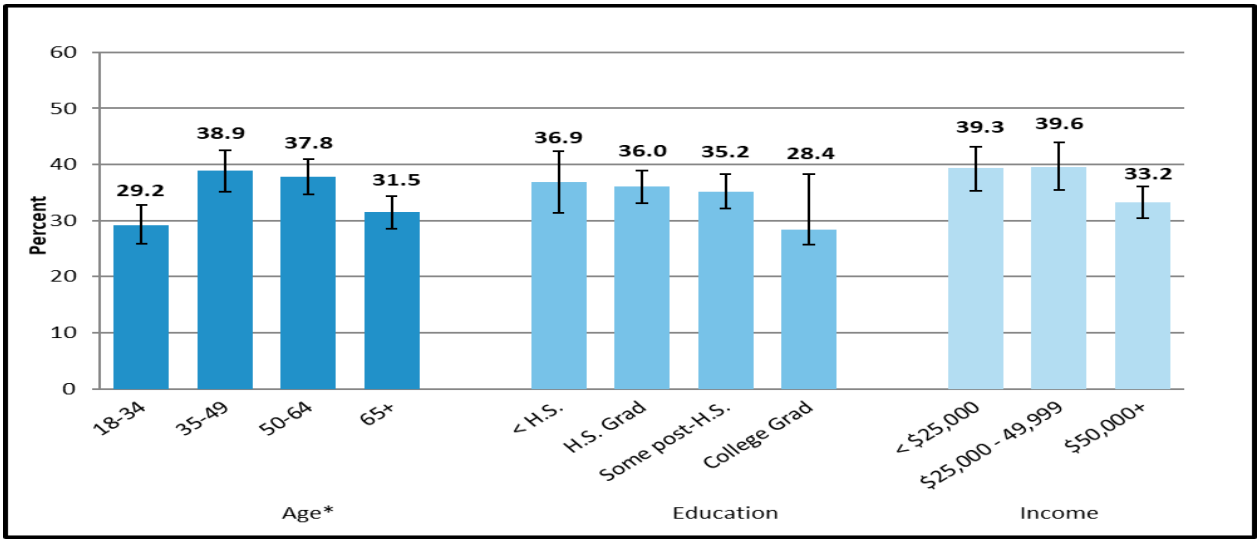


Percent of Kentucky Adults who are Obese, by Gender, and by Race — 2017





Percent of Kentucky Adults who are Obese, by Age*, Education, and Income — 2017



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STROKE

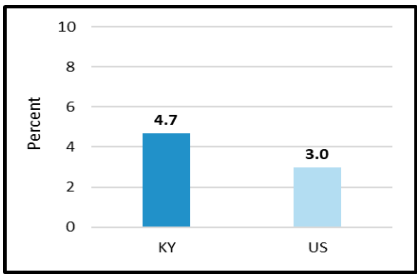
Question: Have you ever been told by a doctor, nurse, or other health professional that you had a stroke?

At Risk: Adults who answered "Yes" are considered at risk.

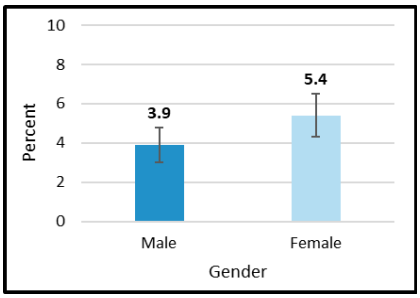
Who is at risk in Kentucky?

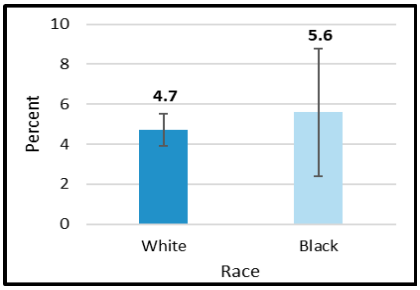
- About 4.7% of Kentucky adults had ever been told by a doctor that they had a stroke. This was higher compared to 3.1% in the United States.
- The prevalence of stroke was similar by gender.
- The prevalence of stroke did not significantly differ by race.
- The prevalence of stroke significantly increased with age. The highest prevalence of stroke was among adults aged 65 years or older (9.8%).
- The prevalence of stroke decreased with increasing education level. The highest prevalence was among adults with less than high school education (9.6%).
- 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 (9.8% vs 1.7%).

Percent of Adults who have ever been told that they had a Stroke: Kentucky vs. Nationwide (States and DC) — 2017

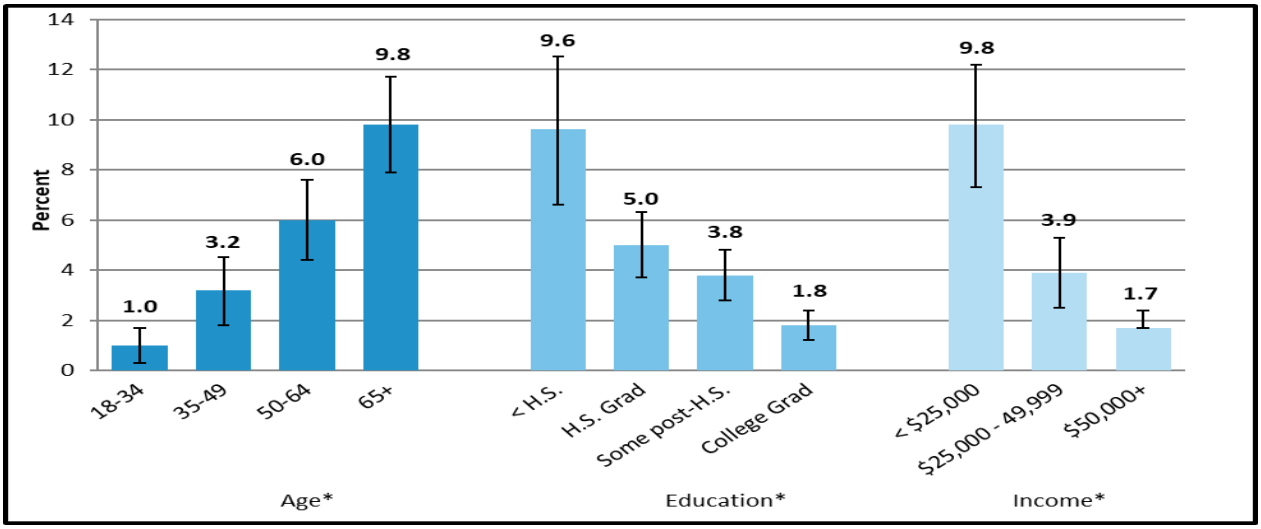


Percent of Kentucky Adults who have ever been told they had a Stroke, by Gender, and by Race — 2017





Percent of Kentucky Adults who have ever been told they had a Stroke, by Age*, Education*, and Income* — 2017



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GENERAL HEALTH

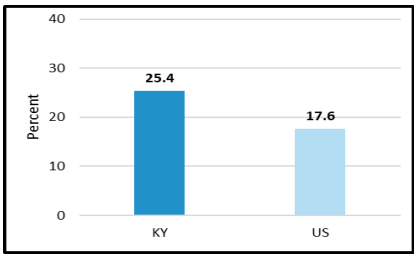
Question: Would you say that your general health is "Excellent", "Very good", "Good", "Fair", or "Poor"?

At Risk: Adults who answered "Fair" or "Poor" are considered at risk.

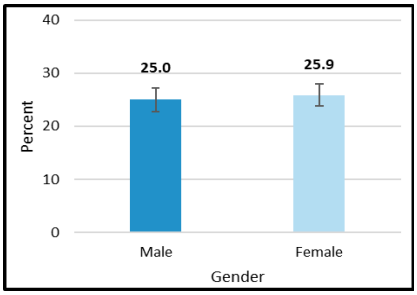
Who is at risk in Kentucky?

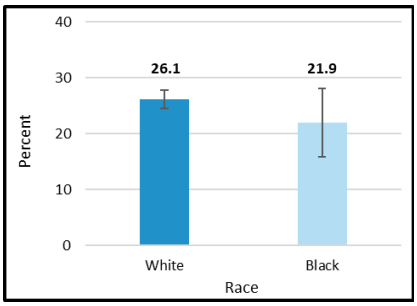
- In 2017, an estimated 25.4% of Kentucky adults reported that their general health was either fair or poor, this was higher compared to 17.6% in the United States.
- The prevalence of fair or poor health did not significantly differ by gender.
- The prevalence of fair or poor health did not differ by race.
- The prevalence of fair or poor health increased with age. Adult aged 65 and older reported a higher prevalence of fair or poor health compared to the other age groups.
- Adults with less than high school education (50.3%) reported a significantly higher prevalence of fair or poor health compared to those with a college degree (9.7%).
- The prevalence of fair or poor health significantly decreased with increasing household income level.

Percent of Adults who reported their General Health as Fair or Poor: Kentucky vs. Nationwide (States and DC) — 2017

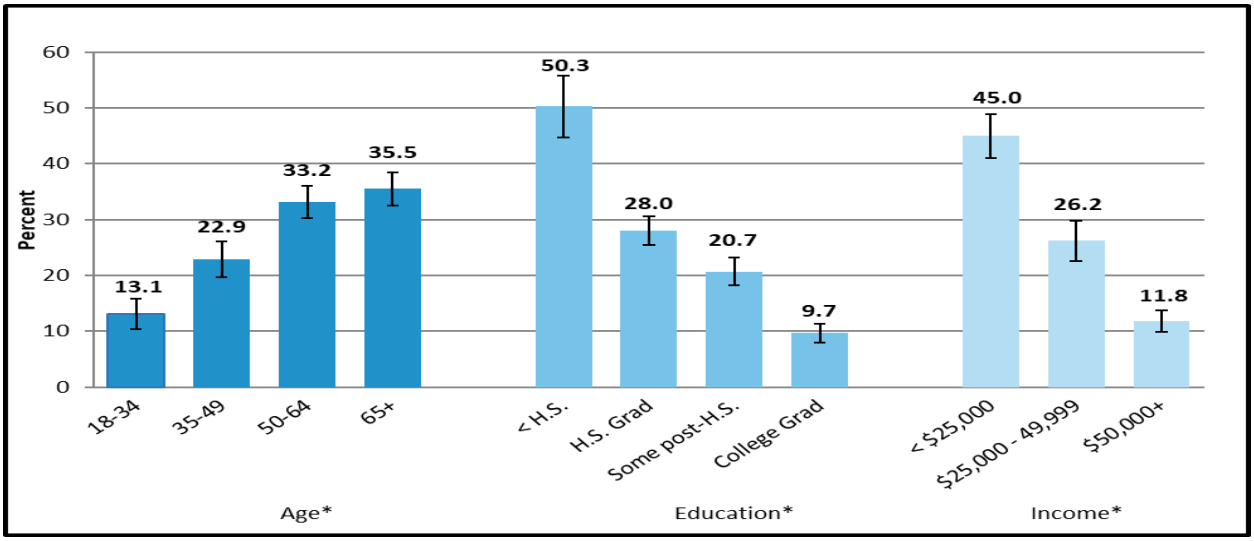


Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Gender*, and by Race — 2017





Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Age*, Education*, and Income* — 2017



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NO HEALTHCARE ACCESS/COVERAGE

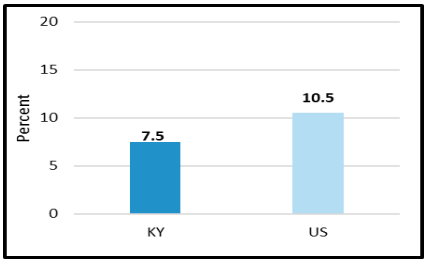
Question: Do you have any kind of health care coverage, including health insurance, pre-paid plans such as HMOs or governmental plans such as Medicare?

At Risk: Adults who answered "No" are considered at risk.

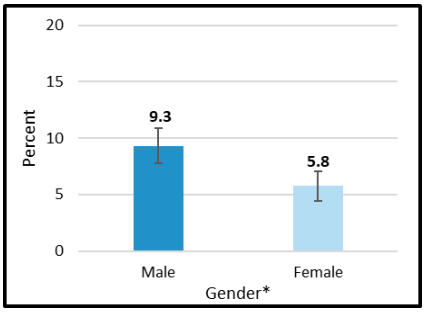
Who is at risk in Kentucky?

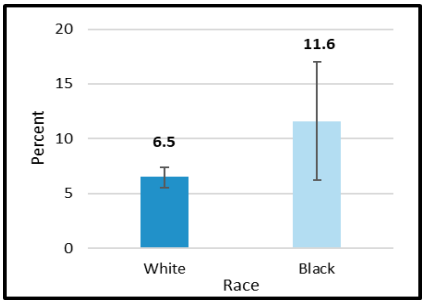
- About 7.5% of Kentucky adults reported having no healthcare coverage. This was lower compared to 10.0% in the United States.
- Males (9.3%) reported a significantly higher prevalence of no healthcare coverage compared to females (5.8%).
- The prevalence of adults with no health care coverage did not significantly differ by race.
- Young adults aged 18-49 significantly reported higher prevalence of no health are coverage compared to other age groups.
- Adults with less than high school education reported a significantly higher prevalence of no healthcare coverage than those with a college degree (9.9% vs 3.7%).
- The prevalence of no healthcare coverage did not significantly differ by income.

Percent of Adults with No Health Insurance: Kentucky vs. Nationwide (States and DC) — 2017

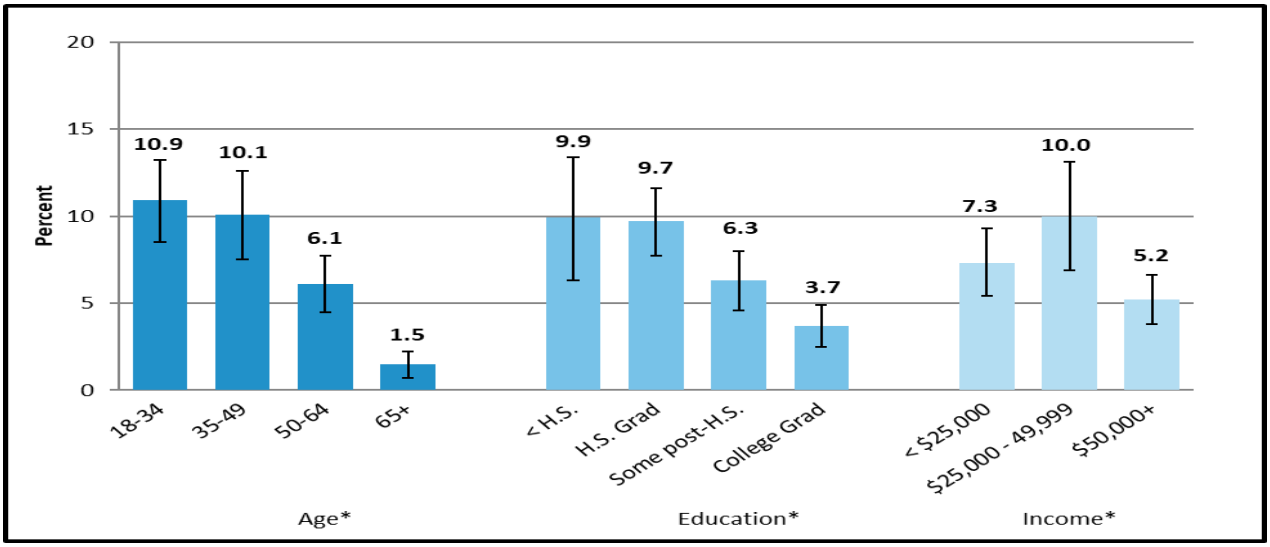


Percent of Kentucky Adults with No Health Insurance, by Gender*, and by Race — 2017





Percent of Kentucky Adults with No Health Insurance, by Age*, Education*, and Income* — 2017



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HIV/AIDS SCREENING

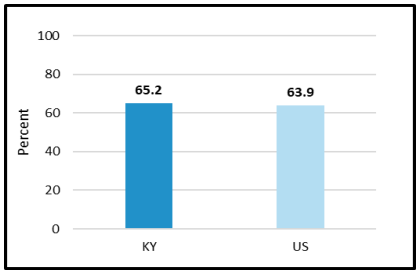
Question: Have you ever been tested for HIV?

At Risk: Adults who answered "No" are considered at risk.

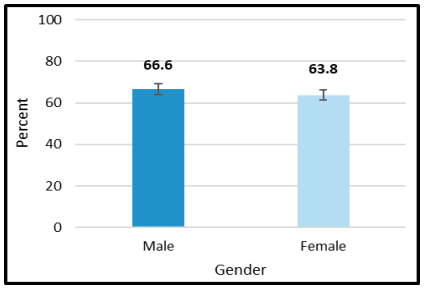
Who is at risk in Kentucky?

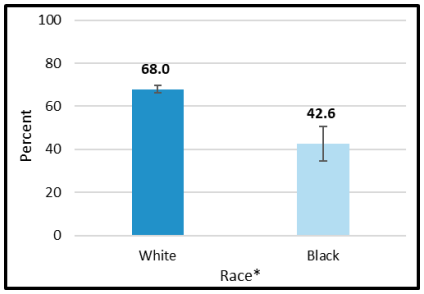
- In 2017, an estimated 65.2% of Kentucky adults reported never been tested for HIV. This estimate was slightly higher compared to 63.9% in the United Sates.
- No significant differences were observed in prevalence of adults who have never been tested for HIV by gender.
- The prevalence of white adults who have never been tested for HIV was significantly higher than black adults (68.0% vs 42.6%).
- About 87.2% of adults aged 65 years and older reported that they have never been tested for IHV. This estimate was significantly higher compared to young adults aged 18-34 years (59.6%).
- An estimated 66.1% 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 (63.3%).
- The prevalence of adults who have never been tested for HIV did not significantly differ by household income.

Percent of Adults who have never been tested for HIV: Kentucky vs. Nationwide (States and DC) — 2017

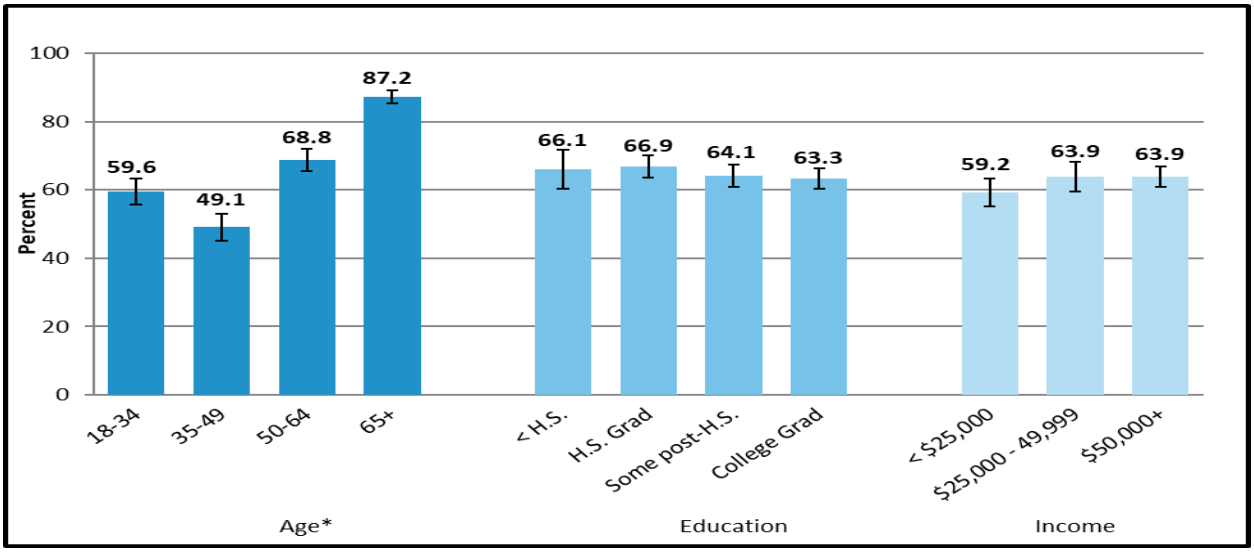


Percent of Kentucky Adults who have never been tested for HIV, by Gender, and by Race* — 2017





Percent of Kentucky Adults who have never been tested for HIV, by Age*, Education, and Income — 2017



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INFLUENZA IMMUNIZATION (Age 65+)

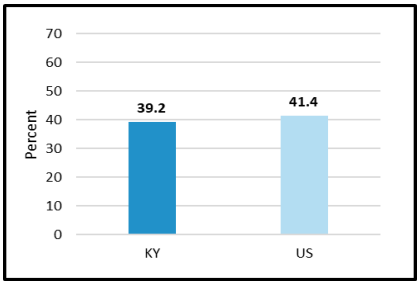
Question: In the past twelve months, have you had a flu shot?

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

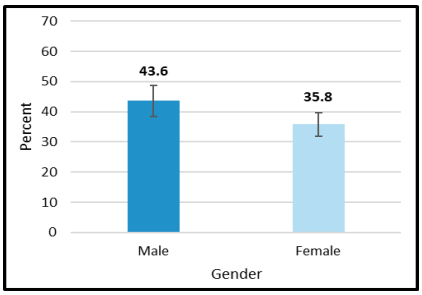
Who is at risk in Kentucky?

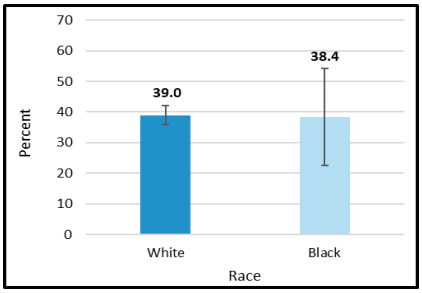
- About 39.2% of Kentucky adults aged 65 years or older reported that they did not get a flu shot in the past year. This was a lower estimate compared to 41.4% in the United States.
- The prevalence of adults who did not get a flu shot in the past year did not significantly differ by gender.
- The prevalence of adults who did not get a flu shot in the past year did not significantly differ by race.
- 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 (42.6% vs 34.1%).
- 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 (40.7% vs 32.4%).
- The prevalence of adults who did not get a flu shot in the past year was significantly higher among adults with an annual household income of less than $25,000 compared to those with an annual household income of $50,000 or more (41.2% vs. 32.6%).

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

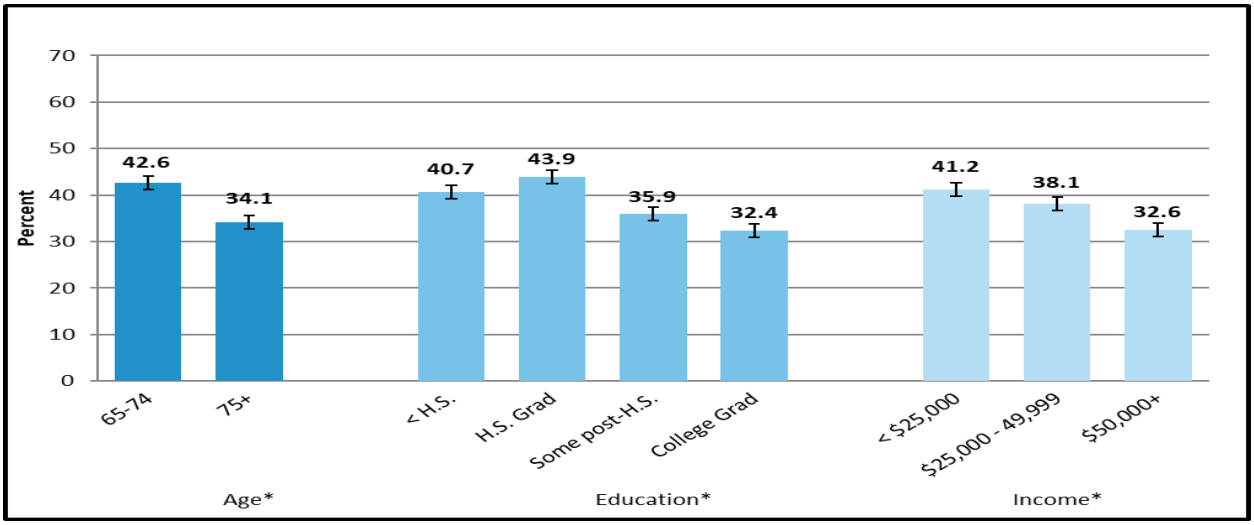


Percent of Kentucky Adults (aged 65+) who did not get a Flu shot in the Past Year, by Gender, and by Race — 2017





Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Age*, Education*, and Income* — 2017



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PNEUMOCOCCAL VACCINATION (Age 65+)

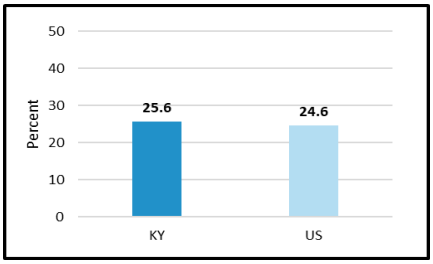
Question: Have you ever had a pneumonia shot?

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

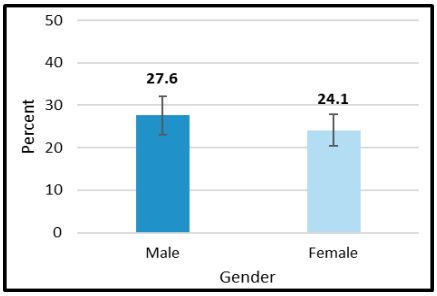
Who is at risk in Kentucky?

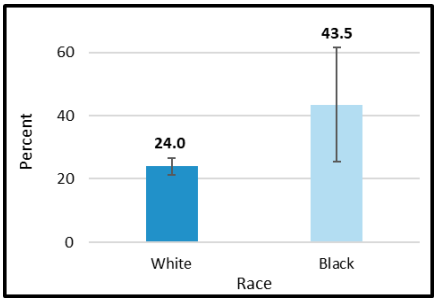
- In 2017, an estimated 25.6% of Kentucky adults aged 65 and older reported that they have never had a pneumococcal vaccination. This estimate was higher compared to 24.6% in the United States.
- The prevalence of adults (aged 65+) who have never had a pneumococcal vaccination did not significantly differ by gender.
- No significant differences were observed in prevalence of adults who have never had a pneumococcal vaccination by race.
- About 29.8% 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 (19.3%).
- An estimated 31.0% 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 (22.2%).
- The prevalence of adults who have never had a pneumococcal vaccination did not significantly differ by household income.

Percent of Adults (aged 65+) who have never had a Pneumococcal Vaccination: Kentucky vs. Nationwide (States and DC) — 2017

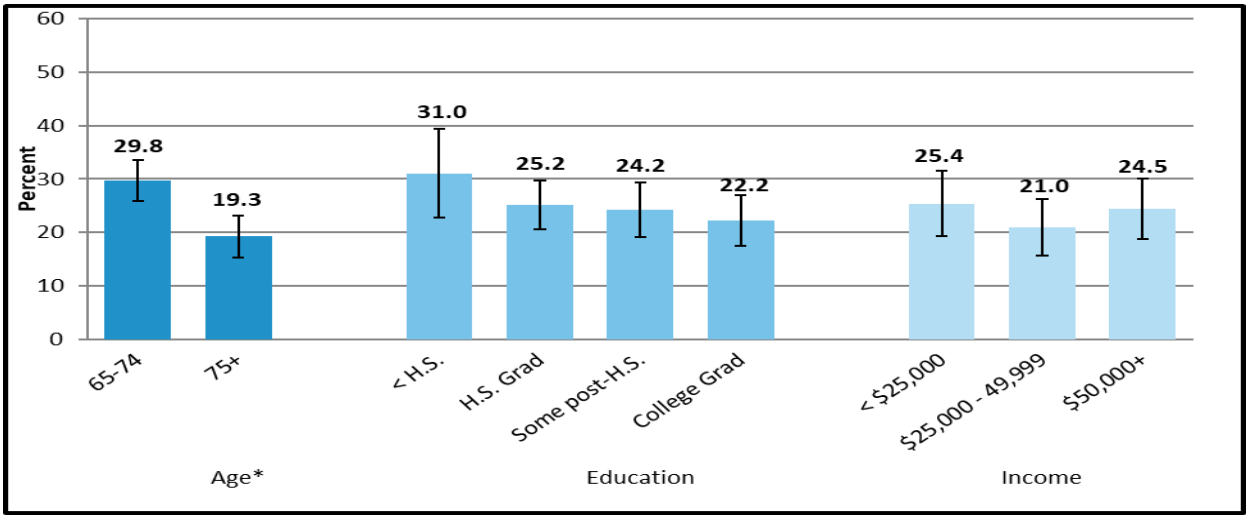


Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Gender, and by Race — 2017





Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Age*, Education, and Income—2017



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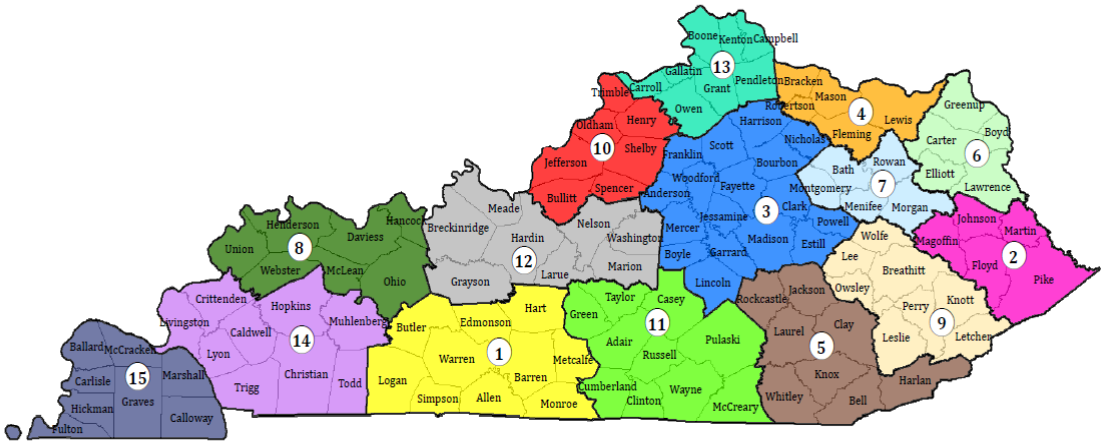
Prevalence Estimates by Area Development District (ADD)

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.

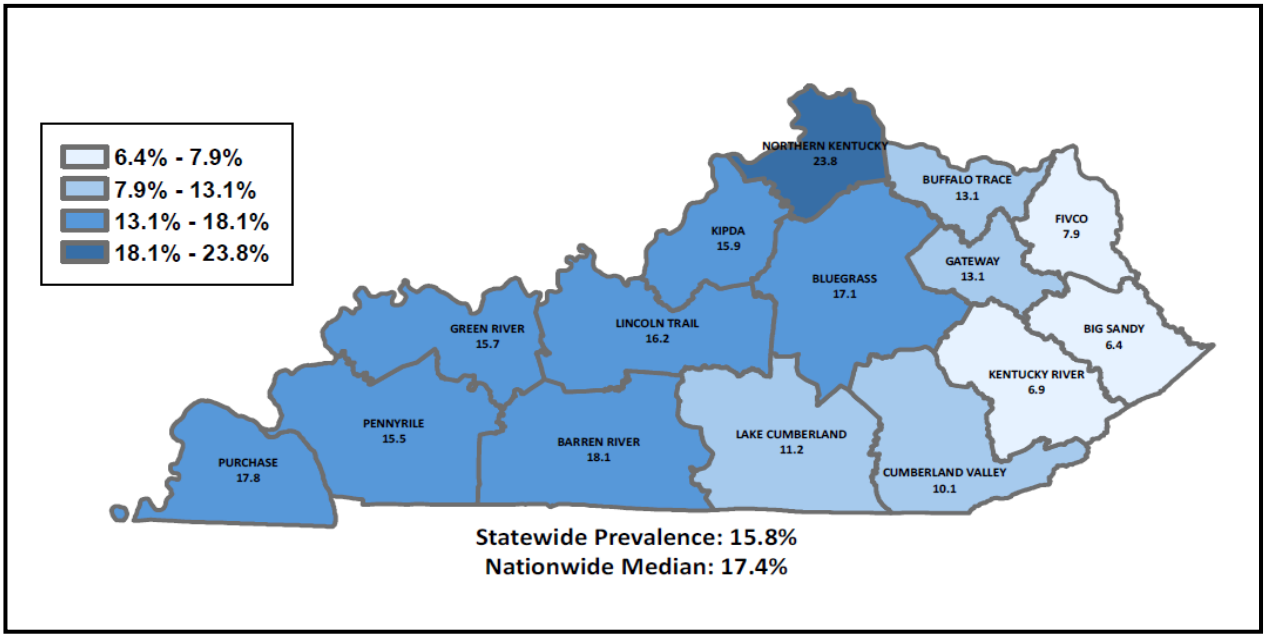


1. Barren River ADD	5. Cumberland Valley ADD	9. Kentucky River ADD	13. Northern Kentucky ADD
2. Big Sandy ADD	6. FIVCO ADD	10. KIPDA ADD	14. Pennyrile ADD
3. Bluegrass ADD	7. Gateway ADD	11. Lake Cumberland ADD	15. Purchase ADD
4. Buffalo Trace ADD	8. Green River ADD	12. Lincoln Trail ADD	

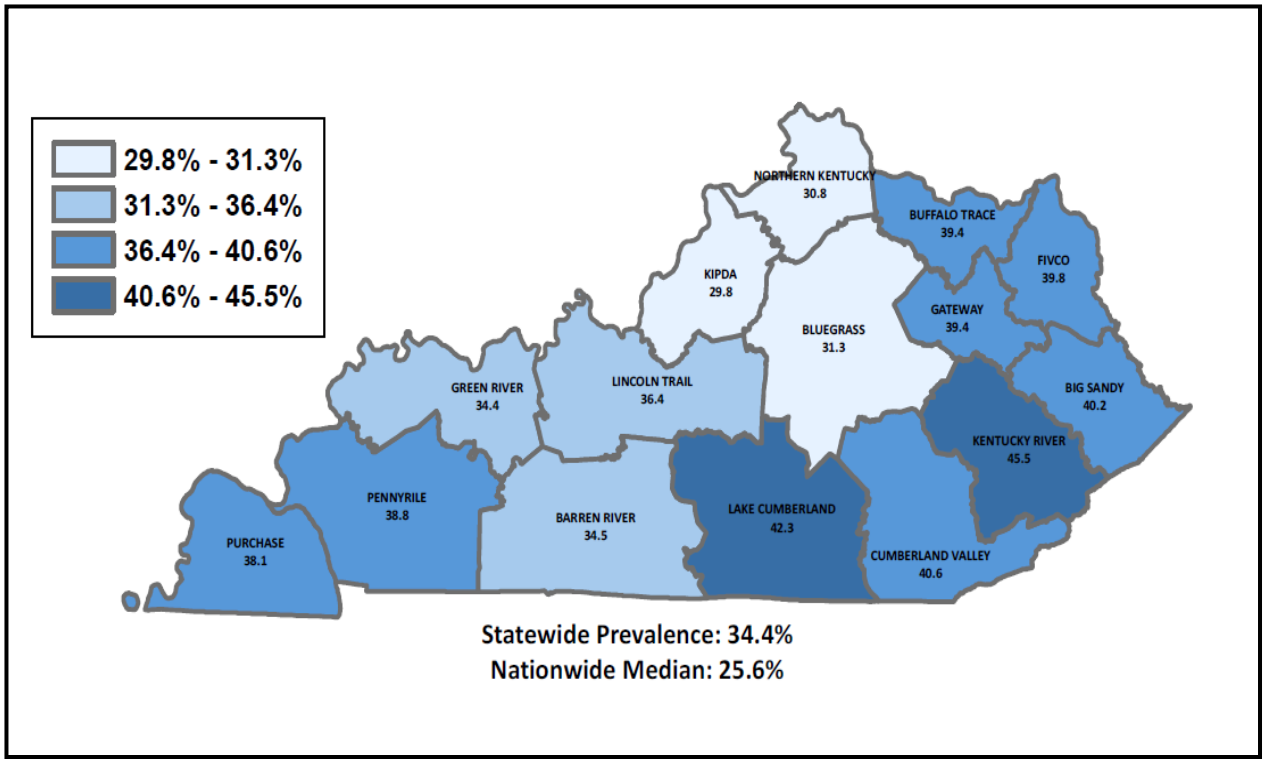
Counties in each ADD

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, 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
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, 2017

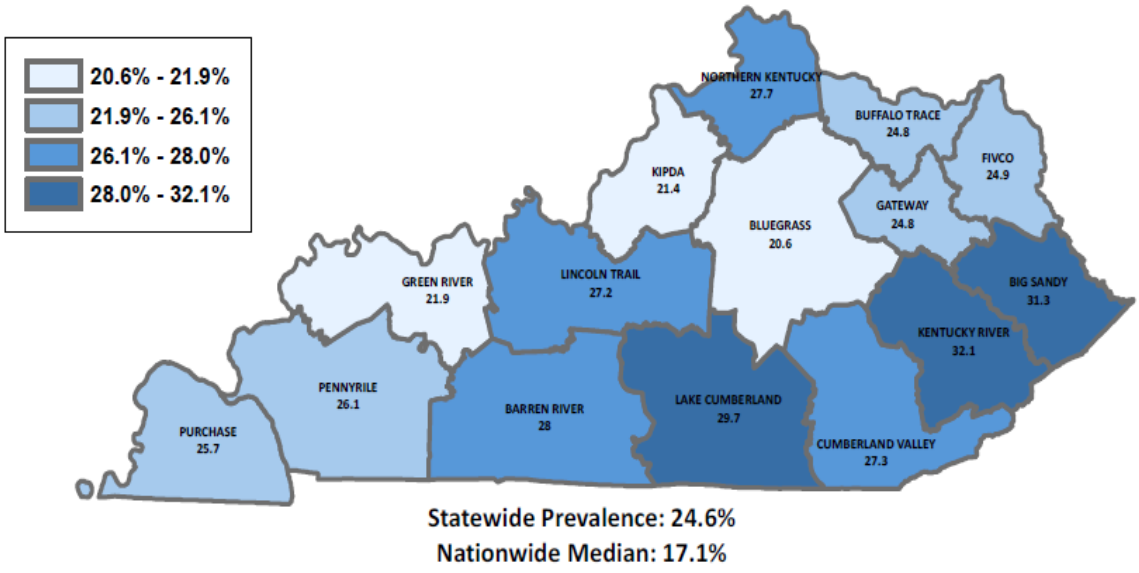


Percent of Kentucky Adults who did not Participate in any Physical Activity in the Past 30 Days, by Area Development District, 2017



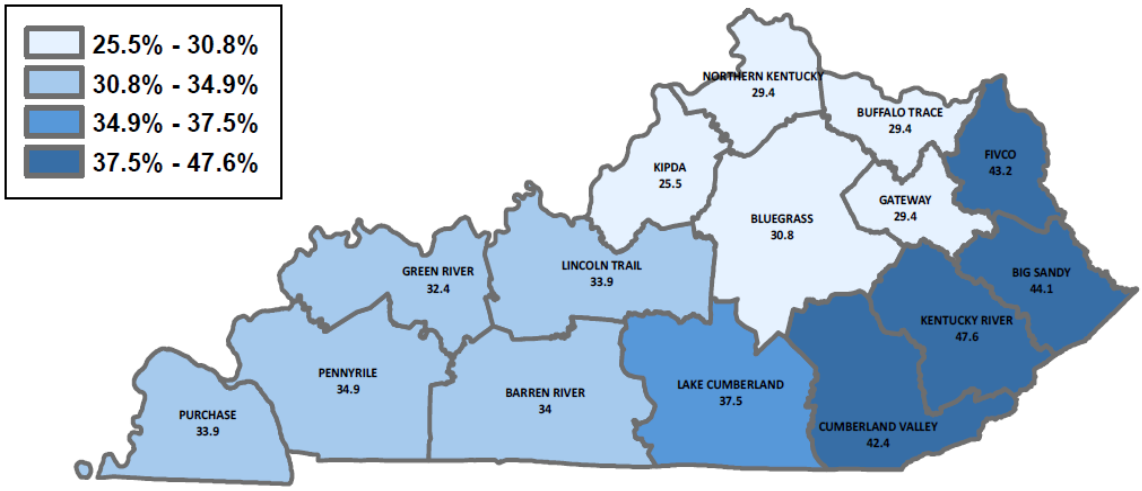
Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who are Current Smokers, by Area Development District, 2017



Statewide Prevalence: 24.6%
Nationwide Median: 17.1%

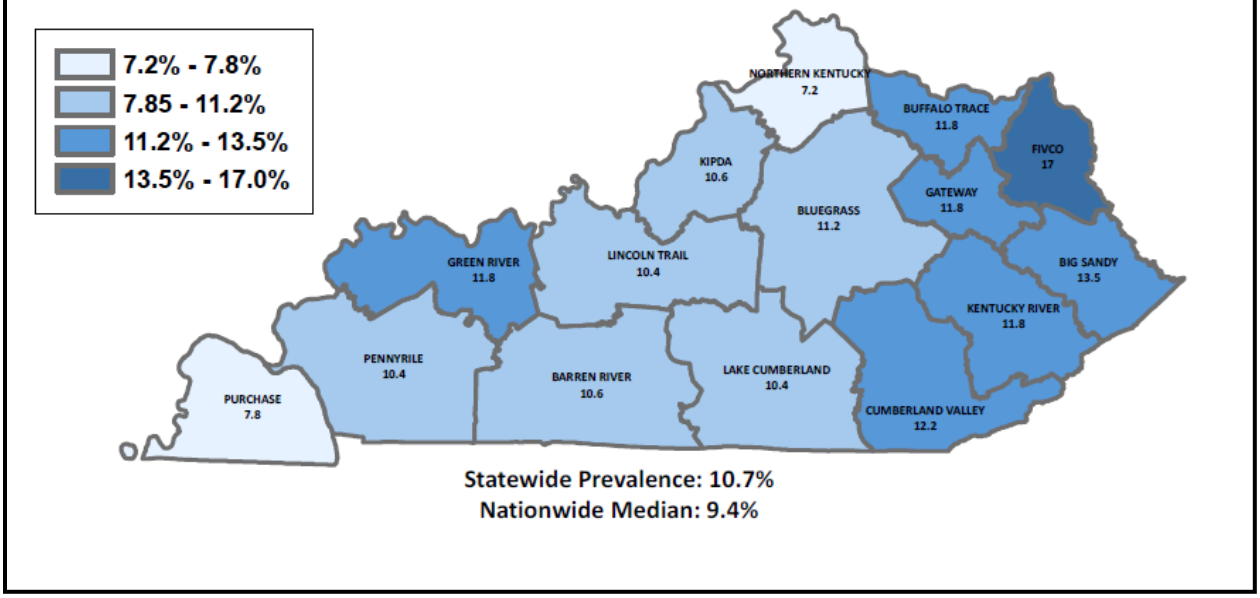
Percent of Kentucky Adults who have Arthritis, by Area Development District, 2017



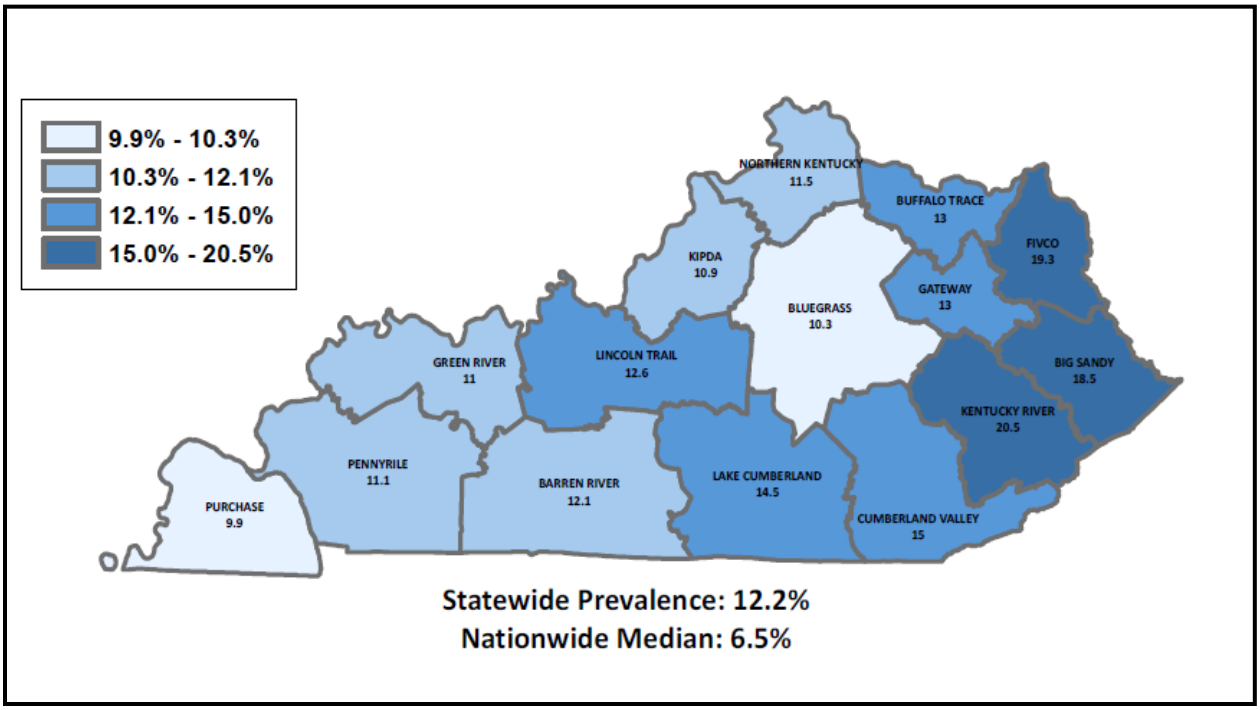
Statewide Prevalence: 32.4%
Nationwide Median: 24.9%

Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who have Current Asthma, by Area Development District, 2017

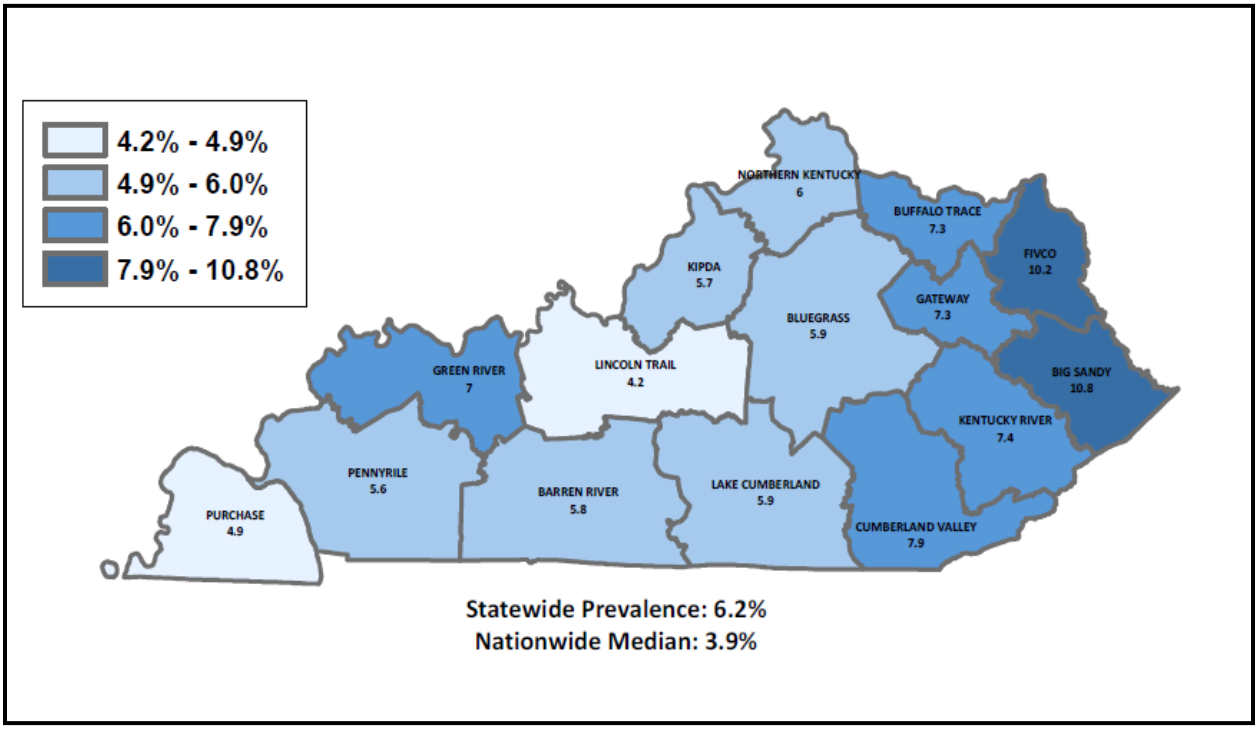


Percent of Kentucky Adults who have COPD, by Area Development District, 2017

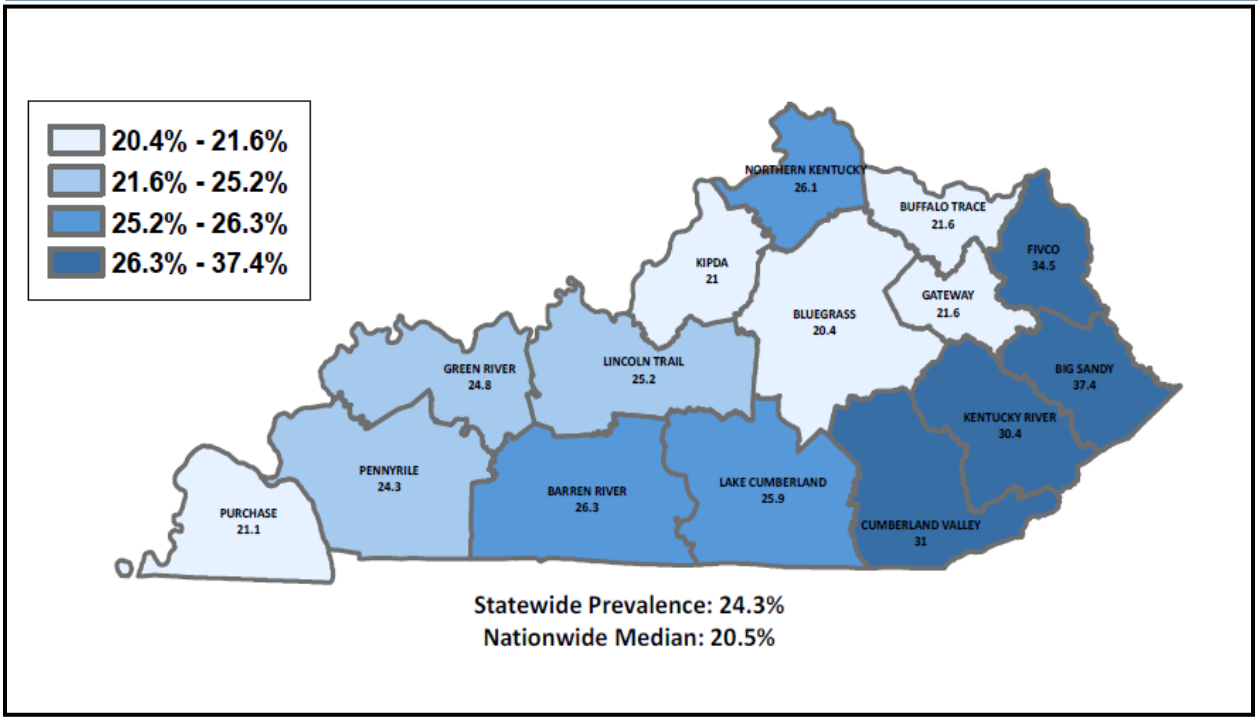


Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who have Coronary Heart Disease, by Area Development District, 2017

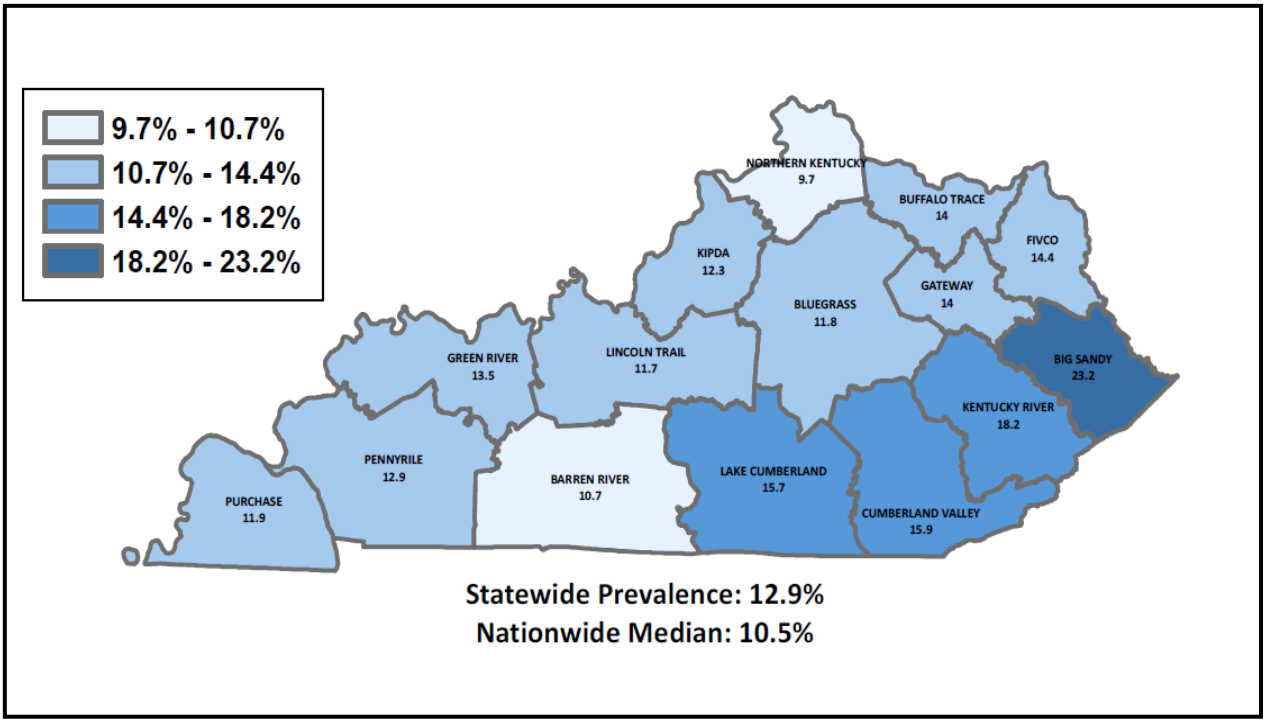


Percent of Kentucky Adults who have a Depressive disorder, by Area Development District, 2017

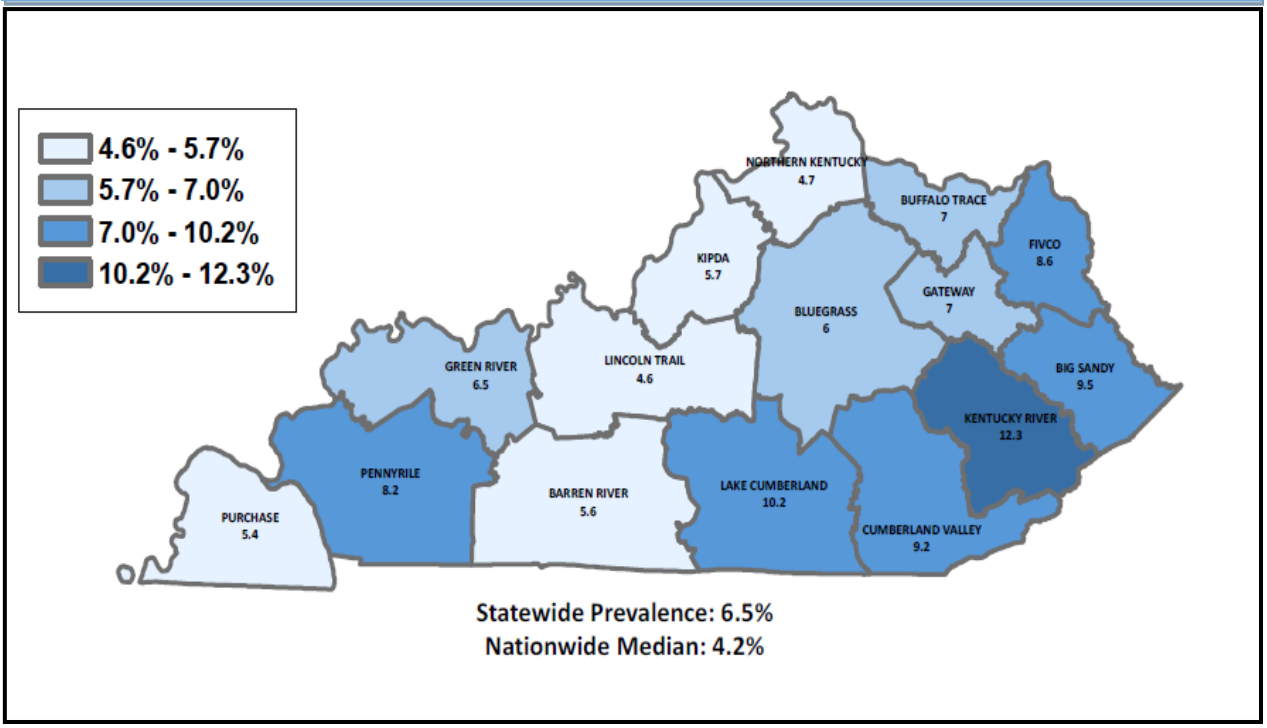


Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who have Diabetes, by Area Development District, 2017

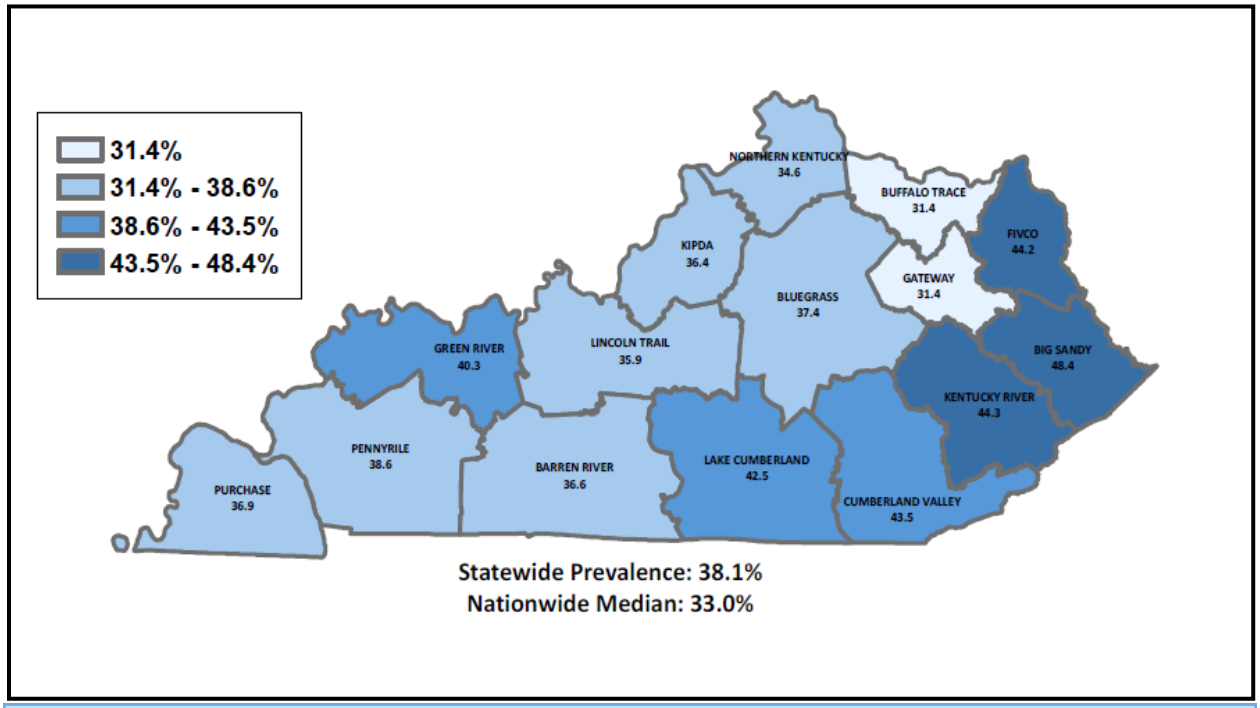


Percent of Kentucky Adults who have ever had a Heart Attack, by Area Development District, 2017

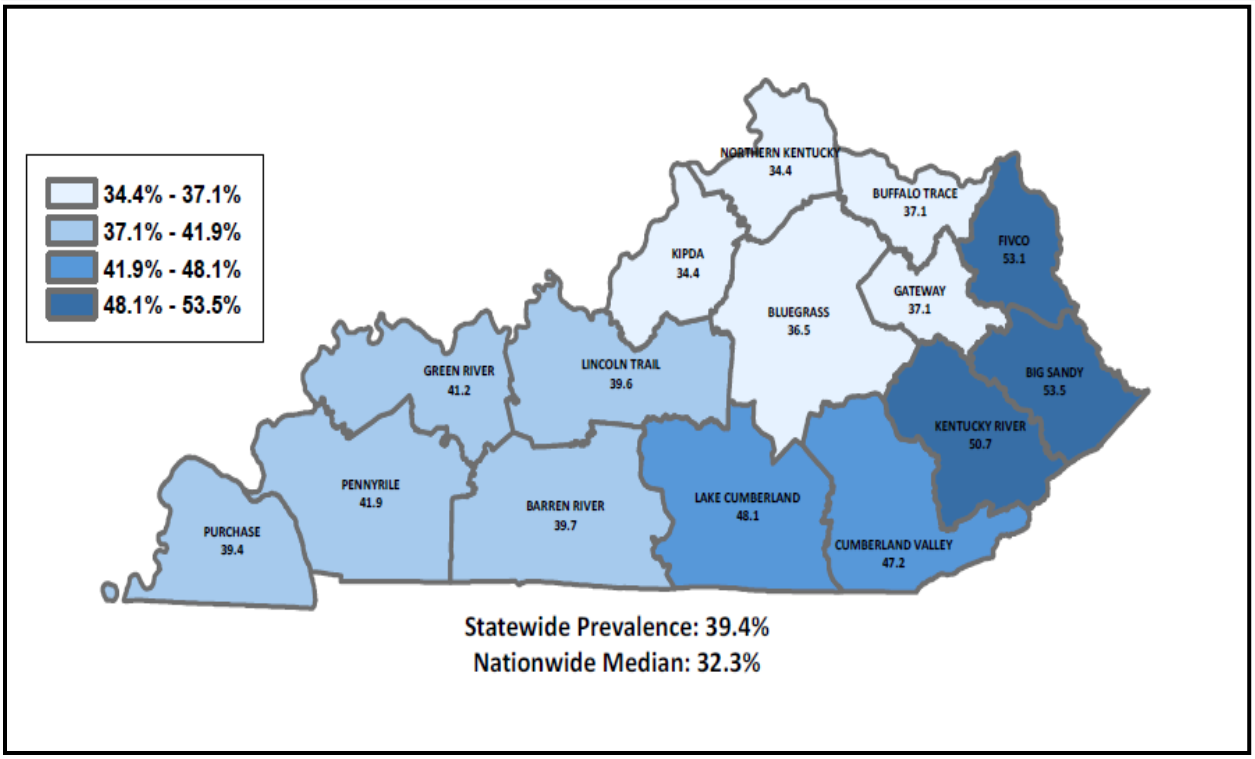


Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who have High Blood Cholesterol, by Area Development District, 2017

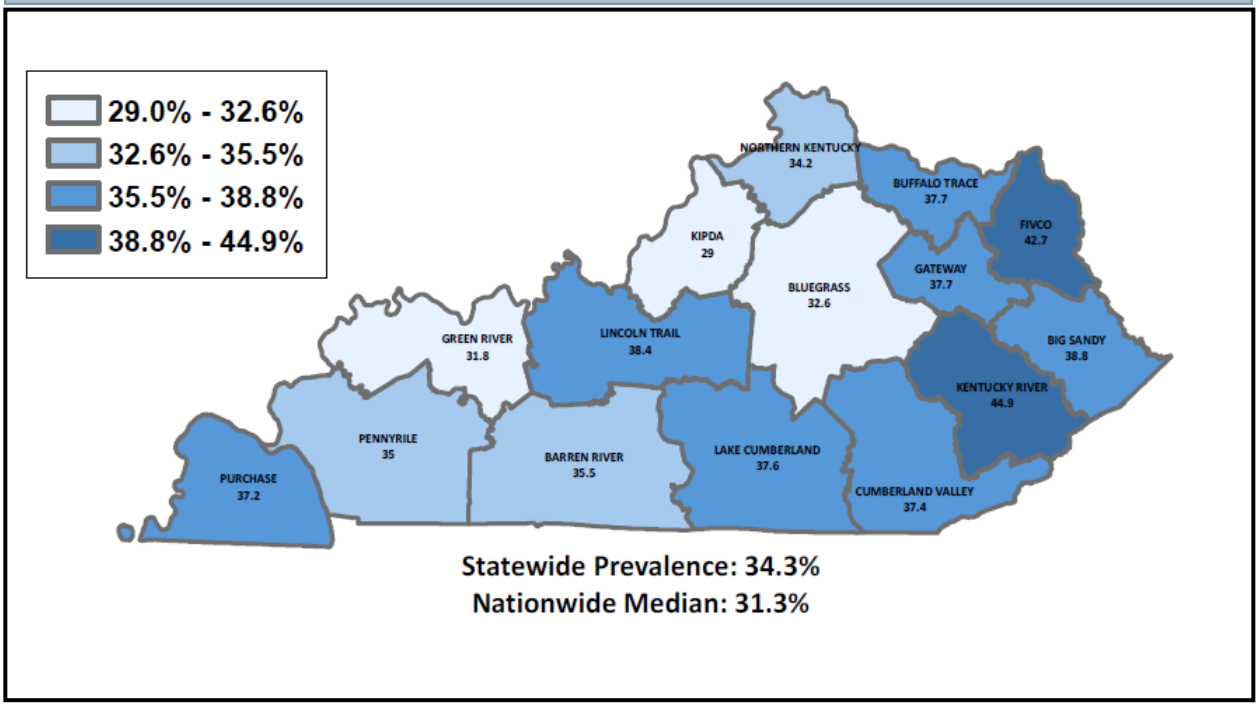


Percent of Kentucky Adults who have High Blood Pressure, by Area Development District, 2017

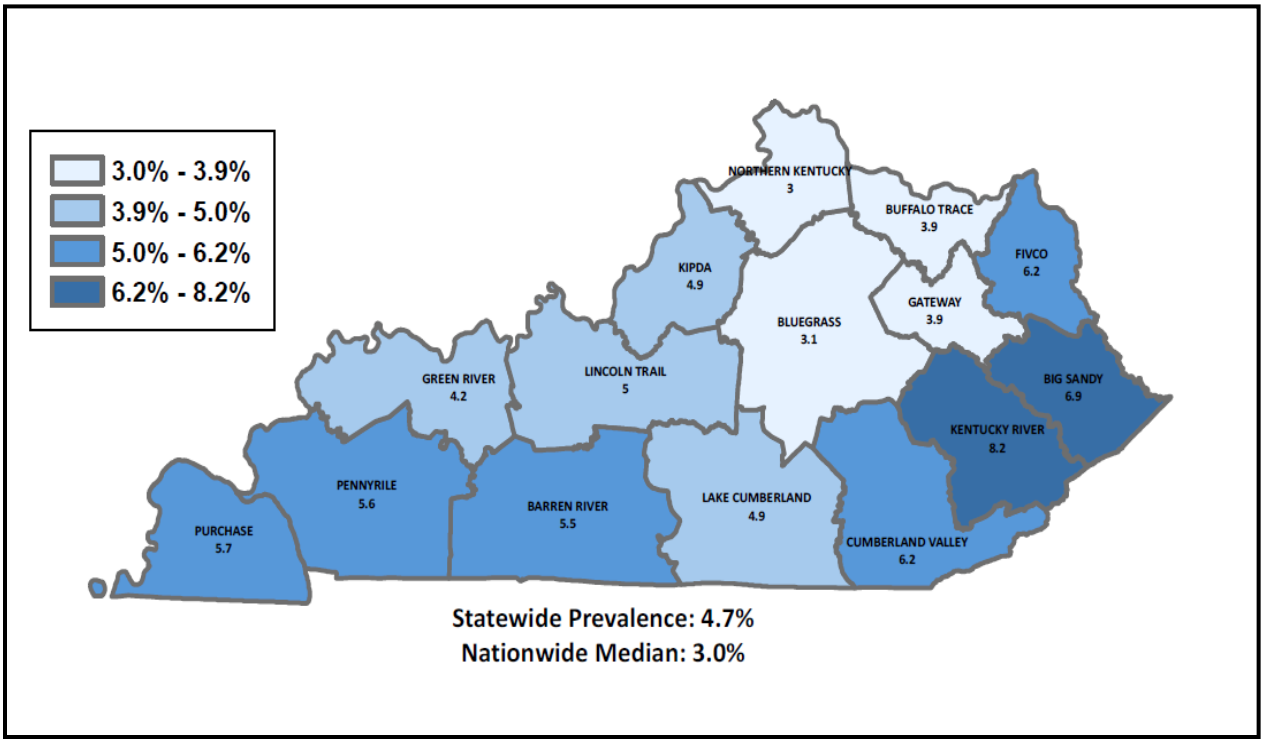


Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who are Obese (BMI≥30), by Area Development District, 2017

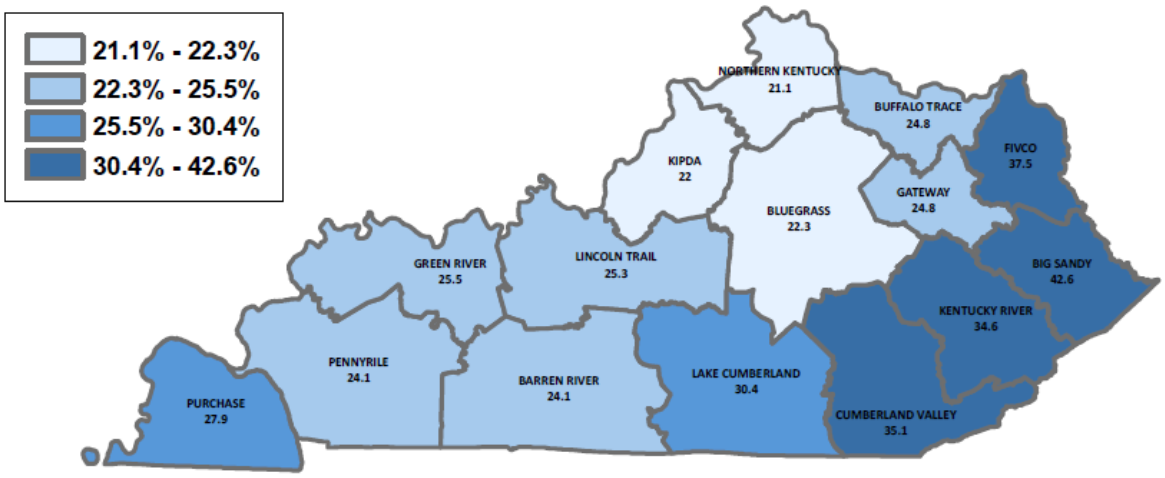


Percent of Kentucky Adults who have ever had a Stroke, by Area Development District, 2017



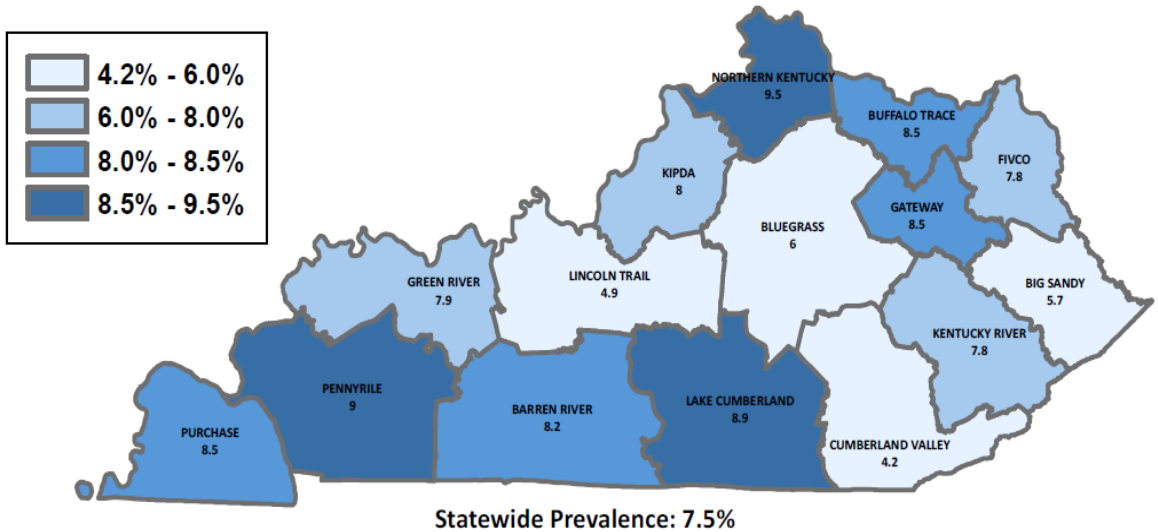
Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults with fair or poor General Health, by Area Development District, 2017



Statewide Prevalence: 25.5%
Nationwide Median: 17.6%

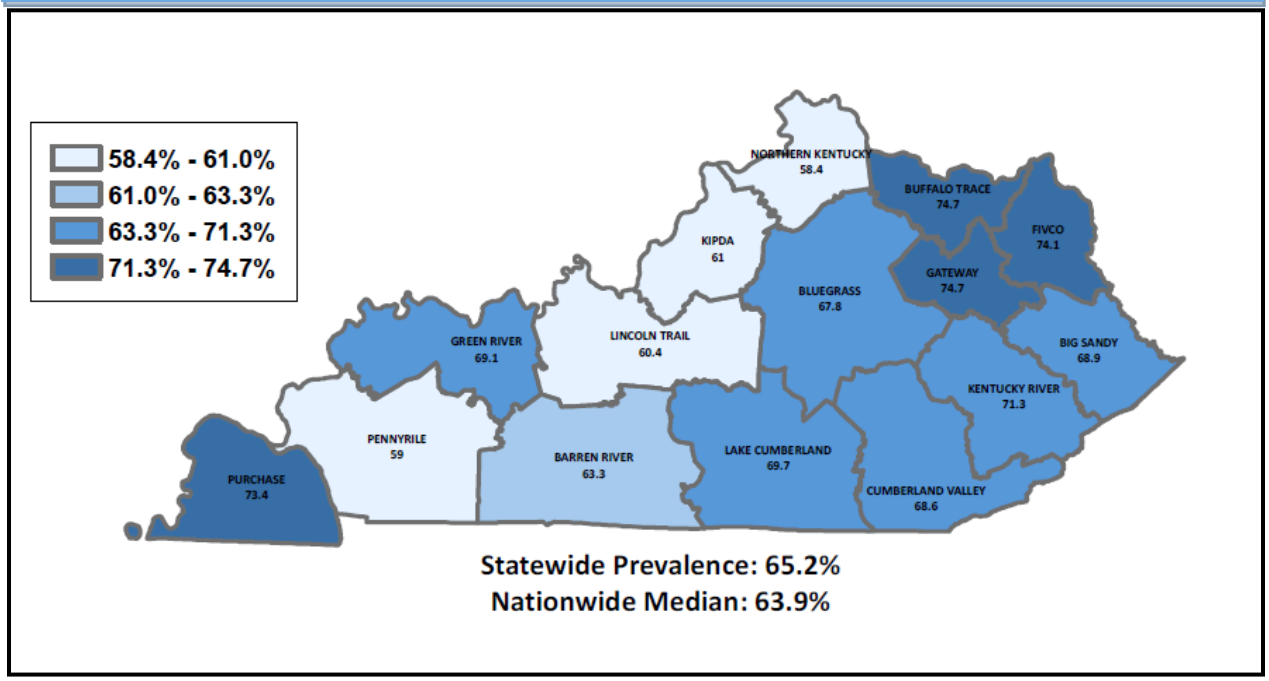
Percent of Kentucky Adults with No Health Care Coverage, by Area Development District, 2017



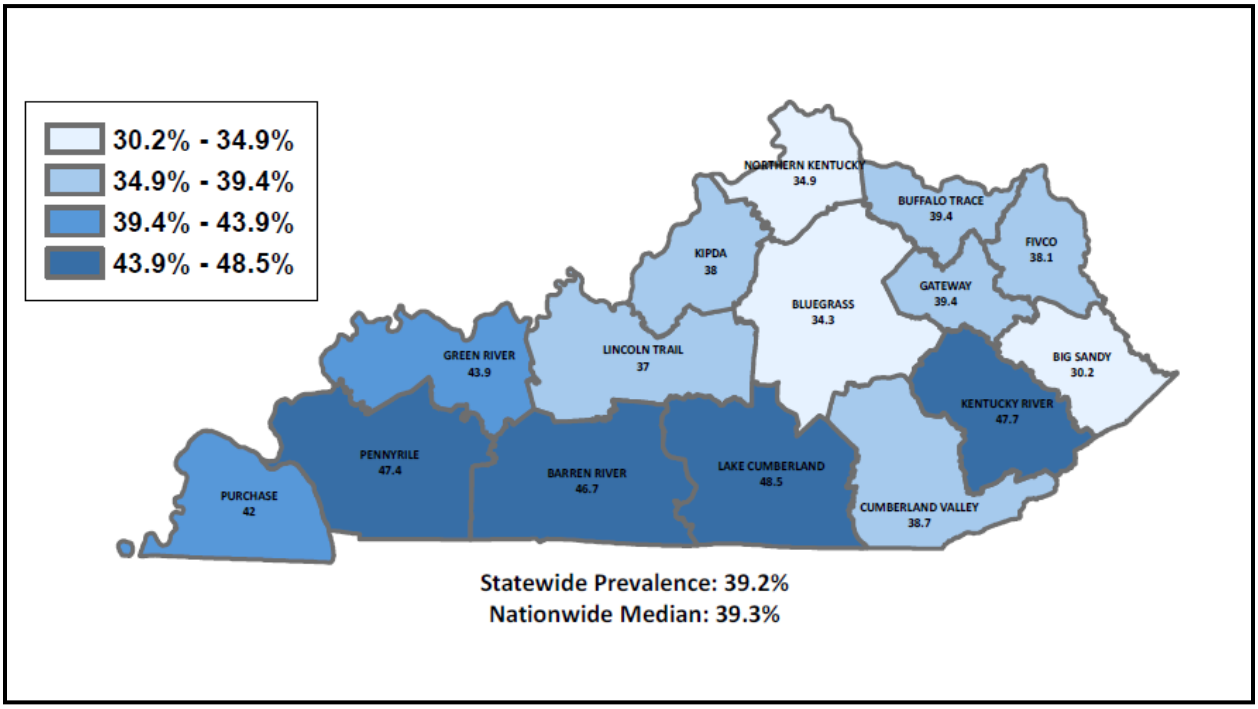
Statewide Prevalence: 7.5%
Nationwide Median: 10.5%

Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults who have never been tested for HIV, by Area Development District, 2017

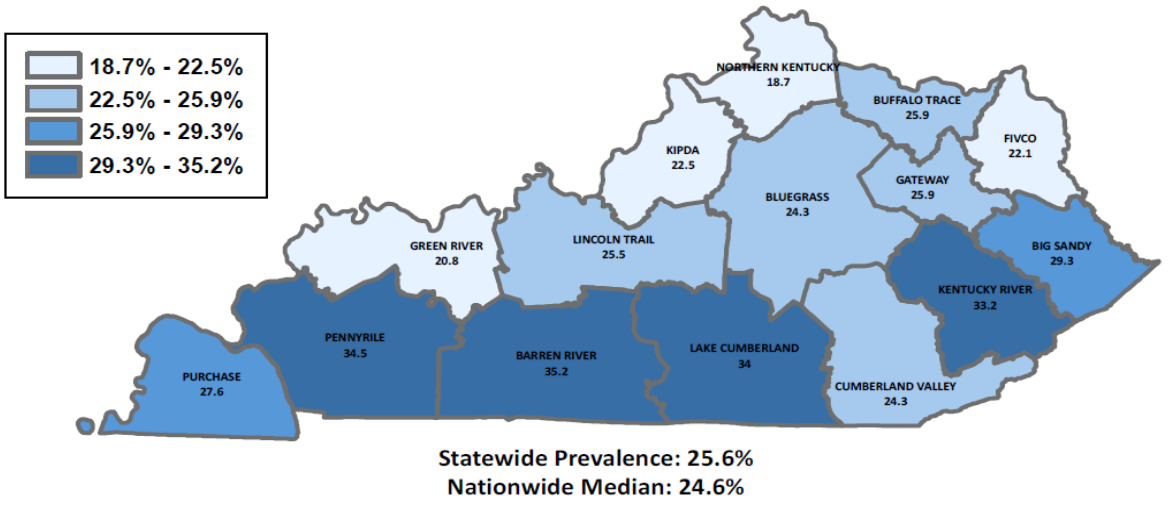


Percent of Kentucky Adults (aged 65+) who did not get a Flu Shot in the Past Year, by Area Development District, 2017



Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.

Percent of Kentucky Adults (aged 65+) who have never had a Pneumococcal Vaccination, by Area Development District, 2017



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Due to BRFSS methodology changes in 2011, estimates from 2017 cannot be directly compared to estimates from years prior to 2011.