



Kentucky Behavioral Risk Factor Surveillance System

2009 Annual Report



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



Kentucky Public Health

Prevent. Promote. Protect.

ACKNOWLEDGMENTS

The Behavioral Risk Factor Surveillance System (BRFSS) is a collaborative effort of the Kentucky Department for Public Health (DPH) and the Centers for Disease Control and Prevention (CDC). Kentucky has been conducting this on-going surveillance since 1985. Administrative responsibility lies within the Division of Prevention and Quality Improvement (PQI) of the Kentucky Department for Public Health.

Data for the 2009 Kentucky BRFSS Survey were collected by the Survey Research Center at the University of Kentucky. The KY BRFSS program is grateful to Dr. Ron Langley and his staff for conducting the survey.

The KY BRFSS program is also grateful for the support provided by Dr. Stephanie Mayfield Gibson, Commissioner, DPH; Dr. Steve Davis, Former Deputy Commissioner, DPH; Gary Kupchinsky, Director, PQI; Sue Thomas-Cox, RN, Branch Manager, Chronic Disease Prevention and Control Branch.

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The Kentucky Department for Public Health is especially grateful to the many citizens of the Commonwealth who gave their time to make this survey successful.

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Executive Summary

The 2009 KY BRFFS Annual Data Report presents a snapshot of the health risk behaviors, clinical preventive health practices, and health status indicators, that place Kentucky adults at risk for chronic diseases, injuries, and preventable infectious diseases. The report is based on information collected from residents aged 18 years or older from over 9,600 households in the Commonwealth of Kentucky throughout 2009. Some key findings from the survey include:

Alcohol Consumption:

An estimated 12.4% of adults in Kentucky were classified as binge drinkers in 2009. A higher percentage of men (18.2%) participated in binge drinking compared to women (7%).

Arthritis:

In 2009, Kentucky had the highest proportion of adults with doctor-diagnosed arthritis in the nation. Almost 36% of Kentucky adults have been told by a doctor or other health professional that they have some form of arthritis.

Cardiovascular Disease:

About 6% of Kentucky adults have been told by a doctor or health professional that they have angina or coronary heart disease; 5.9% have been told they had a heart attack, and 3.7% have had a stroke.

Diabetes:

An estimated 11.5% of adults in Kentucky have been told by a doctor that they have diabetes. In 2009, prevalence of diabetes was higher among black residents (21.5%) than white residents (10.7%).

Disability:

About a fourth (24.8%) of adults in Kentucky have activity limitations because of physical, mental, or emotional problems. Adults who reported this form of disability were generally older, had lower levels of education, and lower annual income.

Fruits and Vegetables Consumption:

About 79% of adults in Kentucky eat less than five servings of fruits or vegetables per day. A higher percentage of men (82.3%) compared to women (75.9%) do not consume the recommended amounts of fruits or vegetables in a day.

General Health:

In 2009, a higher percentage (22.8%) of adults in Kentucky rated their general health as fair/poor compared to the rest of the nation (14.5%). Among adults with less than high school education, 51% consider their general health as fair or poor.

Health Care Coverage:

Nearly 16% of adults in Kentucky did not have any form of health care coverage in 2009. Adults aged 18-34 years, those who did not graduate high school, and adults from households with annual income lower than \$25,000 were more likely to be without health care coverage.

High Blood Pressure:

About 36% of adults in Kentucky have been told by a doctor that they have high blood pressure. Prevalence of high blood pressure was high among adults aged 50 years or older, those who did not graduate college, and adults from households with annual income lower than \$50,000 a year.

Influenza Immunization:

In 2009, about 60% of Kentucky adults reported that they did not have a flu shot in the past year. About 30% of adults aged 65 years or older did not have a flu shot in the past 12 months.

Obesity:

Nearly a third (32.4%) of adults in Kentucky were classified as obese based on Body Mass Index (BMI). In 2009, Kentucky had the 4th highest prevalence of adult obesity in the nation. Obesity was more prevalent among adults aged 35-64 years, and those with low levels of education and income.

Physical Activity:

About 30% of Kentucky adults did not participate in any leisure-time physical activity or exercise. Adults who did not participate in any leisure-time physical activity were generally older, without a college education, and had lower levels of income.

Tobacco Use:

About a quarter (25.6%) of Kentucky's adult population are current smokers. This report defines current smokers as adults who have smoked at least 100 cigarettes (five packs) in their lifetime and currently smoke every day or some days. In 2009, Kentucky was one of two states with the highest proportion of smokers in the nation.

Introduction

What is the BRFSS?

The Behavioral Risk Factor Surveillance System (BRFSS) is a telephone health survey jointly sponsored by the Centers for Disease Control and Prevention (CDC) and the Kentucky Department for Public Health (KDPH). The survey is administered to randomly selected, non-institutionalized adults who live in a household with a landline telephone. Participation in the survey is strictly voluntary. Personal identifying information, such as a person's name or address, is not collected. The BRFSS is a nationwide surveillance tool. In Kentucky, the BRFSS has been conducted continuously since 1985.

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.

Who participated in the 2009 KY BRFSS survey?

A total of 9,652 Kentucky residents (aged 18 years or older) participated in the 2009 BRFSS. Of the 9,652 respondents, 48.3% were male and 51.7% were female; 89.1% were White, 5.1% were African American/Black, 1.7% were Hispanic, 2.5% were 'other races', and 1.5% were multiracial. The initial sample of 9,652 residents was used to "weight" these survey data in order to obtain representative estimates for the state of Kentucky.

African-American respondents were over-sampled for the 2009 survey, hence the increase in sample size compared to previous years. This was done to help achieve a higher level of precision in analyzing risk factors and health conditions among black residents. This data over-sampling was funded by the Foundation for a Health Kentucky.

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*

How is the data analyzed?

Data is analyzed using the following statistical analysis software: SAS 9.1, SAS Callable SUDAAN 9.1, and SPSS Complex Samples 18.0. 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 responses to be projected to a state estimate. Factors in weighting include the number of telephone numbers per household, the number of adults per household, and the demographic distribution of the sample. The data are not age-adjusted. Data estimates for fewer than fifty respondents are considered statistically unreliable by the CDC and are not included in this report.

Introduction (continued)

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. Respondents who indicate “don’t know”, “not sure”, or “refused” are excluded from the calculation of prevalence estimates. Therefore, the sample sizes used to calculate the estimates in this report vary.

Non-coverage bias

The BRFSS is a telephone survey. According to the 2006-2008 American Community Survey 3-Year Estimate, 5.7% of Kentuckians were without landline telephones and therefore could not be reached to participate in the survey. This excluded the socio-economic differences between the surveyed population and the general population. The BRFSS only surveys adults in households. Individuals living in a group setting, such as a nursing home, college dormitory, 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.

Race

Beginning in 2001, the BRFSS race question allowed reporting of more than one race. Therefore, data users should be extremely 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 population tends to make data regarding that population statistically unstable. Data users are advised to use caution when using the data due to the above reason. Race data, therefore, may be excluded from this report due to the small nature of the sample size.

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 KY BRFSS 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). For this reason, we are unable to include prevalence estimates among Hispanic residents. The same problem of small numbers of responses occurs at the county level. In order to provide locally relevant estimates, KY BRFSS data is reported by Area Development District (ADD). In this report, if the unweighted sample size for the denominator is < 50 or if the confidence interval for a subgroup is too large (i.e. CI half width > 10), the data are not reported.

ARTHRITIS

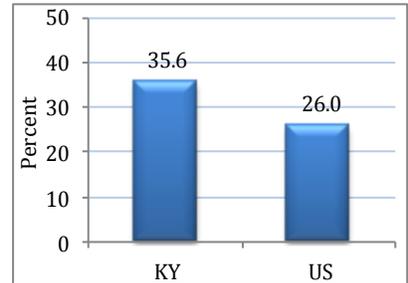
Question: Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?

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

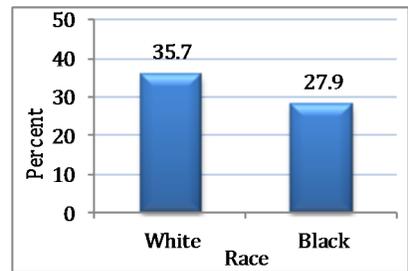
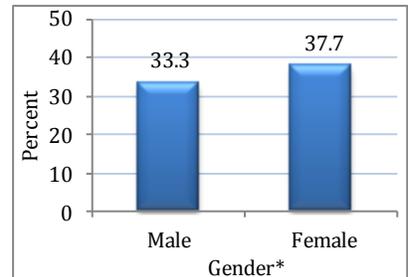
Who is at risk in Kentucky?

- An estimated 35.6% of Kentucky adults have ever been told by a doctor that they have arthritis.
- A significantly higher percentage of women (37.7%) had doctor-diagnosed arthritis compared to men (33.3%).
- There was no statistically significant difference between the percentage of white residents and the percentage of black residents who have doctor-diagnosed arthritis .
- The proportion of adults with doctor-diagnosed arthritis increased with age.
- Adults without a college education were significantly more likely to have doctor-diagnosed arthritis compared to adults with a college education .
- Prevalence of doctor-diagnosed arthritis was significantly higher among adults with lower levels of income.
- In 2009, 51% of Kentucky adults with arthritis reported a limitation in activity due to arthritis or joint symptoms

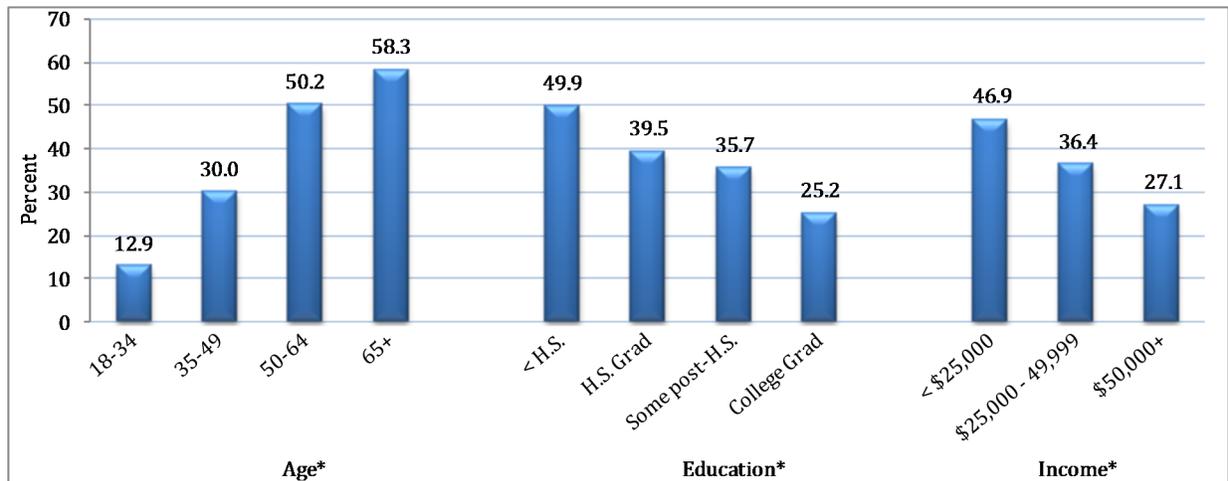
Percent of Adults who have Arthritis: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have Arthritis, by Gender*, and by Race, 2009



Percent of Kentucky Adults who have Arthritis, by Age*, Education*, and Income*, 2009



* Denotes a statistically significant difference among the values.

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

ASTHMA

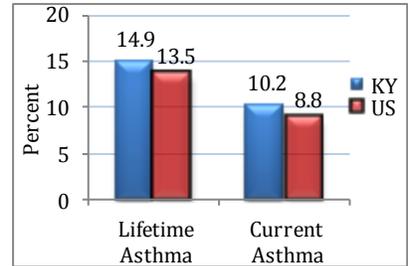
Questions: 1. Have you ever been told by a doctor, nurse, or other health professional that you had asthma? (lifetime)
2. Do you still have asthma? (current)

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

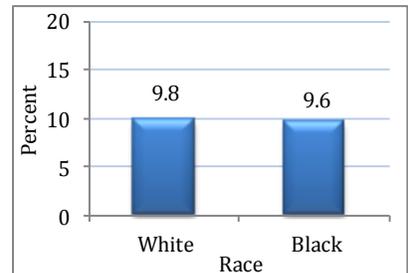
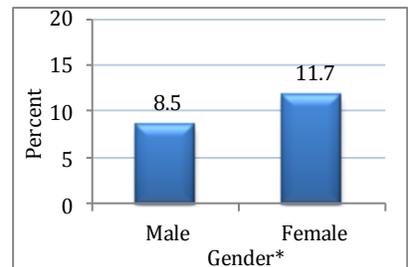
Who is at risk in Kentucky?

- In 2009, the estimated proportion of Kentucky adults ever told by a health professional that they had asthma was 14.9%.
- About 10% of all Kentucky adults had current asthma.
- Prevalence of current asthma was significantly higher among women (11.7%) than among men (8.5%)
- There was no significant difference between the percentage of white residents and the percentage of black residents who had current asthma.
- There were no statistically significant variations in current asthma prevalence across age groups.
- A significantly higher percentage of adults without a high school education had current asthma (17.3%) compared to adults with higher levels of education.
- Current asthma prevalence was significantly higher among adults with low income (less than \$25,000 a year) compared to adults with an annual household income of \$25,000 or more.

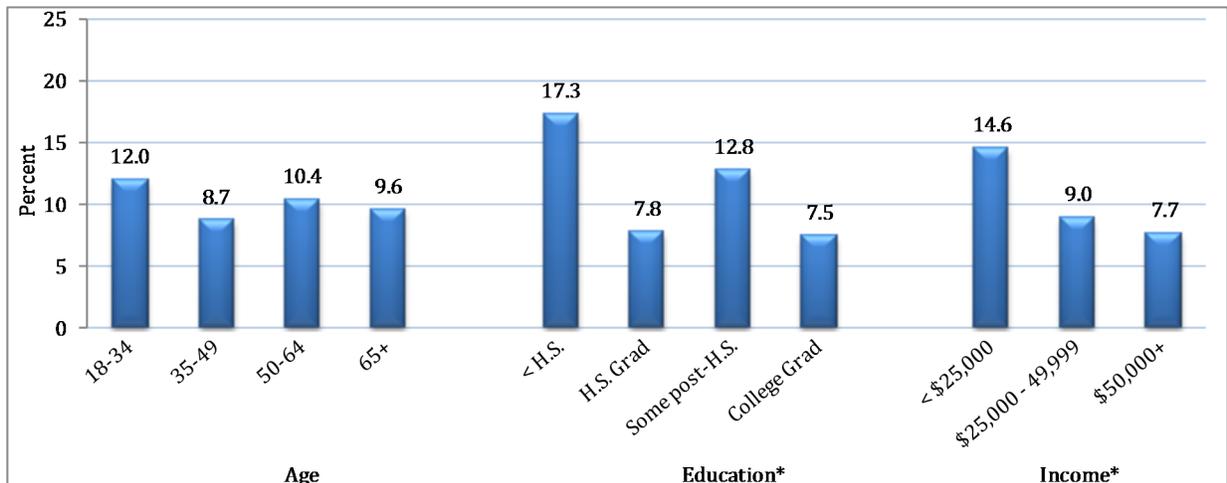
Percent of Adults who have Asthma (Lifetime and Current): Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have Current Asthma, by Gender*, and by Race, 2009



Percent of Kentucky Adults who have Current Asthma, by Age, Education*, and Income*, 2009



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CORONARY HEART DISEASE

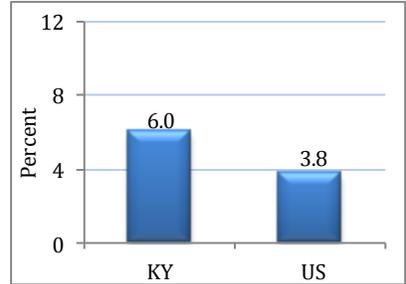
Question: Have you ever been told by a doctor, nurse, or other health professional that you had angina or coronary heart disease?

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

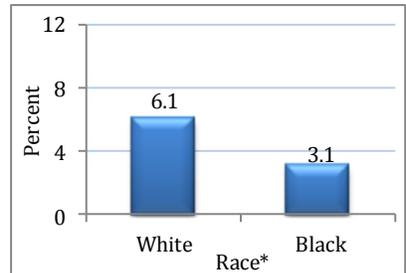
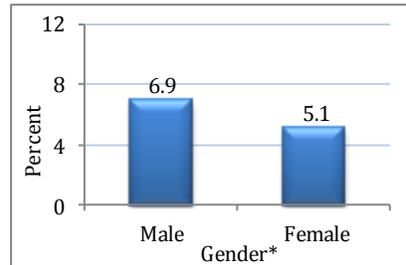
Who is at risk in Kentucky?

- About 6% of adults in Kentucky have ever been told by a health professional that they had coronary heart disease.
- The percentage of men who had coronary heart disease (6.9%) was significantly higher than the percentage of women who had the disease(5.1%) .
- Prevalence of coronary heart disease was significantly higher among white residents (6.1%) than among black residents (3.1%) in Kentucky.
- Prevalence of coronary heart disease increased significantly with age.
- Coronary heart disease was significantly more prevalent among adults with less than high school education compared to adults with higher levels of education.
- Prevalence of coronary heart disease was significantly higher among adults with low income (less than \$25,000 a year) compared to adults with an annual household income of \$25,000 or more.

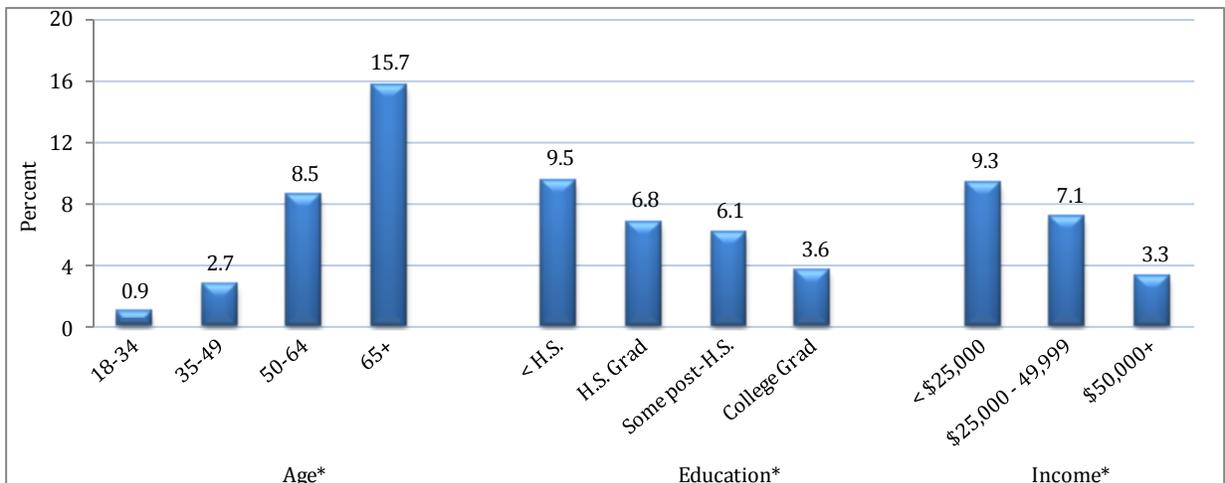
Percent of Adults who have Coronary Heart Disease: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have Coronary Heart Disease, by Gender*, and by Race*, 2009



Percent of Kentucky Adults who have Coronary Heart Disease, by Age*, Education*, and Income*, 2009



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DIABETES

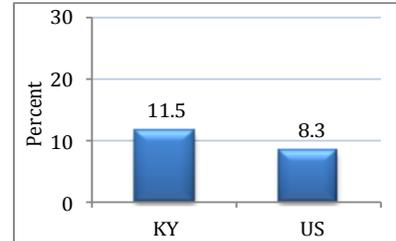
Question: Have you ever been told by a doctor that you have diabetes?

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

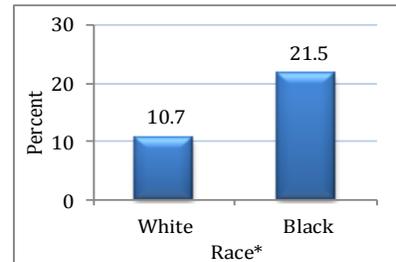
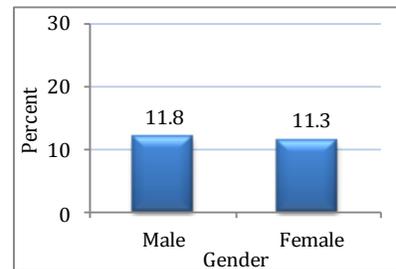
Who is at risk in Kentucky?

- In 2009, the estimated proportion of Kentucky adults ever told by a doctor that they had diabetes was 11.5%. This estimate does not include those with pre-diabetes or borderline diabetes, or women who were diagnosed while pregnant.
- There was no significant difference between the percentage of men and the percentage of women who had diabetes.
- A significantly higher percentage of black residents had diabetes (21.5%) compared to white residents (10.7%).
- The percentage of Kentucky adults with diabetes typically increased with age.
- Adults with lower levels of education were significantly more likely to have diabetes; 20.6% of adults in Kentucky with less than high school education have diabetes.
- Diabetes prevalence was significantly higher among adults with low income (less than \$25,000 a year) compared to adults with an annual household income of \$25,000 or more.

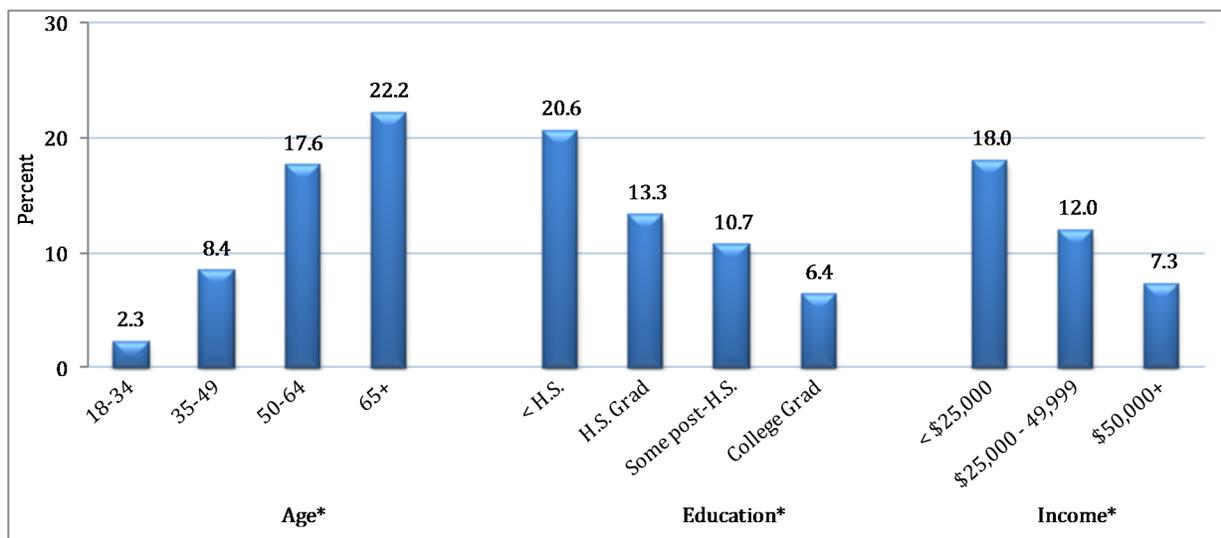
Percent of Adults who have Diabetes: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have Diabetes, by Gender, and by Race*, 2009



Percent of Kentucky Adults who have Diabetes, by Age*, Education*, and Income*, 2009



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HEART ATTACK

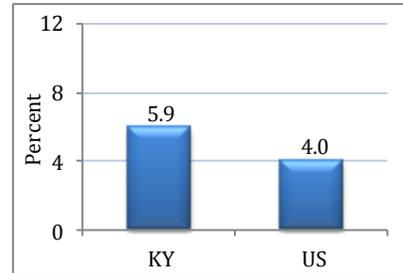
Question: Have you ever been told by a doctor, nurse, or other health professional that you had a heart attack, also called a myocardial infarction?

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

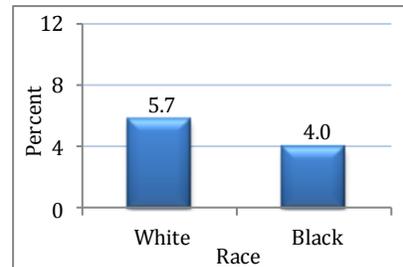
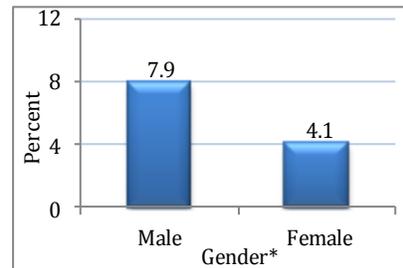
Who is at risk in Kentucky?

- An estimated 5.9% of adults in Kentucky have ever been told by a health professional that they had a heart attack.
- Prevalence of heart attack was significantly higher among men (6.9%) than women (4.0%) .
- There was no significant difference in heart attack prevalence among white and black residents.
- As would be expected, the prevalence of heart attack increased significantly with age; prevalence of heart attack was highest among adults aged 65 years and above (15.8%).
- Prevalence of heart attack was significantly higher among adults with less than high school education (13.6%) compared to adults with higher levels of education.
- Prevalence of heart attack was significantly higher among adults with low income (less than \$25,000 a year) compared to adults with an annual household income of \$25,000 or more.

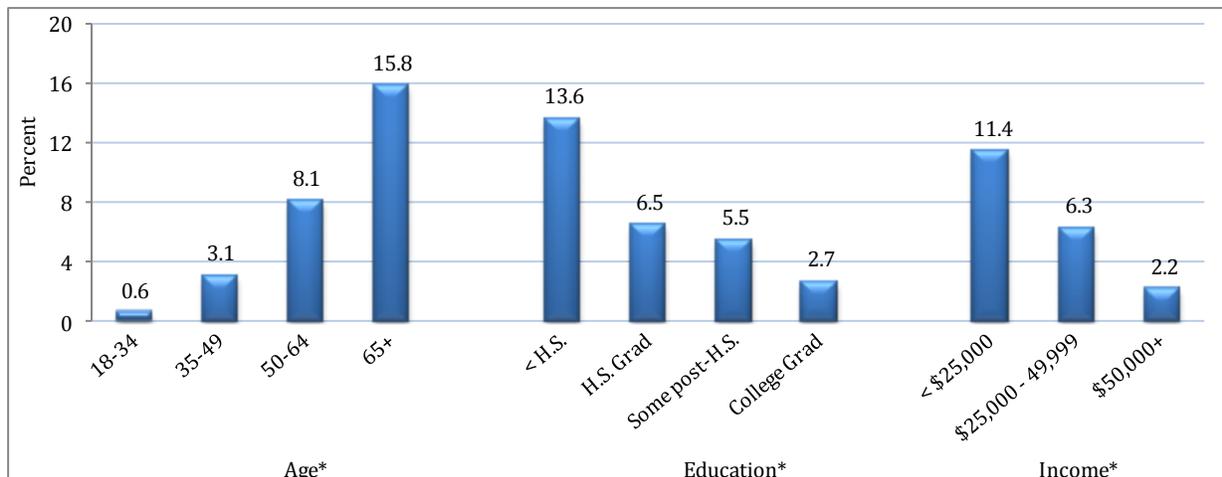
Percent of Adults who have ever been told that they had a Heart Attack: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have ever been told that they had a Heart Attack, by Gender*, and by Race, 2009



Percent of Kentucky Adults who have ever been told that they had a Heart Attack, by Age*, Education*, and Income*, 2009



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HIGH BLOOD CHOLESTEROL

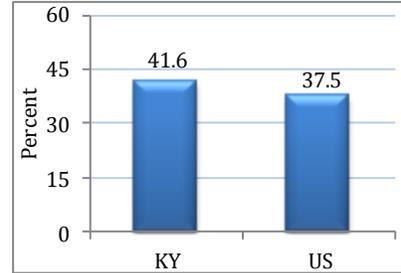
Question: Have you ever been told by a doctor, nurse, or other health professional that your blood cholesterol is high?

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

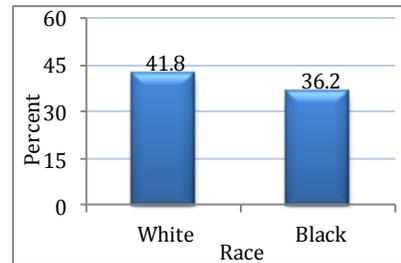
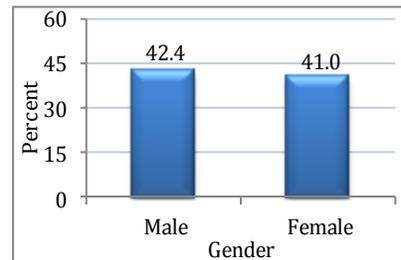
Who is at risk in Kentucky?

- An estimated 41.6% of Kentucky adults have been told by a health professional that they have high blood cholesterol.
- There was no significant difference between the percentage of men and the percentage of women who had high blood cholesterol.
- There was no significant difference between the percentage of white residents and the percentage of black residents who had high blood cholesterol.
- Prevalence of high blood cholesterol increased significantly with age; over 50% of adults aged 50 years or older had high blood cholesterol.
- High blood cholesterol was significantly more prevalent among adults with lower levels of education compared to adults who graduated from college.
- Prevalence of high blood cholesterol was significantly higher among adults with a household income of less than \$50,000 a year compared to adults with income of \$50,000 or more a year.

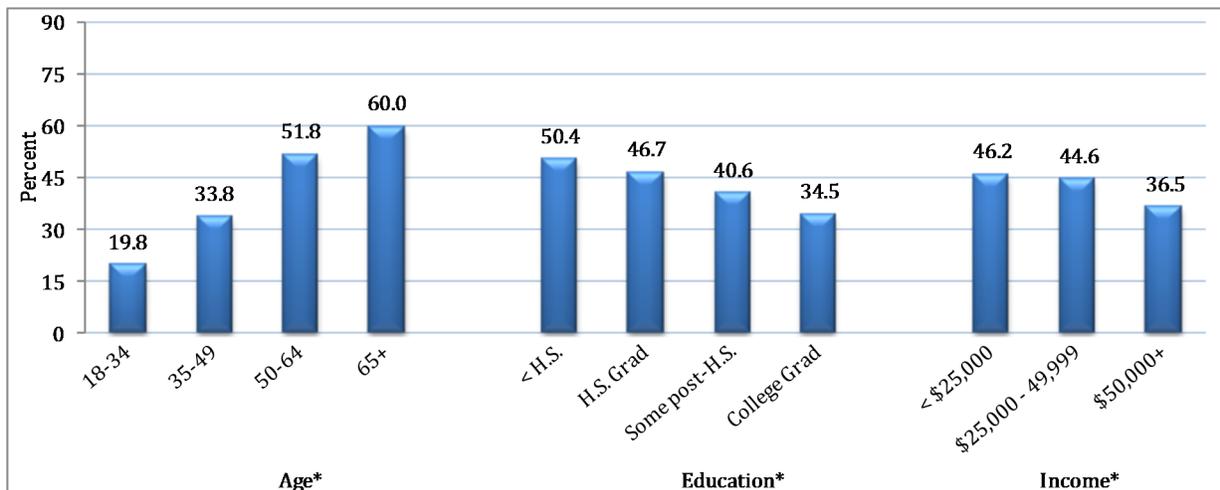
Percent of Adults who have High Blood Cholesterol: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have High Blood Cholesterol, by Gender, and by Race, 2009



Percent of Kentucky Adults who have High Blood Cholesterol, by Age*, Education*, and Income*, 2009



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HIGH BLOOD PRESSURE

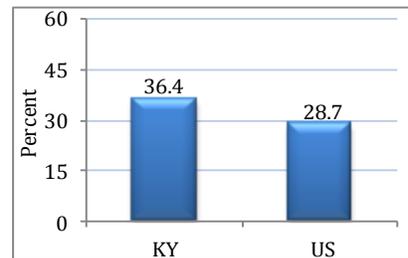
Question: Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?

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.

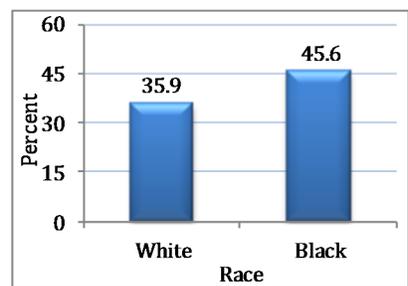
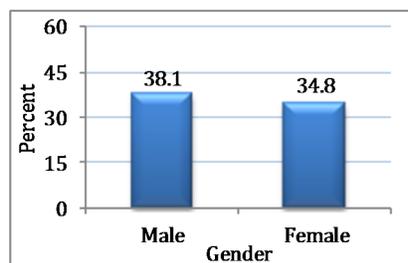
Who is at risk in Kentucky?

- An estimated 36.4% of Kentucky adults have been told by a health professional that they have high blood pressure. This estimate excludes those who were borderline hypertensive and women who had high blood pressure only during pregnancy.
- There was no significant difference between the percentage of men and the percentage of women who had high blood pressure.
- There was no statistically significant difference between the percentage of white residents and the percentage of black residents who had high blood pressure.
- As would be expected, the prevalence of high blood pressure increased significantly with age.
- High blood pressure was significantly more prevalent among adults with lower levels of education compared to adults who graduated from college.
- Prevalence of high blood pressure was significantly higher among adults with a household income of less than \$50,000 a year compared to adults with income of \$50,000 or more a year.

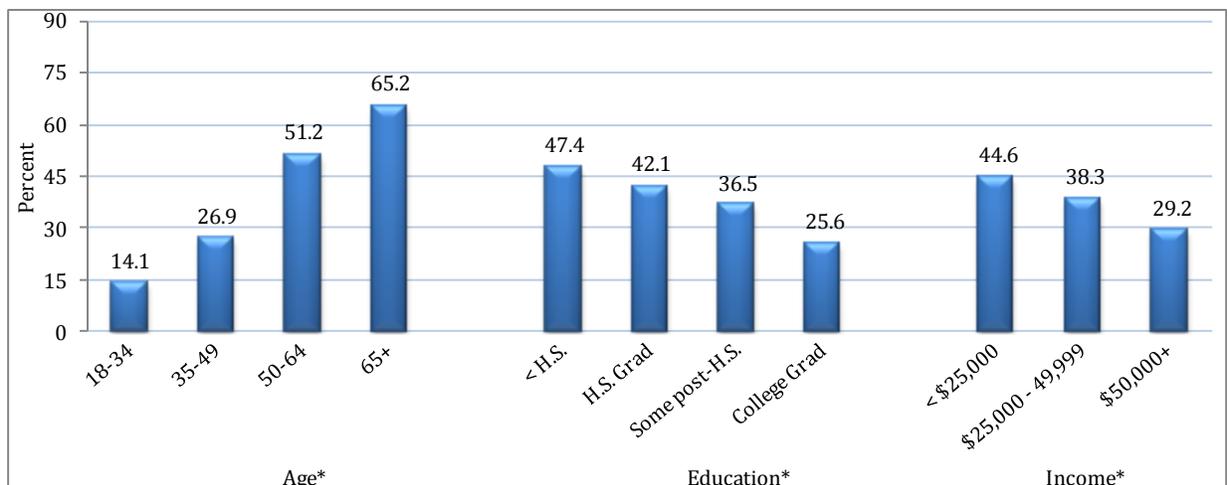
Percent of Adults who have High Blood Pressure: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have High Blood Pressure, by Gender, and by Race, 2009



Percent of Kentucky Adults who have High Blood Pressure, by Age*, Education*, and Income*, 2009



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OBESITY

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

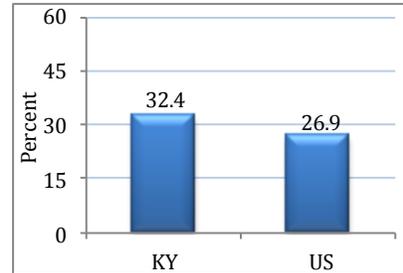
At Risk: Adults with BMI scores greater or equal to 30.0 are considered obese.

Who is at risk in Kentucky?

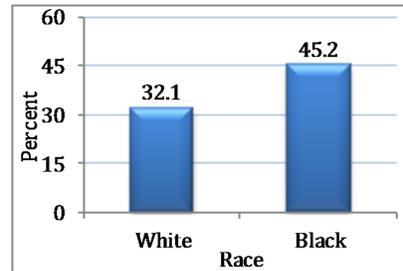
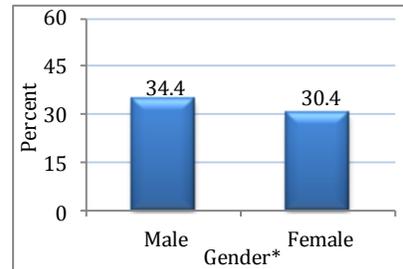
- In 2009, nearly a third of Kentucky adults (32.4%) were classified as obese (i.e. Body Mass Index greater or equal to 30.0).
- Men were significantly more likely to be obese than women (34.4% versus 30.4%).
- There was no statistically significant difference between the percentage of white residents and the percentage of black residents who were classified as obese.#
- Adults aged 35-64 years were significantly more likely to be obese compared to adults who were younger than 35 years or older than 65 years.
- Adults with lower levels of education were significantly more likely to be obese compared to adults who graduated from college.
- Adults with a household income less than \$50,000 a year were more likely to be obese compared to those with a household income of \$50,000 or more a year.

#Confidence Interval for prevalence among black residents was too wide (i.e. 95% CI half width > 10).

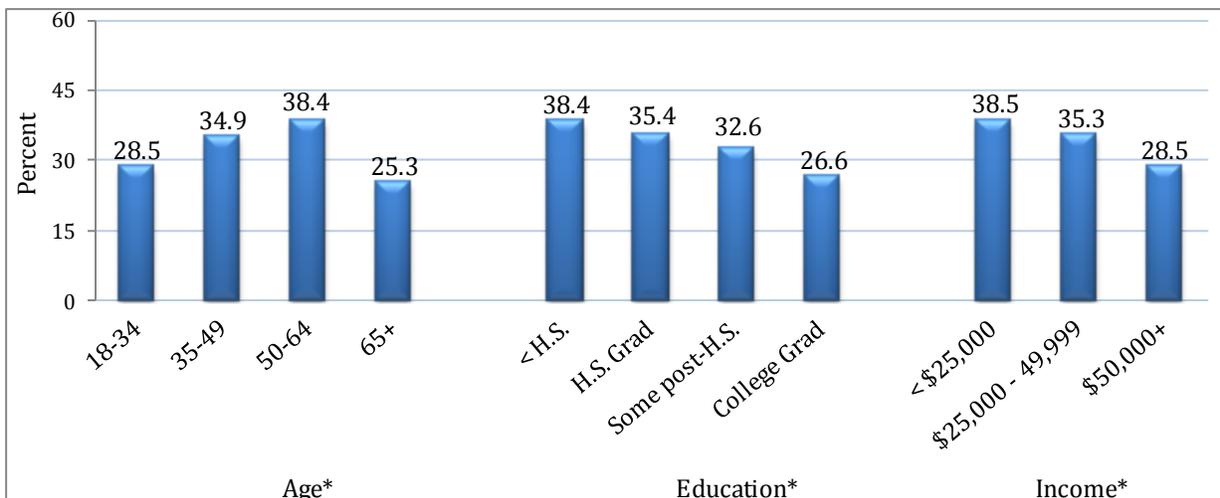
Percent of Adults who are Obese: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who are Obese, by Gender*, and by Race#, 2009



Percent of Kentucky Adults who are Obese, by Age*, Education*, and Income*, 2009



* Denotes a statistically significant difference among the values. In this report, the term 'significant' only refers to statistically significant differences in prevalence.

STROKE

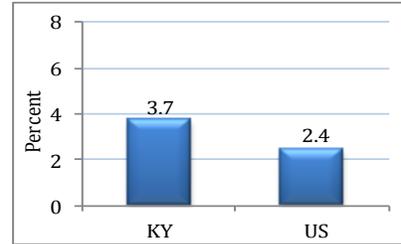
Question: Have you ever been told by a doctor, nurse, or other health professional that you had a stroke?

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

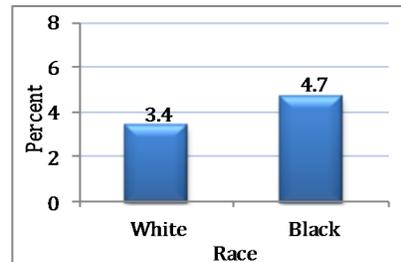
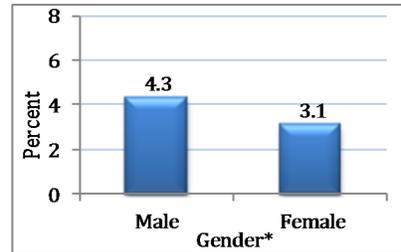
Who is at risk in Kentucky?

- An estimated 3.7% of adults in Kentucky have ever been told by a health professional that they had a stroke.
- Prevalence of stroke was significantly higher among men (4.3%) than women (3.1%).
- There was no significant difference in the prevalence of stroke among black and white residents.
- Prevalence of stroke increased significantly with age. About 10% of Kentucky adults aged 65 or older have had a stroke in their lifetime.
- Prevalence of stroke was significantly higher among adults with less than high school education (8.4%) compared to adults with higher levels of education.
- Prevalence of stroke was significantly higher among adults with low income (less than \$25,000 a year) compared to adults with an annual household income of \$25,000 or more.

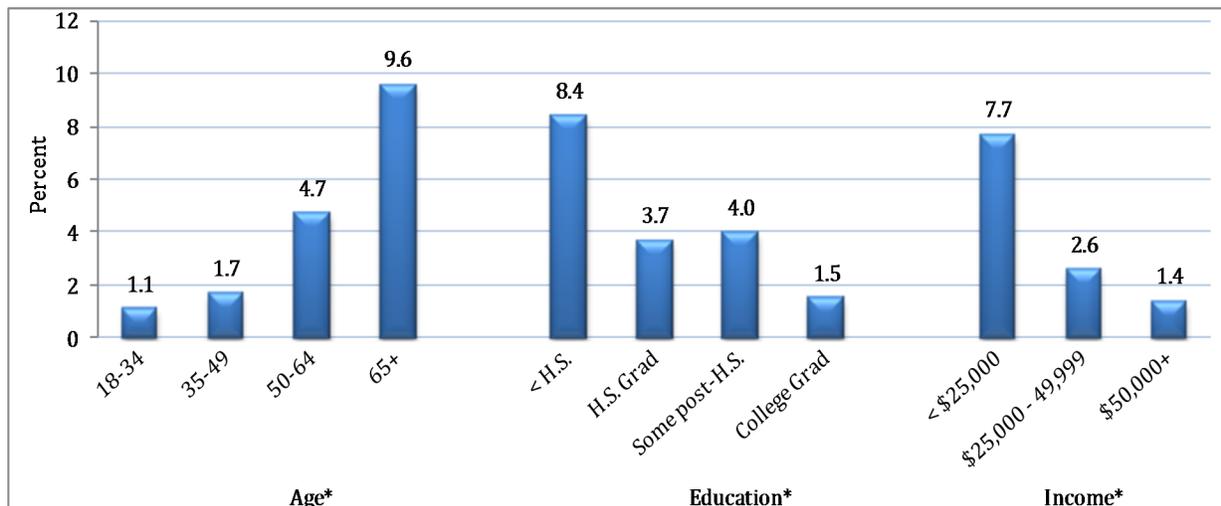
Percent of Adults who have had a Stroke: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who have had a Stroke, by Gender*, and by Race, 2009



Percent of Kentucky Adults who have had a Stroke, by Age*, Education*, and Income*, 2009



* Denotes a statistically significant difference among the values. In this report, the term 'significant' only refers to statistically significant differences in prevalence.

PHYSICAL ACTIVITY

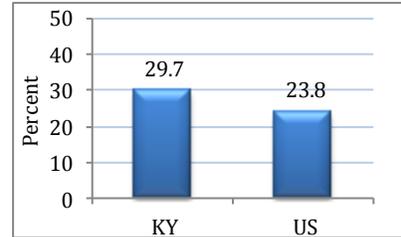
Question: During the past 30 days, other than your regular job, did you participate in any physical activity or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

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

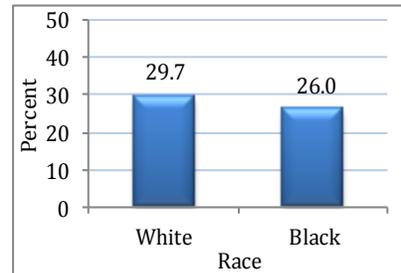
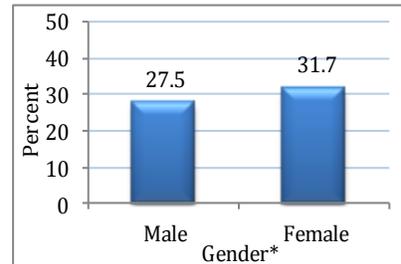
Who is at risk in Kentucky?

- In 2009, about 30% of Kentucky adults did not participate in any leisure-time physical activity or exercise.
- A higher percentage of women (31.7%) did not participate in any leisure-time physical activity compared to men (27.5%).
- There was no significant difference between the percentage of white residents and the percentage of black residents who did not participate in any leisure-time physical activity.
- Lack of leisure-time physical activity significantly increased with age, with the highest proportion among adults aged 65 or older (40.8%).
- One in every two adults with less than a high school education did not participate in any leisure-time physical activity.
- Residents with lower levels of income were significantly more likely to report no leisure-time physical activity; over 45% of adults whose annual household income was less than \$25,000 did not participate in any leisure-time physical activity.

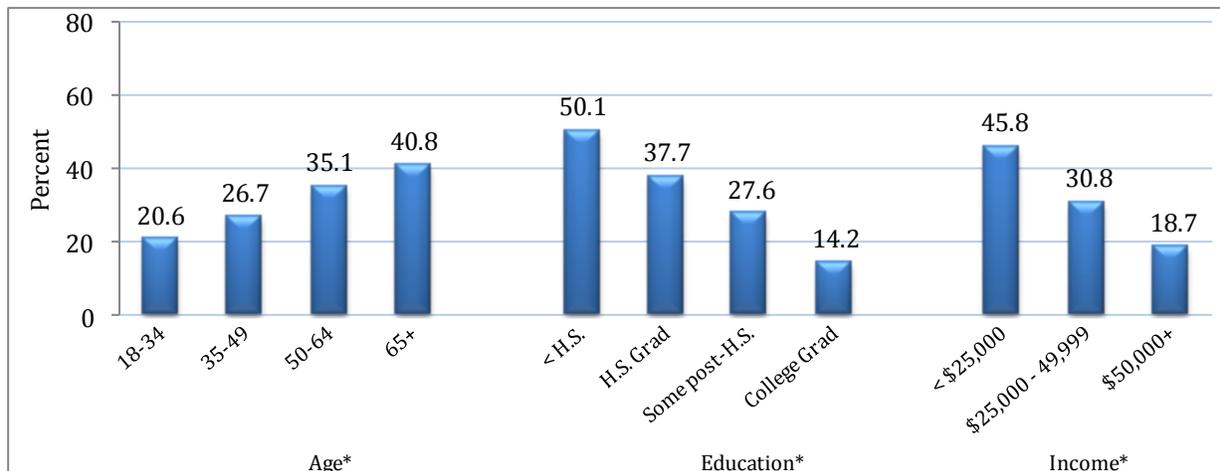
Percent of Adults who did not Participate in any Leisure-Time Physical Activity in the Past 30 Days: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who did not Participate in any Leisure-Time Physical Activity in the Past 30 Days, by Gender*, and by Race, 2009



Percent of Kentucky Adults who did not Participate in any Leisure-Time Physical Activity in the Past 30 Days, by Age*, Education*, and Income*, 2009



* Denotes a statistically significant difference among the values.

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

ALCOHOL CONSUMPTION: BINGE DRINKING

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

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

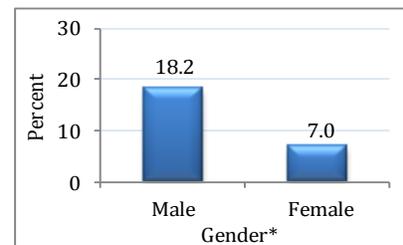
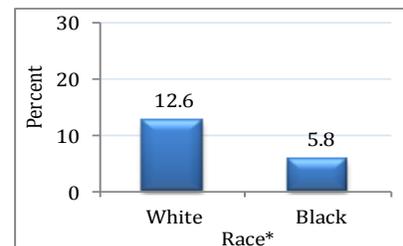
Who is at risk in Kentucky?

- An estimated 12.4 % of Kentucky adults were at risk for binge Drinking in 2009.
- Men were significantly more likely to binge drink than women (18.2% versus 7.0%).
- White residents were significantly more likely to binge drink than Black residents (12.6% versus 5.8%).
- The percentage of adults who participate in binge drinking decreased significantly with age. Younger adults were significantly more likely to binge drink than older adults.
- The percentage of adults who participate in binge drinking did not vary significantly by education level.
- Binge drinking increased significantly with income levels. Adults earning an annual household income of \$50,000+ were significantly more likely to binge drink compared to adults earning less than \$50,000 a year.

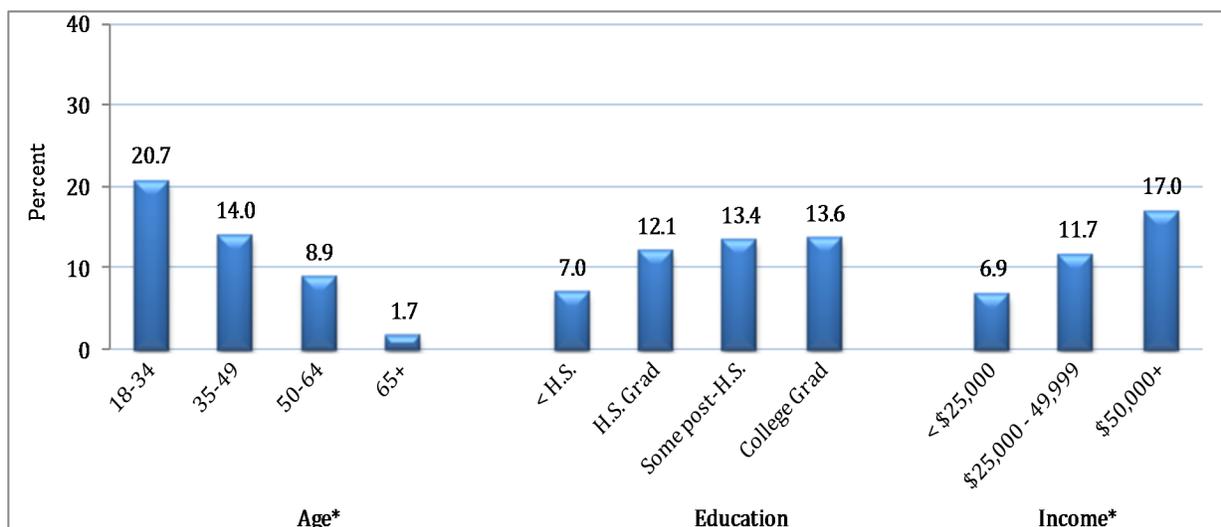
Percent of Adults who are classified as Binge Drinkers: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who are classified as Binge Drinkers, by Gender*, and by Race*, 2009



Percent of Kentucky Adults who are classified as Binge Drinkers, by Age*, Education, and Income*, 2009



* Denotes a statistically significant difference among the values.

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

FRUITS AND VEGETABLES CONSUMPTION

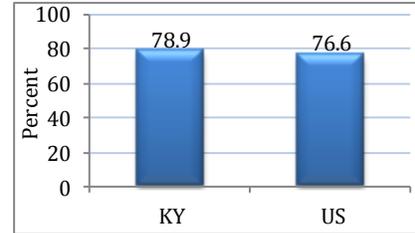
Question: How many servings of fruits or vegetables do you usually eat per day?

At Risk: Adults who answered 'Less than five times' or 'Never' are considered at risk.

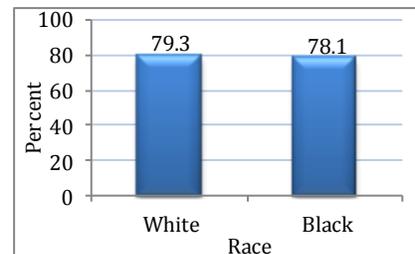
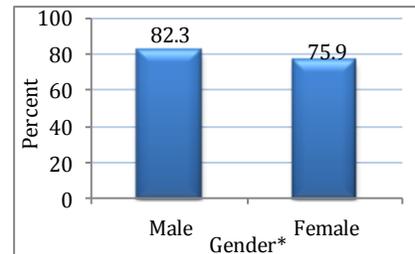
Who is at risk in Kentucky?

- About 79% of Kentucky adults eat less than five servings of fruits or vegetables per day.
- Men were significantly more likely to eat less than five servings of fruits or vegetables per day (82.3%) compared to women (75.9%).
- There was no significant difference between the percentage of white residents and the percentage of black residents who eat less than five servings of fruits or vegetables in a day.
- Daily consumption of fruits or vegetables did not vary significantly by age.
- Kentucky residents who did not have a college education were more likely to eat less than five servings of fruits or vegetables per day compared to college-educated residents.
- Adults whose annual household income was less than \$25,000 were significantly more likely to consume inadequate amounts of fruits or vegetables per day compared to adults with higher income levels.

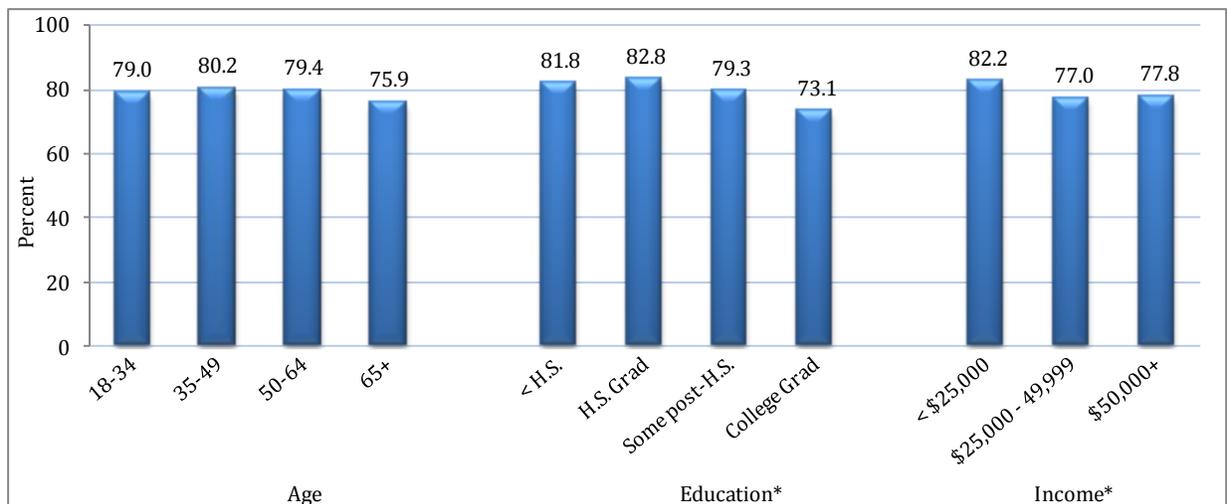
Percent of Adults who Consume Less than Five Servings of Fruits or Vegetables a Day: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who Consume Less than Five Servings of Fruits or Vegetables a Day, by Gender*, and by Race, 2009



Percent of Kentucky Adults who Consume Less than Five Servings of Fruits or Vegetables a Day, by Age, Education*, and Income*, 2009



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

TOBACCO USE

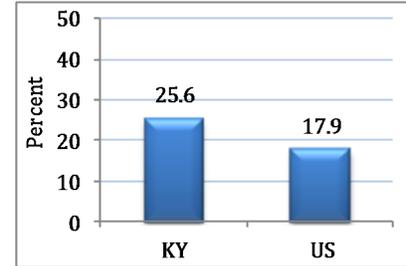
Question: If you have smoked at least 100 cigarettes (five packs) in your entire life, are you now smoking everyday, some days, or not at all?

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

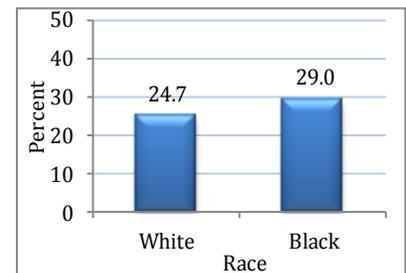
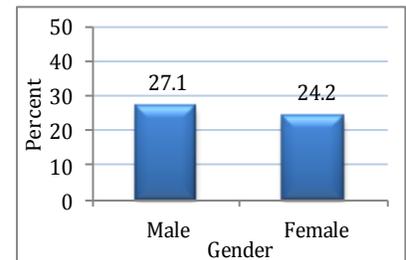
Who is at risk in Kentucky?

- An estimated 25.6% of Kentucky adults are current smokers (i.e. smoke cigarettes everyday or some days).
- Prevalence of cigarette smoking in Kentucky did not vary significantly between men and women.
- There was no statistically significant difference between the percentage of white residents and the percentage of black residents who are current smokers.
- Adults under 65 years old were significantly more likely to be current smokers; prevalence of smoking decreased with age.
- Adults with less than a college education were significantly more likely to be current smokers. Over 40% of adults in Kentucky with less than high school education smoke everyday or some days.
- Kentucky adults with lower income levels were significantly more likely to be current smokers.

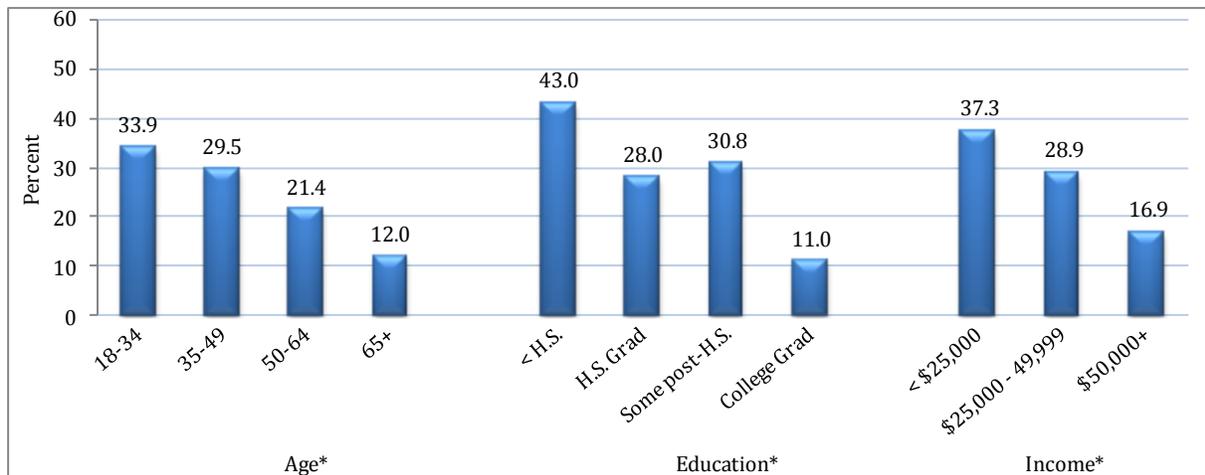
Percent of Adults who are Current Smokers : Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky adults who are Current Smokers, by Gender, and by Race, 2009



Percent of Kentucky Adults who are Current Smokers, by Age*, Education*, and Income*, 2009



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DISABILITY: ACTIVITY LIMITATION

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

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

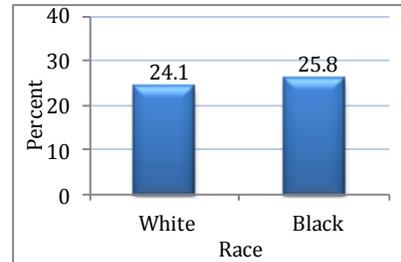
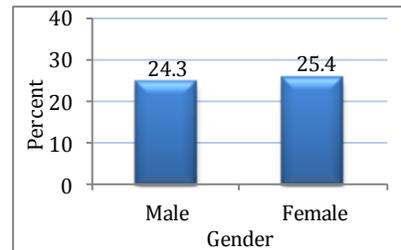
Who is at risk in Kentucky?

- In 2009, about a fourth (24.8%) of Kentucky's adult population reported having limited activities because of physical, mental, or emotional problems.
- There was no significant difference between the percentage of men and the percentage of women who reported limited activities due to physical, mental or emotional problems.
- There was no significant difference between the percentage of white residents and the percentage of black residents who reported limited activities due to physical, mental or emotional problems.
- Adults aged 35 or older were more likely to report limited activities due to physical, mental, or emotional problems compared to adults aged 18-34 years.
- Activity limitation due to physical, mental or emotional problems was significantly more prevalent among adults with less than high school education (42.8%) compared to adults with higher levels of education.
- Adults from low income households (less than \$25,000 a year) were more likely to report activity limitation due to physical, mental, or emotional problems compared to those from households with annual household income of \$25,000 or more.

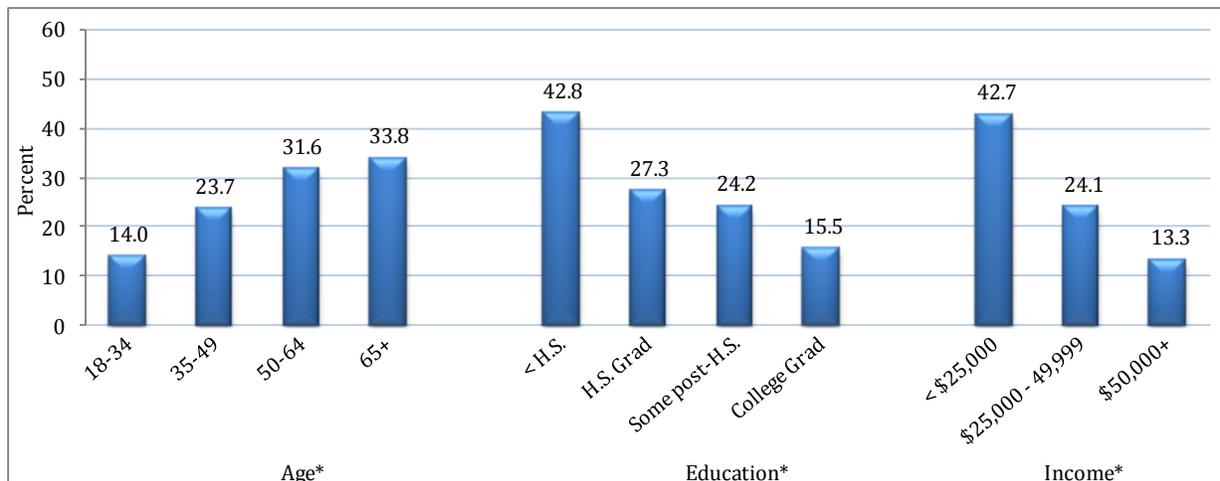
Percent of Adults who are Limited in any Activities due to Physical, Mental, or Emotional Problems: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults who are Limited in any Activities due to Physical, Mental, or Emotional Problems, by Gender, and by Race, 2009



Percent of Kentucky Adults who are Limited in any Activities due to Physical, Mental, or Emotional Problems, by Age*, Education*, and Income*, 2009



* Denotes a statistically significant difference among the values.

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

GENERAL HEALTH

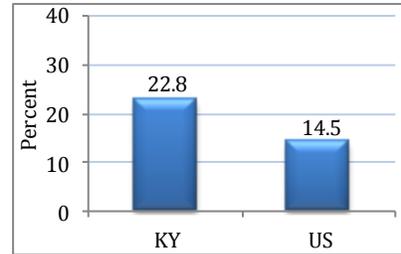
Question: Would you say that your general health is “Excellent”, “Very good”, “Good”, “Fair”, or “Poor”?

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

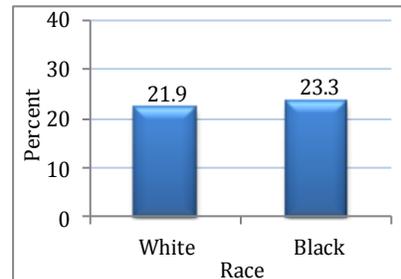
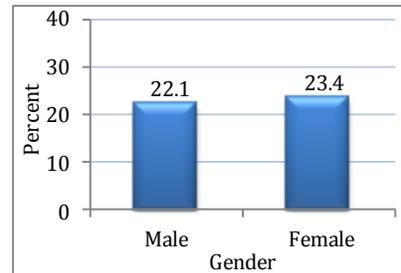
Who is at risk in Kentucky?

- In 2009, about 23% of Kentucky adults rated their general health as fair or poor.
- There was no significant difference between the percentage of men and the percentage of women who rated their general health as fair or poor.
- There was no significant difference between the percentage of white residents and the percentage of black residents who rated their general health as fair or poor.
- Adults aged 35 years or older were more likely to rate their general health as fair or poor compared to adults aged 18-34 years.
- A significantly higher percentage of adults with less than high school education (51.0%) rated their general health as fair or poor compared to adults who graduated high school (27.3%).
- Adults from households with income less than \$50,000 a year were more likely to rate their general health as fair or poor compared to adults from households with annual income of \$50,000 or more.

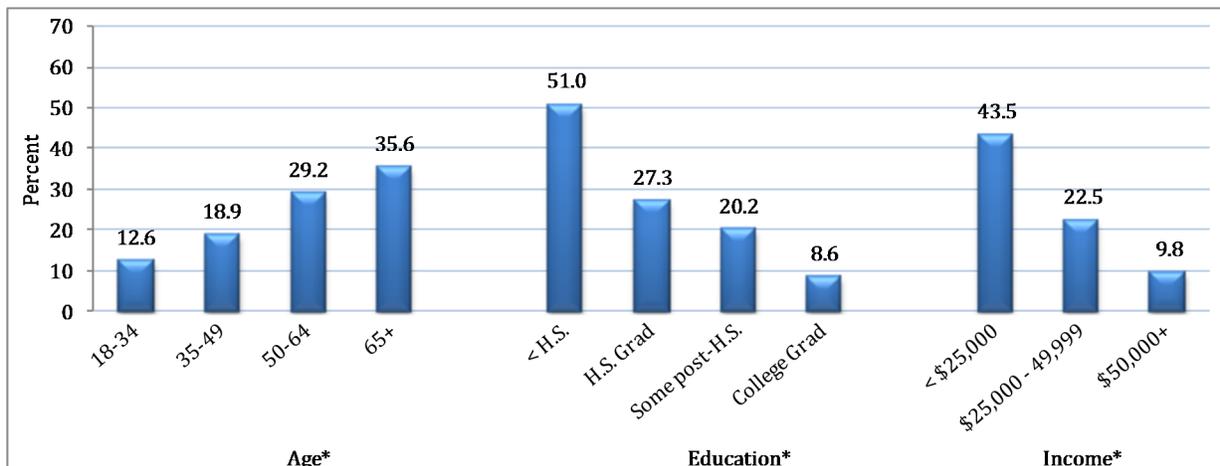
Percent of Adults who reported their General Health as Fair or Poor: Kentucky vs Nationwide (States and DC), 2009



Percent of Adults who reported their General Health as Fair or Poor, by Gender, and by Race, 2009



Percent of Kentucky Adults who reported their General Health as Fair or Poor, by Age, Education*, and Income*, 2009



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HEALTH CARE ACCESS/COVERAGE

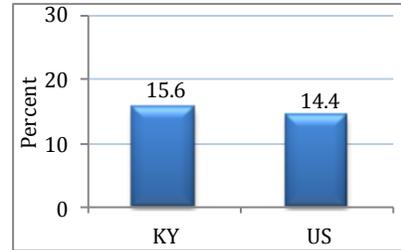
Question: Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or governmental plans such as Medicare?

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

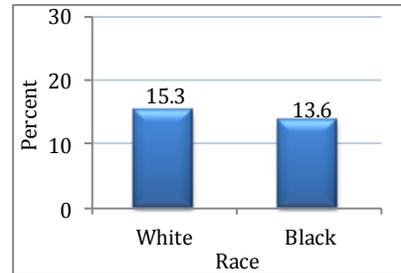
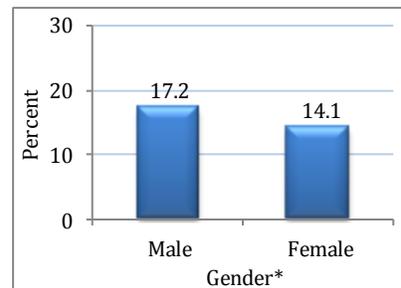
Who is at risk in Kentucky?

- In 2009, about 16% of Kentucky adults did not have any form of health care coverage.
- The percentage of men (17.2%) who did not have health care coverage was significantly higher than the percentage of women without health care coverage (14.1%).
- There was no significant difference between the percentage of white residents and the percentage of black residents who did not have health care coverage.
- In 2009, 26.1% of adults aged 18-34 years did not have health care coverage; lack of health care coverage decreased with age.
- A significantly higher percentage of adults with less than high school education (27.2%) did not have health care coverage compared to adults with higher levels of education.
- A significantly higher percentage (28.4%) of adults from low income households (less than \$25,000 a year) did not have health care coverage compared to adults from households with annual income of \$25,000 or more.

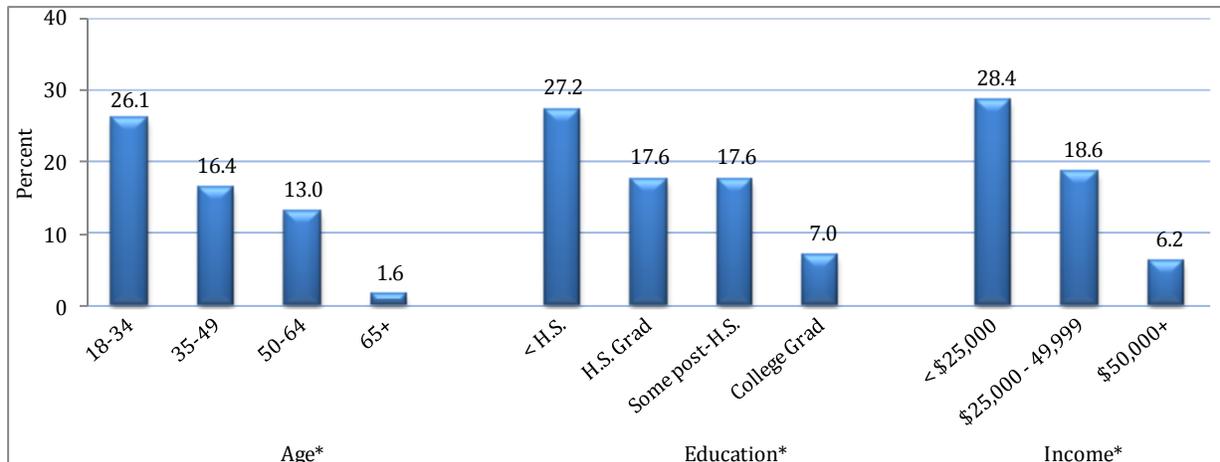
Percent of Adults with No Health Care Coverage: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults with No Health Care Coverage, by Gender*, and by Race, 2009



Percent of Kentucky Adults with No Health Care Coverage, by Age*, Education*, and Income*, 2009



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INFLUENZA IMMUNIZATION

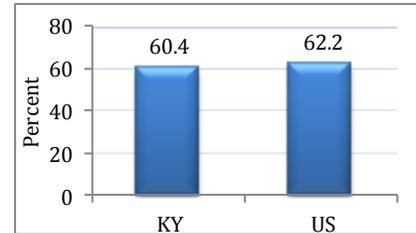
Question: In the past twelve months, have you had a flu shot?

At Risk: Adults who did not receive a flu shot in the past twelve months are considered at risk.

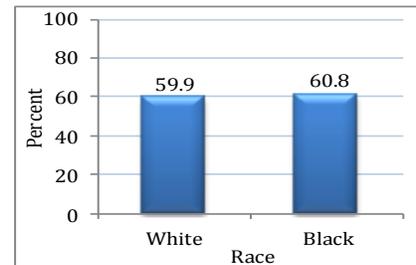
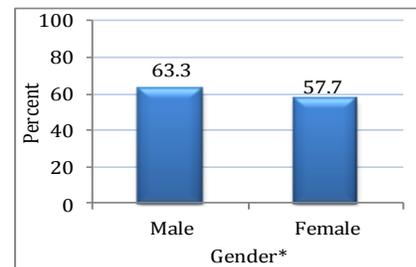
Who is at risk in Kentucky?

- In 2009, about 60% of Kentucky adults reported that they did not have a flu shot in the past twelve months.
- A significantly higher percentage of men (63.3%) compared to women (57.7%) did not have a flu shot in the past twelve months.
- There was no significant difference between the percentage of white residents and the percentage of black residents who did not have a flu shot in the past twelve months.
- Over 70% of adults aged 18-49 years did not have a flu shot in the past twelve months. This estimate is significantly higher compared to adults aged 50-65 years (55.7%) and those aged 65 years or older (29.5%).
- Compared to adults who are college graduates, a higher percentage of adults with lower levels of educational attainment did not have a flu shot in the past year.
- A higher percentage of adults from low income households (less than \$25,000 a year) did not have a flu shot in the past year compared to adults from households with annual income of \$25,000 or more.

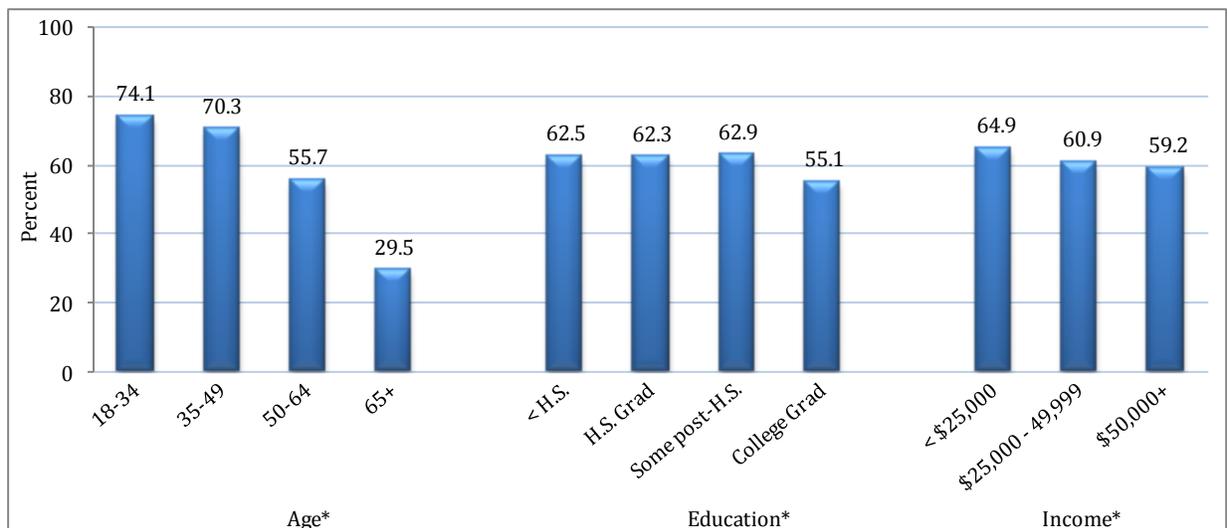
Percent of Adults who did not have a Flu Shot in the Past Year, Kentucky vs Nationwide (States and Territories), 2009



Percent of Kentucky Adults who did not have a Flu Shot in the Past Year, by Gender*, and by Race, 2009



Percent of Kentucky Adults who did not have a Flu Shot in the Past Year, by Age*, Education*, and Income*, 2009



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PNEUMONIA VACCINATION (Age 65+)

Question: Have you ever had a pneumonia shot?

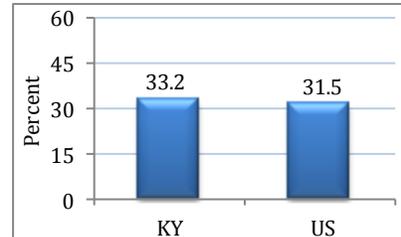
At Risk: Adults aged 65 years or older who have never had a pneumonia shot (pneumococcal vaccine) are considered at risk.

Who is at risk in Kentucky?

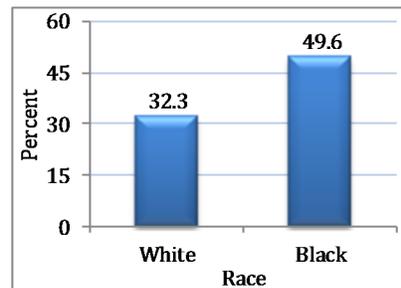
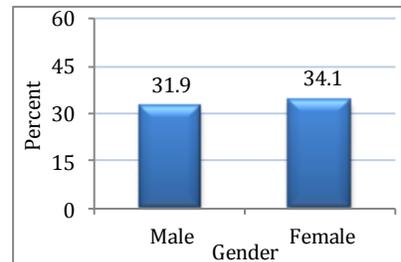
- About 33% of Kentucky adults aged 65 years or older have never had a pneumonia shot.
- Among adults aged 65 years or older, there was no significant difference between the percentage of men and the percentage of women who have not had a pneumonia shot.
- There was no statically significant difference between the percentage of white residents (age 65+) and the percentage of black residents (age 65+) who have not had a pneumonia shot.
- A significantly higher percentage of adults aged 65-74 years have never had a pneumonia shot (39.1%) compared to adults who are 75 years or older (25.7%).
- The percentage of adults (aged 65+) who have not had a pneumonia shot did not vary significantly by educational attainment or annual household income.

#Confidence Interval for prevalence among black residents was too wide (i.e. 95% CI half width > 10).

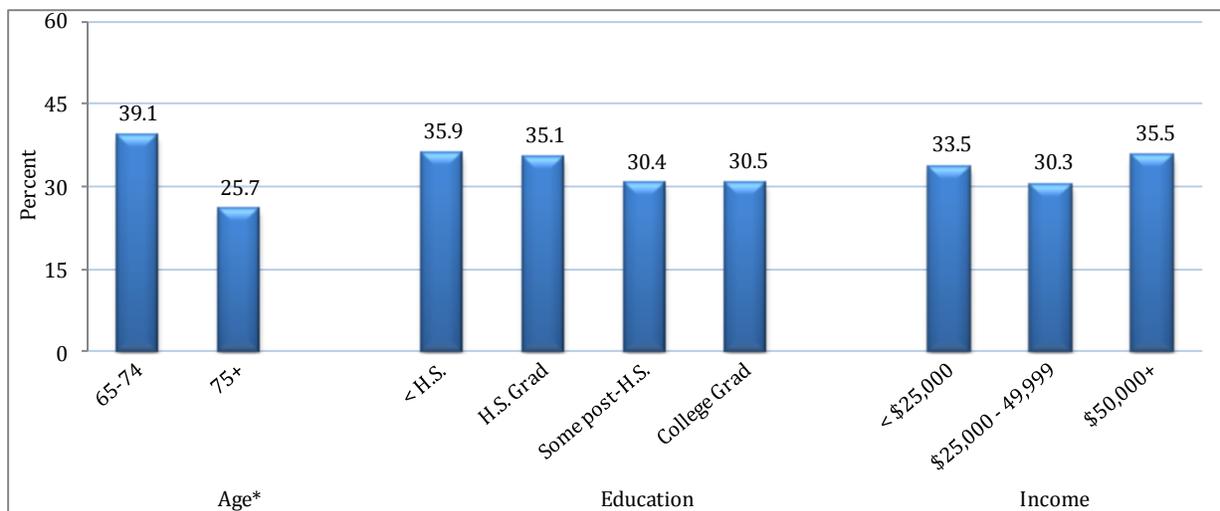
Percent of Adults aged 65+ who have never had a Pneumonia Vaccination: Kentucky vs Nationwide (States and DC), 2009



Percent of Kentucky Adults aged 65+ who have never had a Pneumonia Vaccination, by Gender, and by Race#, 2009



Percent of Kentucky Adults aged 65+ who have never had a Pneumonia Vaccination, by Age*, Education, and Income, 2009



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

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. *The maps are arranged in the same order as that of the topics presented in the table of contents.*

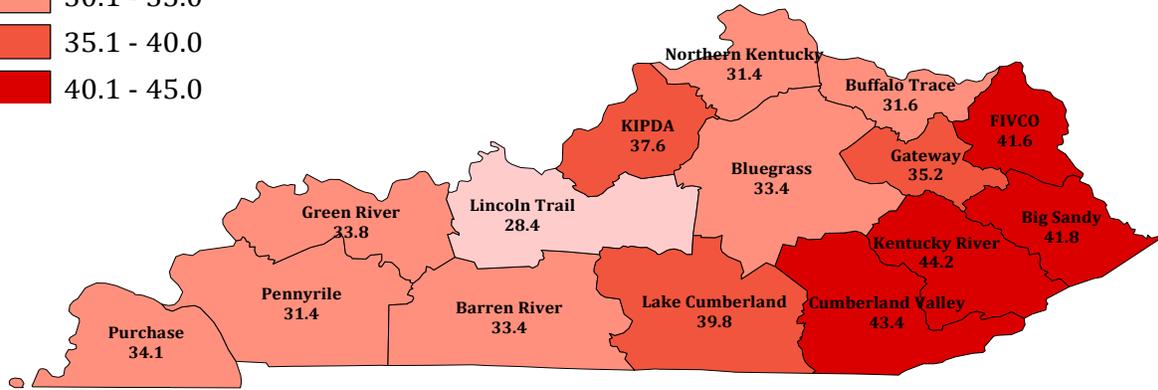
Kentucky has 120 Counties that are divided into 15 ADDs for the planning of a variety of programs. Data for this part of the report are analyzed by ADDs, rather than by county, because sample sizes for most counties are too small to provide statistically reliable estimates.



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
Pennyrile:	Caldwell, Christian, Crittenden, Hopkins, Livingston, Lyon, Muhlenberg, Todd, Trigg
Purchase:	Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, McCracken, Marshall

Percent of Kentucky Adults who have Arthritis, by Area Development District, 2009

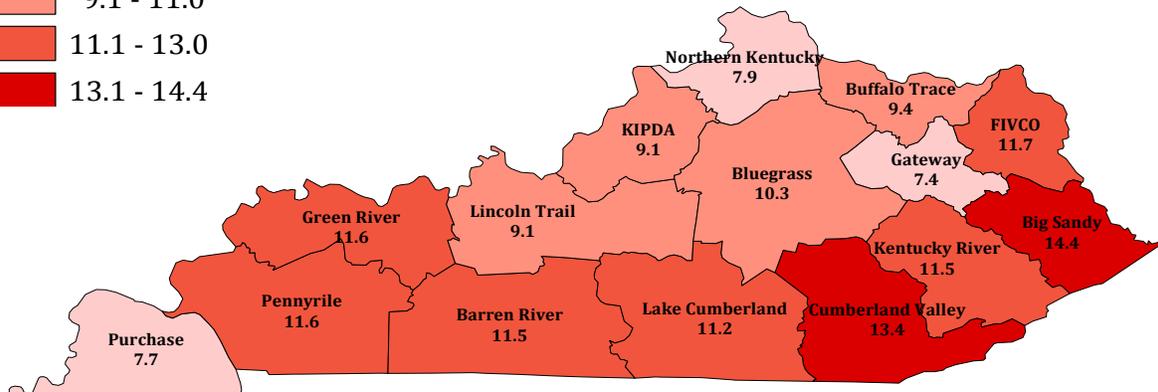
Percent



Statewide Prevalence: 35.6%
Nationwide (States and DC): 26.0%

Percent of Kentucky Adults who have Current Asthma, by Area Development District, 2009

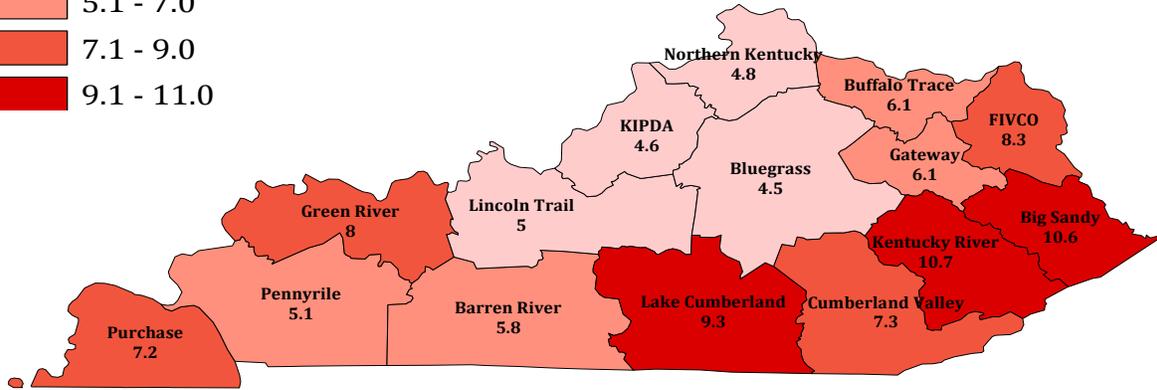
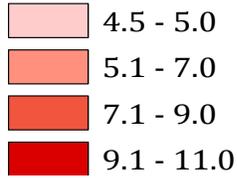
Percent



Statewide Prevalence: 10.2%
Nationwide (States and DC): 8.8%

Percent of Kentucky Adults who have Coronary Heart Disease, by Area Development District, 2009

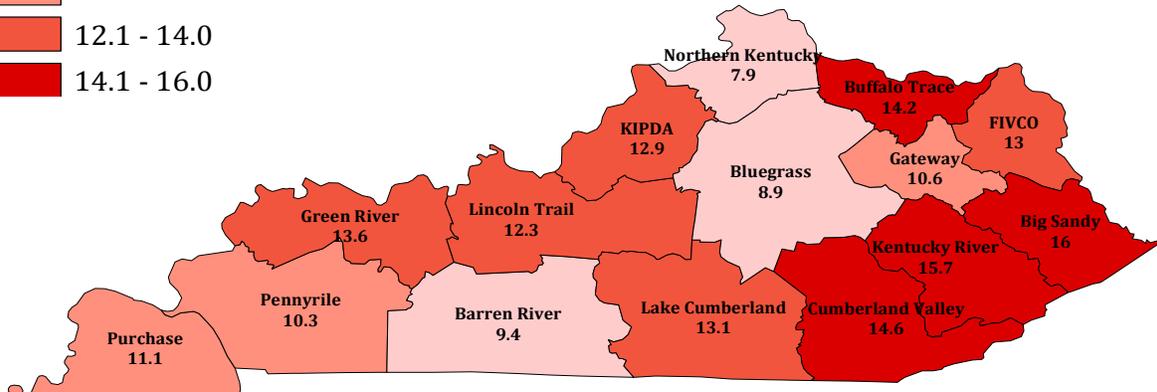
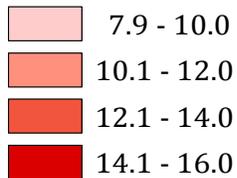
Percent



Statewide Prevalence: 6.0%
Nationwide (States and DC): 3.8%

Percent of Kentucky Adults who have Diabetes, by Area Development District, 2009

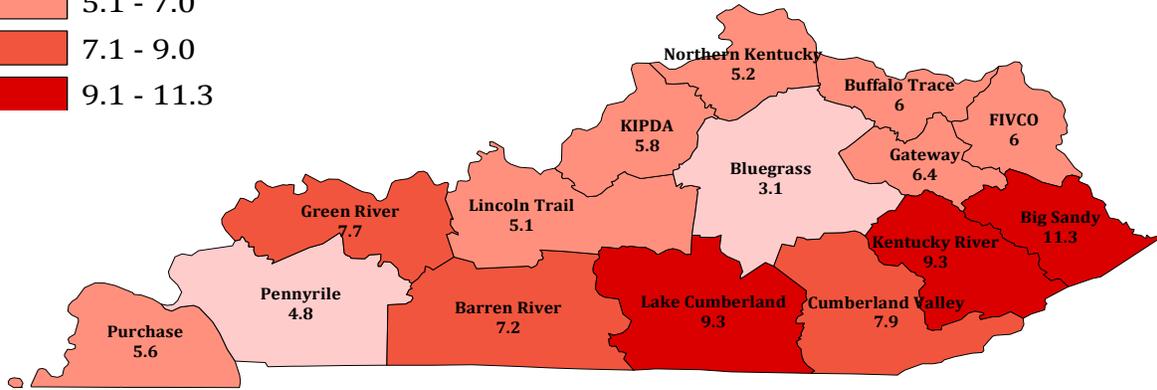
Percent



Statewide Prevalence: 11.5%
Nationwide (States and DC): 8.3%

Percent of Kentucky Adults who have ever had a Heart Attack, by Area Development District, 2009

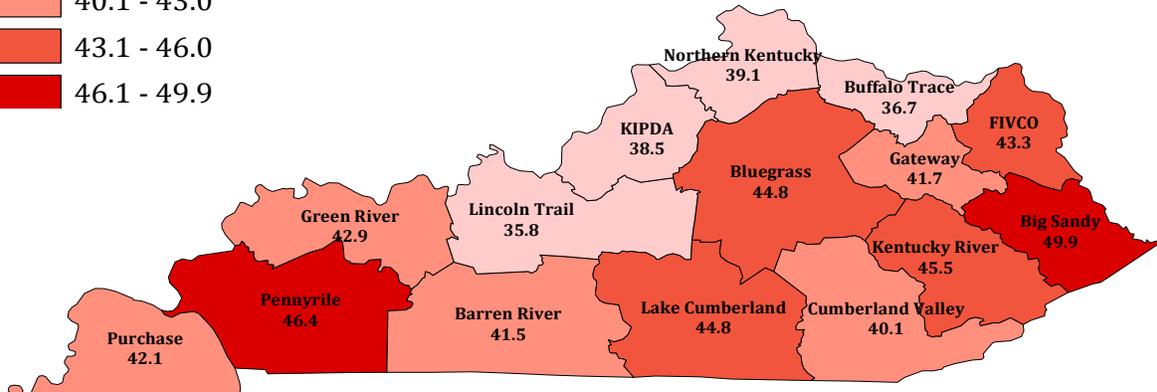
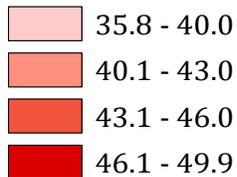
Percent



Statewide Prevalence: 5.9%
 Nationwide (States and DC): 4.0%

Percent of Kentucky Adults who have High Blood Cholesterol, by Area Development District, 2009

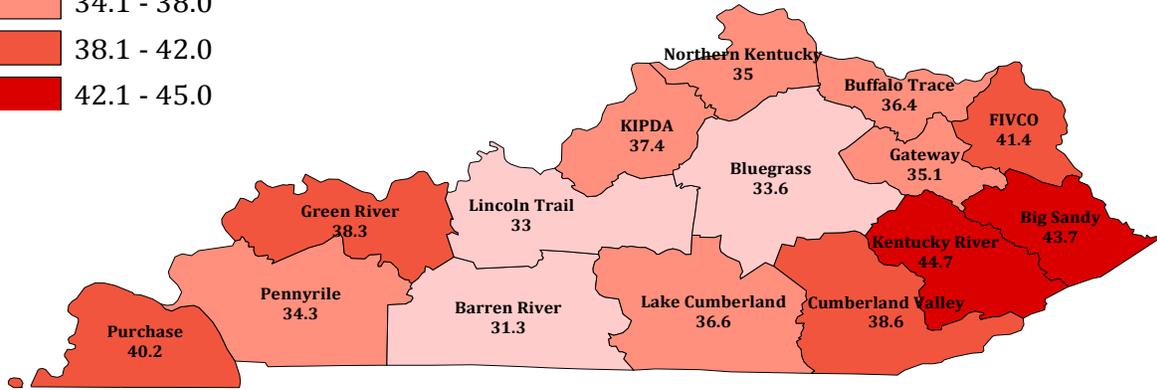
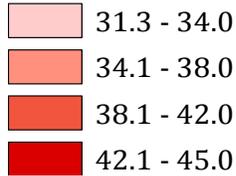
Percent



Statewide Prevalence: 41.6 %
 Nationwide (States and DC): 37.5%

Percent of Kentucky Adults who have High Blood Pressure, by Area Development District, 2009

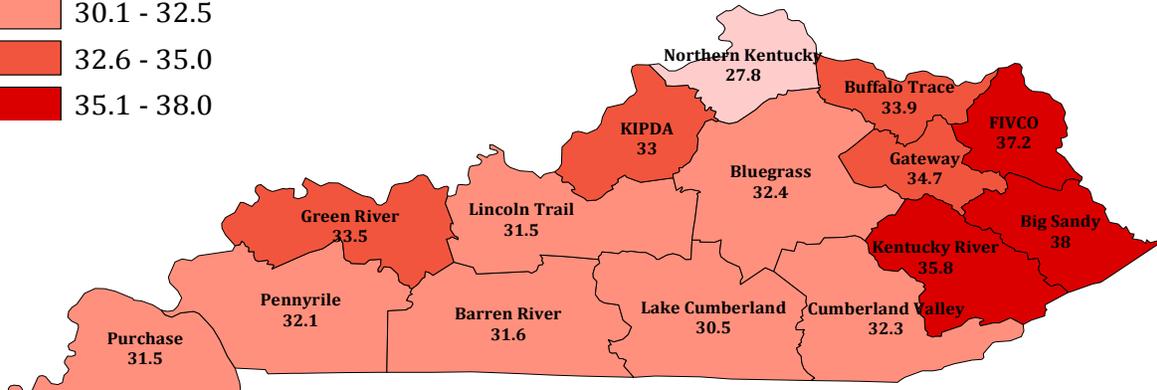
Percent



Statewide Prevalence: 36.4%
Nationwide (States and DC): 28.7%

Percent of Kentucky Adults who are Obese (BMI ≥ 30), by Area Development District, 2009

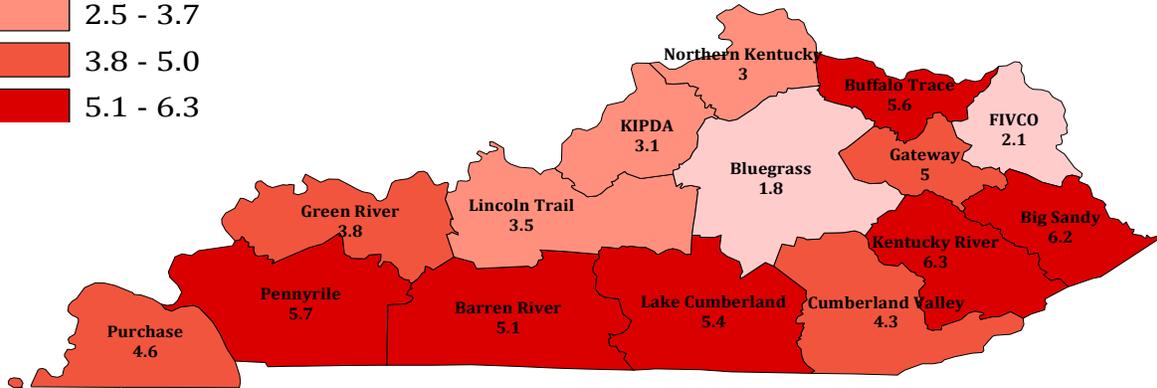
Percent



Statewide Prevalence: 32.4 %
Nationwide (States and DC): 26.9%

Percent of Kentucky Adults who have ever had a Stroke, by Area Development District, 2009

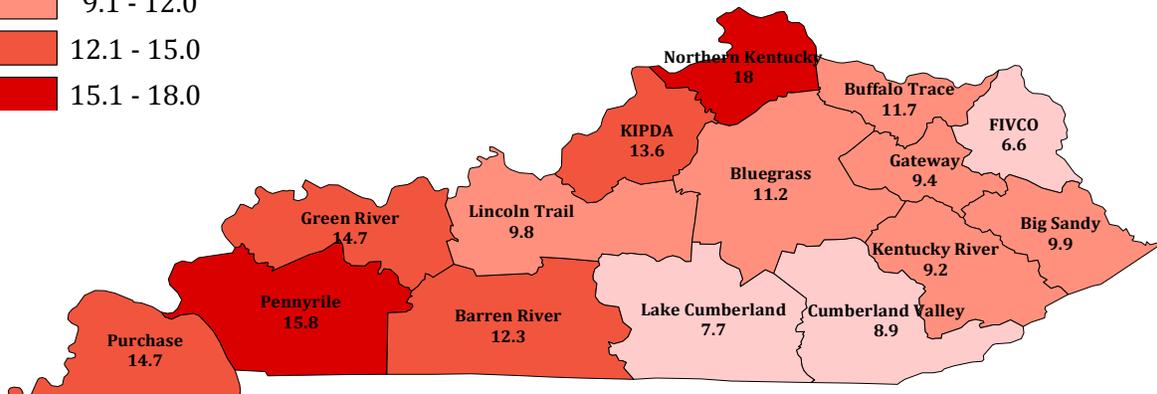
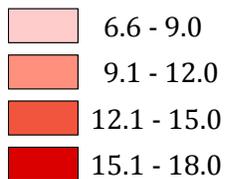
Percent



Statewide Prevalence: 3.7%
 Nationwide (States and DC): 2.4%

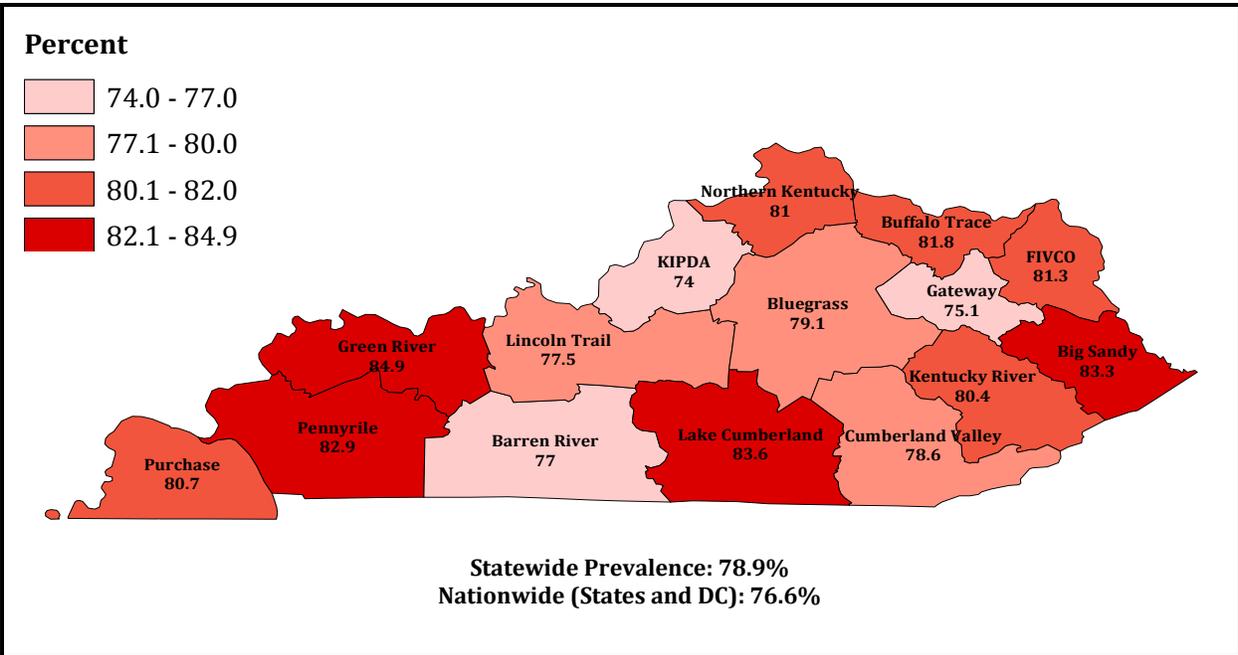
Percent of Kentucky Adults Classified as Binge Drinkers, by Area Development District, 2009

Percent

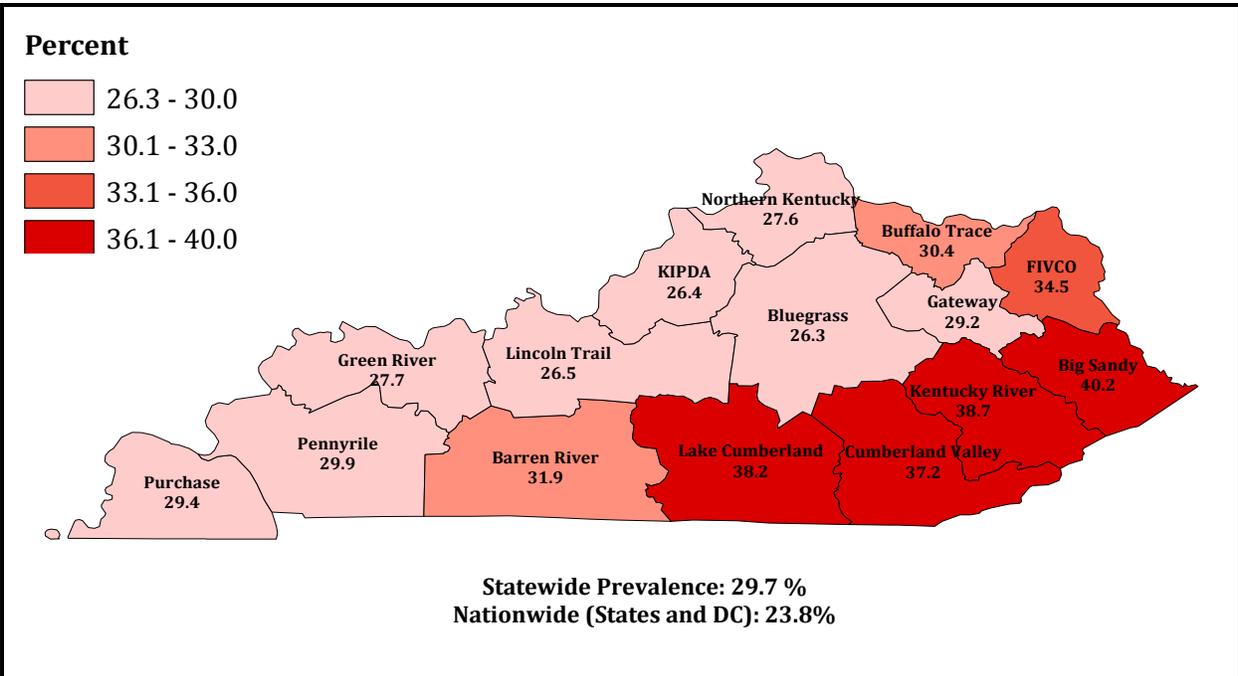


Statewide Prevalence: 12.4 %
 Nationwide (States and DC): 15.8%

Percent of Kentucky Adults who Consume Less than Five Servings of Fruits or Vegetables a Day, by Area Development District, 2009

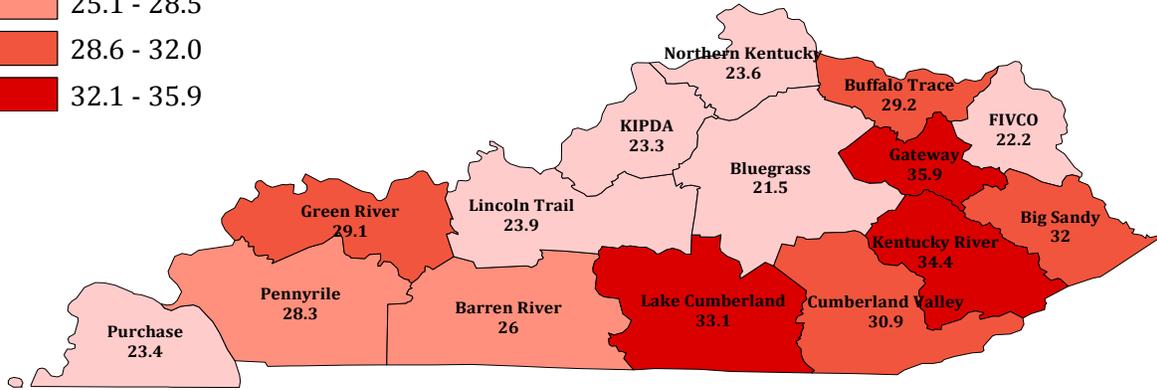


Percent of Kentucky Adults who did not Participate in any Leisure-Time Physical Activity in the Past 30 Days, by Area Development District, 2009



Percent of Kentucky Adults who are Current Smokers, by Area Development District, 2009

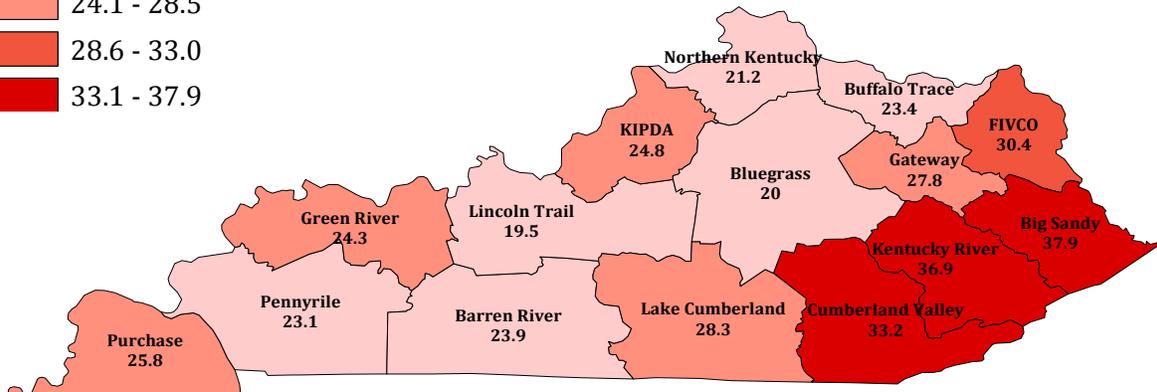
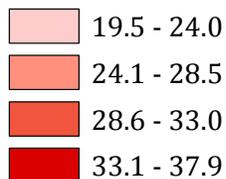
Percent



Statewide Prevalence: 25.6%
Nationwide (States and DC): 17.9%

Percent of Kentucky Adults who are Limited in any Activities due to Physical, Mental, or Emotional Problems, by Area Development District, 2009

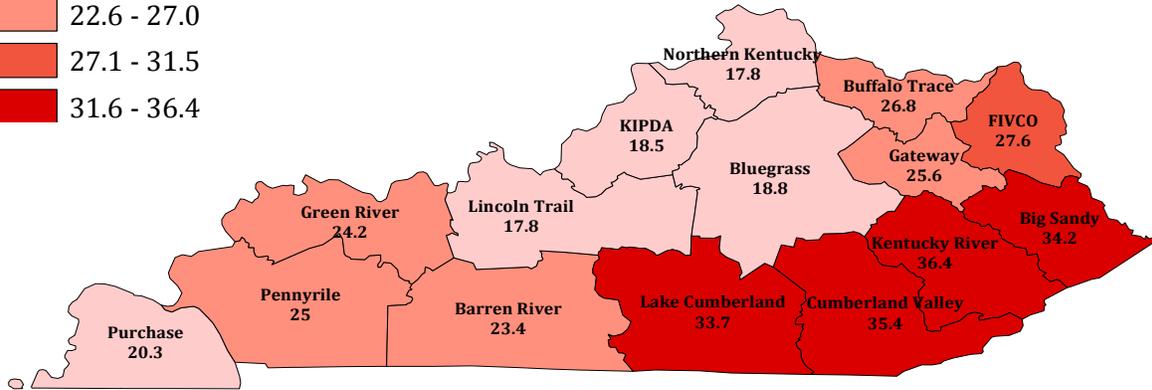
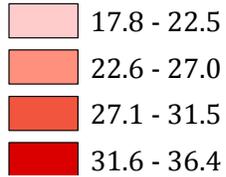
Percent



Statewide Prevalence: 24.8 %
Nationwide (States and DC): 18.9%

Percent of Kentucky Adults with Fair or Poor General Health, by Area Development District, 2009

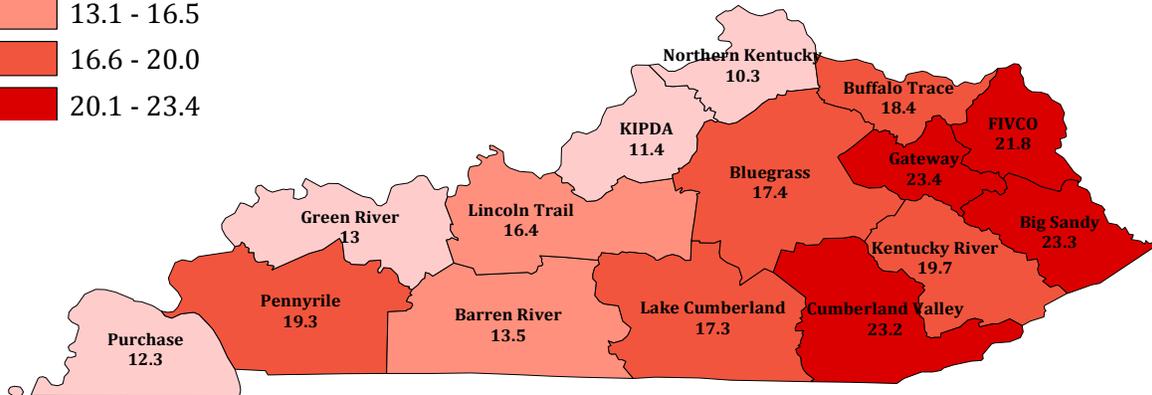
Percent



Statewide Prevalence: 22.8%
Nationwide (States and DC): 14.5%

Percent of Kentucky Adults with No Health Care Coverage, by Area Development District, 2009

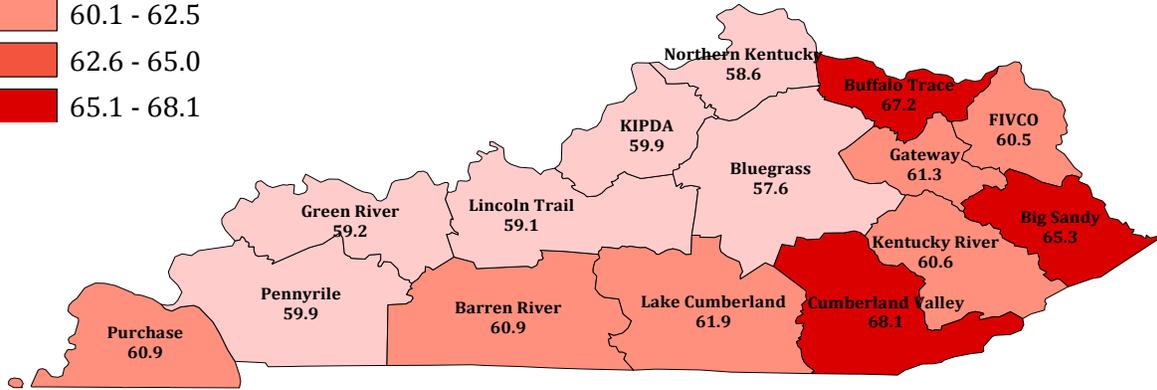
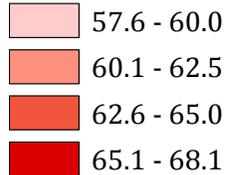
Percent



Statewide Prevalence: 15.6 %
Nationwide (States and DC): 14.4%

Percent of Kentucky Adults who did not have a Flu Shot in the Past Year, by Area Development District, 2009

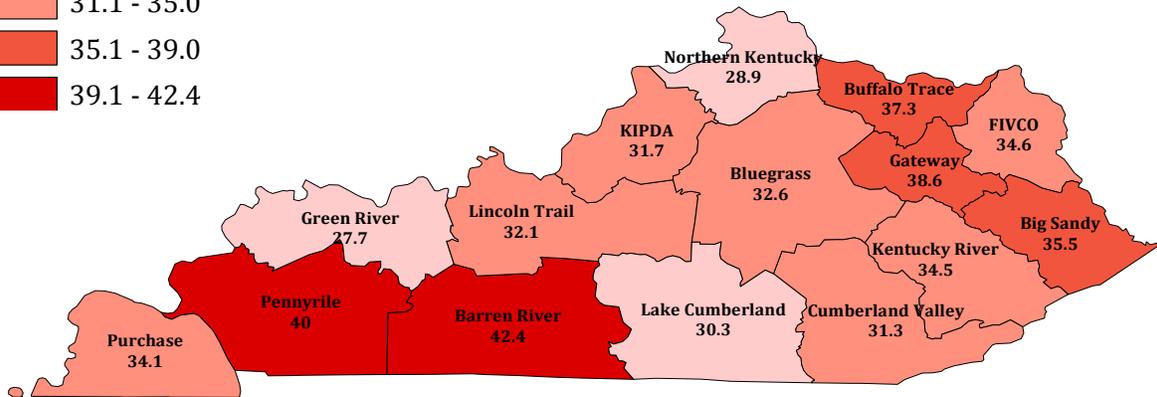
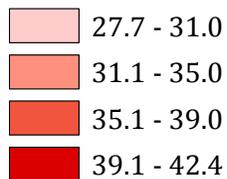
Percent



Statewide Prevalence: 60.4%
 Nationwide (States and Territories): 62.2%

Percent of Kentucky Adults aged 65+ who have never had a Pneumonia Vaccination, by Area Development District, 2009

Percent



Statewide Prevalence: 33.2 %
 Nationwide (States and DC): 31.5%