

Health Risk Behaviors of Kansans



2017 Kansas Behavioral Risk Factor Surveillance System

July 2019

Health Risk Behaviors of Kansans 2017

Lee A. Norman, M.D., Secretary
Kansas Department of Health and Environment

Ashley Goss, Deputy Secretary for Public Health
Division of Public Health

Ryan Lester, Director
Bureau of Health Promotion

REPORT PREPARATION:

Jennifer G. Laliberte, MPH
BRFSS Coordinator/Advanced Epidemiologist
Health Promotion and BRFSS Epidemiology
Bureau of Epidemiology and Public Health Informatics (BEPHI), KDHE

Pratik Pandya, MPH
Advanced Epidemiologist
Health Promotion and BRFSS Epidemiology
Bureau of Epidemiology and Public Health Informatics (BEPHI), KDHE

REPORT SUPERVISION:

Farah S. Ahmed, MPH, PhD
Environmental Health Officer and State Epidemiologist
Bureau of Epidemiology and Public Health Informatics (BEPHI), KDHE

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

Bureau of Health Promotion
1000 SW Jackson, Suite 230
Topeka, KS 66612
(785) 291-3742
healthpromotion@kdheks.gov
www.kdheks.gov/bhp

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BRFSS Overview

The Behavioral Risk Factor Surveillance System (BRFSS) is a random digit dial telephone survey of non-institutionalized adults ages 18 years and older living in private residences and college housings with landline and/or cell phone service. If applicable, adult respondents also provide limited data on a randomly selected child in the household via surrogate interview. BRFSS is coordinated and partially funded by the Centers for Disease Control and Prevention and is the largest continuously conducted telephone survey of population health risk in the world. It is conducted in every state, the District of Columbia and several U.S. territories. The first BRFSS survey in Kansas was conducted as a point-in-time survey in 1990. Kansas has conducted BRFSS survey annually since 1992.

The overall goal of BRFSS is to maintain the capacity for conducting population-based health risk surveys via telephone in Kansas. BRFSS data are used for the following:

- Monitoring the leading contributors to morbidity and premature death
- Tracking health status and assessing trends
- Measuring public knowledge, attitudes and opinions
- Program planning
 - Needs assessment
 - Development of goals and objectives
 - Identification of target groups
- Policy development
- Evaluation of public health programs

Data from BRFSS are weighted to account for the complex sample design and non-response bias to ensure the resulting estimates will be representative of the underlying population as a whole, as well as for target subpopulations.

Changes in BRFSS survey methodology

In recent years, the proportion of U.S. households with only cellular telephone (cell phone) service has risen steadily. In the first half of 2003 cell phone only service was only 3 percent, but this increased to more than 3 out of every 10 American households (31.6%) during the first half of 2011. In the second half of 2012, nearly 2 out of 5 American households (38.2%) had cellular telephone only service. The demographic characteristics of adults living in cell phone service only households are different. These adults are more likely to be young, males, Hispanics, non-Hispanic African-Americans, living alone or with unrelated adults, living in poverty or near poverty, and renting a home. These changes in phone use impacted traditional random digit dialing landline phone surveys such as BRFSS.

To maintain representativeness, coverage and validity of data, changes in BRFSS survey methodology were made beginning in 2011 by the CDC. These changes include:

1. Use of the dual frame sampling method (landline and cell phone samples) instead of the single frame method (landline phone sample). The sample includes:
 - Adults ages 18 years and older living in a private residences and college housings with landline phone service

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

- Adults ages 18 years and older living in a private residences and college housings with cell phone service
 - Adults ages 18 years and older living in a private residences and college housings with landline and cell phone service (dual users)
2. Use of the Iterative Proportional Fitting weighting method (raking method) in place of the post stratification weighting method to improve the weighting, adjustment and estimation methods. This methodology has adjusted to take into account the dual frame sampling. The raking method adjusted the survey sample for age, sex, race, ethnicity, education level, marital status, home ownership, region, county and telephone type (landline/cell) to increase the representativeness of survey estimates for the general population.

Impact of New Survey Methodology on 2011 and later BRFSS

Changes in the 2011 BRFSS methodology influence the state and national-level prevalence estimates for 2011 and subsequent years. Size and direction of the effect of new methodology on the prevalence estimates varies by health indicators. Changes in the 2011 data are likely to show indications of somewhat higher occurrences of risk behaviors common to younger adults and to certain racial or ethnic minority groups. The absolute increases or decreases in the prevalence estimates of health indicators from 2010 to 2011 BRFSS do not show any real changes in the actual prevalence of diseases, risk factors/behaviors and other health indicators in the general population. These variations in the estimates are caused by the addition of cell phone households to the survey sampling frame and adoption of a new advanced statistical method for weighting of the survey data. The 2011 and later data cannot be compared with data from 2010 and preceding years to examine trends as prevalence estimates cannot be compared and interpreted using data generated from two different methodologies. The 2011 estimates constitute a new baseline for monitoring trends of health indicators.

Analysis, Interpretation and Use of 2017 Kansas BRFSS Data

For analysis, the 2011, 2012, 2013, 2014, 2015, 2016, and 2017 Kansas BRFSS dataset cannot be combined with those from previous years as sampling and weighting methods are different. The weighted data analysis techniques were used for 2011, 2012, 2013, 2014, 2015, and 2016 surveys was applied for the 2017 survey. 2017 BRFSS provides prevalence estimates of diseases, risk factors/behaviors and other health indicators for adult Kansans ages 18 years and older. 2017 BRFSS also provides prevalence estimates of health indicators for various socio-demographic subgroups in Kansas. The prevalence estimates from 2017 Kansas BRFSS are representative of non-institutionalized adults ages 18 years and older living in private residences and college housings with landline and/or cell phone service.

2017 BRFSS data can be reliably used for: examining and monitoring the burden of public health issues in Kansas, planning and evaluation of public health programs to address these issues, public health decision making, leveraging funding opportunities and public education.

For more information about the Kansas BRFSS, including questionnaires and data results for 2017 and previous years, please visit: <http://www.kdheks.gov/brfss/index.html>.

Executive Summary

Healthy People 2020 (HP 2020) is a comprehensive nationwide set of goals and objectives related to health promotion and disease prevention. In Healthy People 2020, a set of Leading Health Indicators was selected based on their relevance to broad public health topics and availability of data to measure their progress. The indicators serve as a snapshot of the nation's progress toward improving the overall health of the population.

The 12 Leading Health Indicators are:

- Access to Health Services
- Clinical Preventive Services
- Environmental Quality
- Injury and Violence
- Maternal, Infant and Child Health
- Mental Health
- Nutrition, Physical Activity and Obesity
- Oral Health
- Reproductive and Sexual Health
- Social Determinants
- Substance Abuse
- Tobacco

2017 Kansas BRFSS collected data on several Healthy People 2020 topics. This report examines the Kansas data in context with the targets set for several Healthy People 2020 objectives.

Report Highlights

Access to Health Services

- The percentage of Kansas adults ages 18 to 64 years with no health care coverage was significantly **higher** among adults in lower education groups compared with adults in higher education groups.
- The percentage of Kansas adults ages 18 years and older with no personal health care provider was significantly **higher** among males compared with females.

Healthy People 2020 Objectives:

- *Increase the proportion of persons with medical insurance to 100%. Kansas 2017: 87.5%. Kansas has **not yet met** the HP 2020 target.*
- *Increase the proportion of persons with a usual primary care provider to 83.9%. Kansas 2017: 77.5%. Kansas has **not yet met** the HP 2020 target.*

Injury and Violence

- The percentage of Kansas adults ages 18 years and older who did not always wear a seat belt when they drove or rode in a car was significantly **higher** among younger adults compared with adults in older age groups.

Healthy People 2020 Objective:

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

- Increase use of safety belts to 92.0%. Kansas 2017: 83.3%. Kansas has *not yet met* the HP 2020 target.

Clinical Preventive Services

- The percentage of Kansas adults ages 18 years and older who did not get immunized against influenza during the past 12 months was significantly **higher** among adults with no insurance compared with adults with insurance.
- The percentage of Kansas adults ages 65 years and older who never received a pneumonia vaccination was significantly **higher** among adults with no insurance compared with adults with insurance.

Healthy People 2020 Objectives:

- Increase the percentage of noninstitutionalized adults ages 18 years and older who are vaccinated annually against seasonal influenza to 70.0%. Kansas 2017: 38.4%. Kansas has *not yet met* the HP 2020 target.
- Increase the percentage of noninstitutionalized adults ages 65 years and older who are vaccinated against pneumococcal disease to 90.0%. Kansas 2017: 76.5%. Kansas has *not yet met* the HP 2020 target.

Nutrition, Physical Activity and Obesity

- The percentage of Kansas adults ages 18 years and older who were obese was significantly **higher** among Hispanics compared with non-Hispanic whites and non-Hispanic other/multi-race adults (age-adjusted prevalence).
- The percentage of Kansas adults ages 18 years and older who did not participate in leisure-time physical activity in the past 30 days was significantly **higher** among older adults compared with adults in younger age groups.
- The percentage of Kansas adults ages 18 years and older that did not participate in any recommended physical activity (aerobic and strengthening) was significantly **higher** among females compared with males.
- The percentage of Kansas adults ages 18 years and older that did not participate in recommended physical activity (aerobic and/or strengthening) was significantly **higher** among adults living with a disability compared with adults living without a disability.
- The percentage of Kansas adults ages 18 years and older who did not consume fruit at least once per day was significantly **higher** among adults with no insurance compared with adults with insurance.
- The percentage of Kansas adults ages 18 years and older who did not consume vegetables at least once per day was significantly **higher** among adults ages 18 to 24 years compared with adults in older age groups.

Healthy People 2020 Objectives:

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

- Reduce the proportion of adults who are obese to **30.5%**. Kansas 2017: **34.2%**. Kansas has **not met** the HP 2020 target. In addition there are disparities in population subgroups that have not met the HP 2020 target.
- Reduce the proportion of adults who engage in no leisure-time physical activity to **32.6%**. Kansas 2017: **27.9%**. Kansas has **met** the HP 2020 target, but still approximately **1 in 4** Kansas adults did not participate in leisure-time physical activity. In addition there are disparities in population subgroups that have not met the HP 2020 target.
- Increase the proportion of adults who meet the objectives for aerobic physical activity and for muscle strengthening activity to **20.1%**; Kansas 2017: **19.0%**. Kansas has **not yet met** the HP 2020 targets.

Tobacco

- The percentage of Kansas adults ages 18 years and older who currently smoke cigarettes was significantly **higher** among non-Hispanic African-Americans compared with non-Hispanic whites and Hispanics (age-adjusted prevalence).
- The percentage of Kansas adults ages 18 years and older who currently use any smokeless tobacco products was significantly **higher** among males compared with females.
- The percentage of Kansas adults ages 18 years and older that currently use e-cigarettes was significantly **higher** among adults with less than a college graduation compared with college graduates.

Healthy People 2020 Objectives:

- Reduce cigarette smoking by adults to **12.0%**. Kansas 2017: **17.4%**. Kansas has **not yet met** the HP 2020 target.
- Reduce use of smokeless tobacco products to **0.2%**. Kansas 2017: **5.5%**. Kansas has **not yet met** the HP 2020 target.

Oral Health

- The percentage of Kansas adults ages 18 years and older who did not use the oral health care system in the past 12 months was significantly **higher** among adults with lower annual household income compared with adults in higher annual household income groups.

Substance Abuse

- The percentage of Kansas adults ages 18 years and older who were binge drinkers in the past 30 days was significantly **higher** among males compared with females.

Healthy People 2020 Objectives:

- Reduce the proportion of adults 18 years and older engaging in binge drinking during the past 30 days to **24.2%**. Kansas 2017: **17.2%**. Kansas has **met** the HP 2020 target, but still approximately **1 in 6** Kansas adults were binge drinkers. In addition there are disparities in population subgroups that have not met the HP 2020 target.

Mental Health

- Mental health issues are seen in the Kansas population and its subgroups.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with depression was significantly **higher** among females compared with males.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with depression was significantly **higher** among adults with lower annual household income compared with adults in higher annual household income groups.

Chronic Health Conditions

- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with diabetes was significantly **higher** among adults living with a disability compared with adults living without a disability.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with current asthma was significantly **higher** among females compared with males.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with arthritis was significantly **higher** among adults with lower annual household income compared with adults in higher annual household income groups.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with hypertension was significantly **higher** among non-Hispanic African-Americans compared with all other race/ethnicity groups (age-adjusted prevalence).
- The percentage of Kansas adults ages 18 years and older who did not have their cholesterol checked within the past 5 years was significantly **higher** among adults with lower annual household income compared with adults in higher annual household income groups.
- The percentage of Kansas adults ages 18 years and older who were ever tested and diagnosed with high cholesterol was significantly **higher** among adults in lower annual household income groups when compared with adults in the highest annual household income group.
- The percentage of Kansas adults ages 18 years and older that had ever been diagnosed with heart disease was significantly **higher** among adults with lower education compared with adults in higher education groups.
- The percentage of Kansas adults ages 18 years and older that had ever been diagnosed with stroke was significantly **higher** among adults with lower annual household income compared with adults in higher annual household income groups.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with cancer (excluding skin cancer) was significantly **higher** among females compared with males.
- The percentage of Kansas adults ages 18 years and older who were ever diagnosed with skin cancer was significantly **higher** among non-Hispanic whites compared with non-Hispanic other/multi-race adults (age-adjusted prevalence).

Healthy People 2020 Objectives:

- *Reduce the proportion of adults with hypertension to 26.9%; Kansas 2017: 32.8%. Kansas has **not yet met** the HP 2020 targets.*
- *Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years to 82.1%; Kansas 2017: 84.8%. Kansas has **met** the HP 2020 targets.*
- *Reduce the proportion of adults with high total blood cholesterol levels to 13.5%; Kansas 2017: 34.1%; Kansas has **not yet met** the HP 2020 targets.*

Access to Health Care: Health Insurance

Access to health services is one of the leading health indicators of Healthy People 2020. The U.S. Institute of Medicine defined health access as the timely use of personal health services to achieve the best possible health outcomes. Lack of access to health services is a persistent barrier to good health.¹ Adults with no or limited insurance coverage are less likely to get needed medical attention.²

Access to health care among Kansans ages 18 to 64 years:

In 2017, approximately 1 in 7 Kansas adults ages 18 to 64 years lacked health care coverage. The percentage of Kansas adults ages 18 to 64 years with no health care coverage was significantly **higher** among:

- Adults ages 34 years and younger compared with those in older age groups.
- Non-Hispanic African-Americans, non-Hispanic other/multi-race adults, and Hispanics compared with non-Hispanic whites (age-adjusted prevalence)
- Adults in lower education groups compared with adults in higher education groups
- Adults with an annual household income of less than \$25,000 compared with those with an annual household income of \$25,000 or higher
- Adults living with a disability compared with those living without a disability

The percentage of Kansas adults with no health care coverage did not differ significantly between males and females.

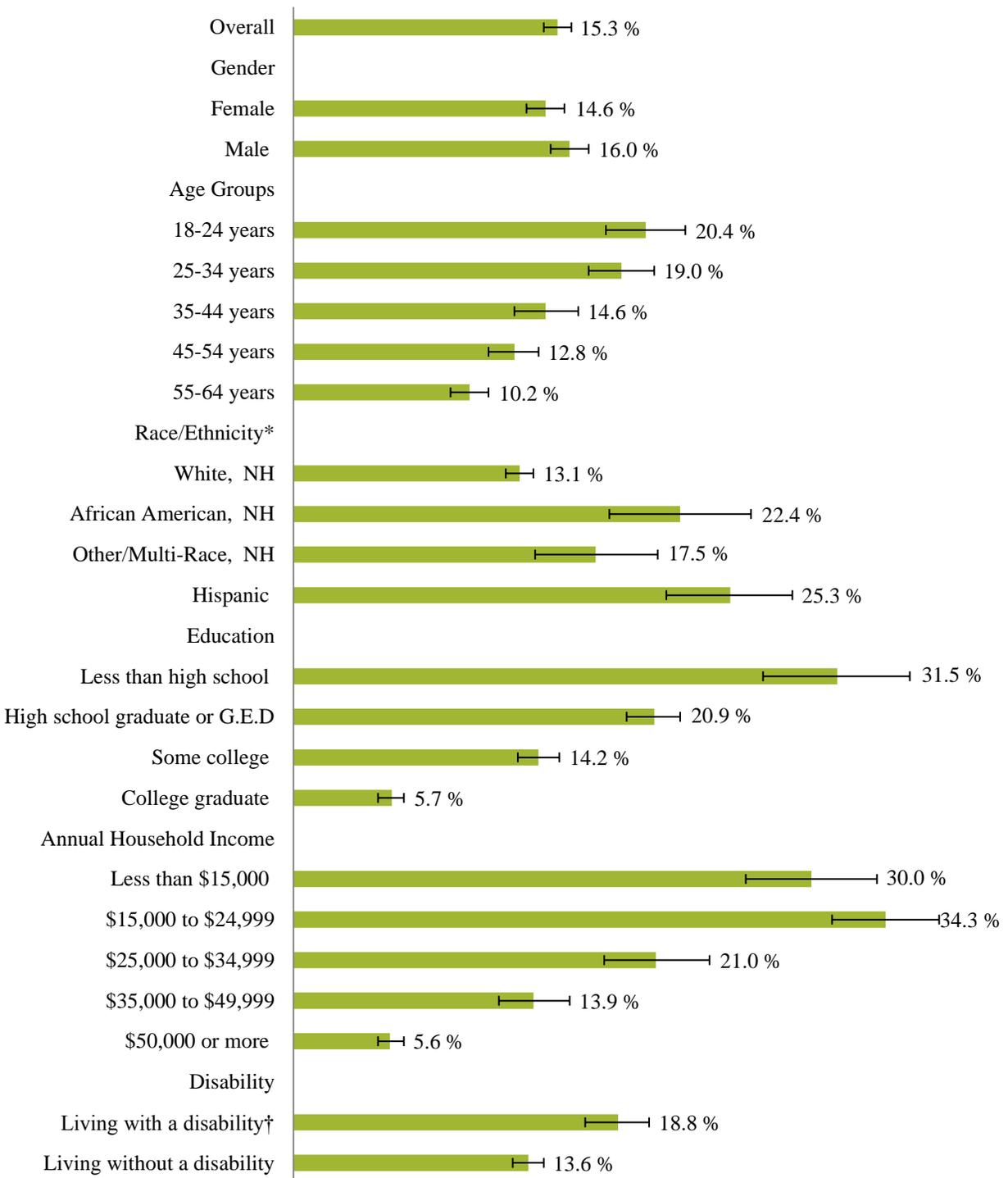
Percentage of Adults Ages 18 to 64 Years Who Lack Health Care Coverage, KS BRFSS 2017

Demographic Characteristics	Weighted Percentage	95% CI
Overall	15.3	14.5-16.1
Gender		
Female	14.6	13.5-15.7
Male	16.0	14.9-17.1
Age Groups		
18-24 years	20.4	18.1-22.7
25-34 years	19.0	17.1-20.9
35-44 years	14.6	12.8-16.5
45-54 years	12.8	11.3-14.2
55-64 years	10.2	9.1-11.3
Race/Ethnicity*		
White, NH	13.1	12.3-13.9
African-American, NH	22.4	18.3-26.5
Other/Multi-Race, NH	17.5	14.0-21.1
Hispanic	25.3	21.6-28.9
Education		
Less than high school	31.5	27.2-35.7
High school graduate or G.E.D	20.9	19.3-22.4
Some college	14.2	13.0-15.4
College graduate	5.7	4.9-6.4
Annual Household Income		
Less than \$15,000	30.0	26.2-33.8
\$15,000 to \$24,999	34.3	31.2-37.4
\$25,000 to \$34,999	21.0	18.0-24.1
\$35,000 to \$49,999	13.9	11.9-16.0
\$50,000 or more	5.6	4.9-6.4
Disability		
Living with a disability†	18.8	16.9-20.6
Living without a disability	13.6	12.7-14.5

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Percentage of Adults Ages 18 to 64 Years Who Lack Health Care Coverage, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 to 64 Years Who Lack Health Care Coverage by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	14.6	12.2-17.0
No	15.3	14.5-16.2
Arthritis		
Yes	14.1	12.3-15.8
No	15.6	14.7-16.4
Weight		
Normal or Underweight, BMI<25	15.7	14.2-17.1
Overweight, 25<= BMI<30	13.7	12.4-15.1
Obese, BMI>=30	14.8	13.4-16.2
Diabetes		
Yes	12.9	10.3-15.5
No	15.4	14.6-16.2

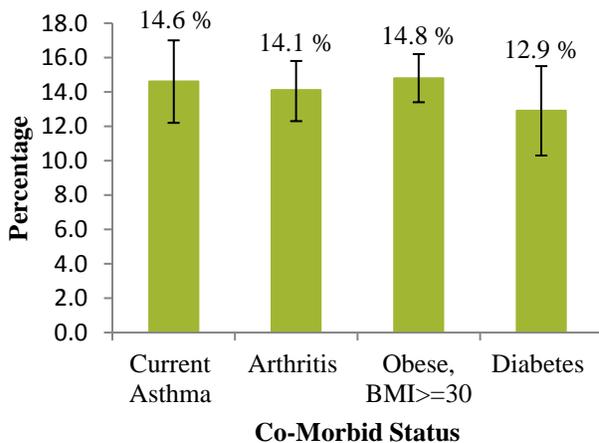
The percentage of Kansas adults ages 18 to 64 years with no health care coverage did not differ significantly by current asthma status, arthritis status, diabetes status or weight categories.

SUMMARY

Approximately 15.3 percent of Kansas adults ages 18 to 64 years lacked health care coverage. In addition, higher percentages of adults who lacked health insurance were seen among: adults ages 34 years and younger, non-Hispanic African-Americans, non-Hispanic other/multi-race adults, Hispanics, adults with lower income, adults with lower education and adults living with disability.

The Healthy People 2020 target is for 100 percent of people to have health insurance. Further public health efforts are needed to reach the target in Kansas and to address observed disparities among population subgroups.

Percentage of Adults Ages 18 to 64 Years Who Lack Health Care Coverage, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Access to health care among Kansans ages 18 years and older:

In 2017, 1 in 8 Kansas adults ages 18 years and older lacked health care coverage. The percentage of Kansas adults ages 18 years and older with no health care coverage was significantly **higher** among:

- Adults ages 34 years and younger compared with those in older age groups
- Non-Hispanic African-Americans, non-Hispanic, other/multi-race adults and Hispanics compared with non-Hispanic whites (age-adjusted prevalence)
- Adults in lower education groups compared with adults in higher education groups
- Adults in lower annual household income groups compared with adults in higher annual household income groups

The percentage of Kansas adults with no health care coverage did not differ significantly by gender or by disability status.

Percentage of Adults Ages 18 Years and Older Who Lack Health Care Coverage, KS BRFSS 2017

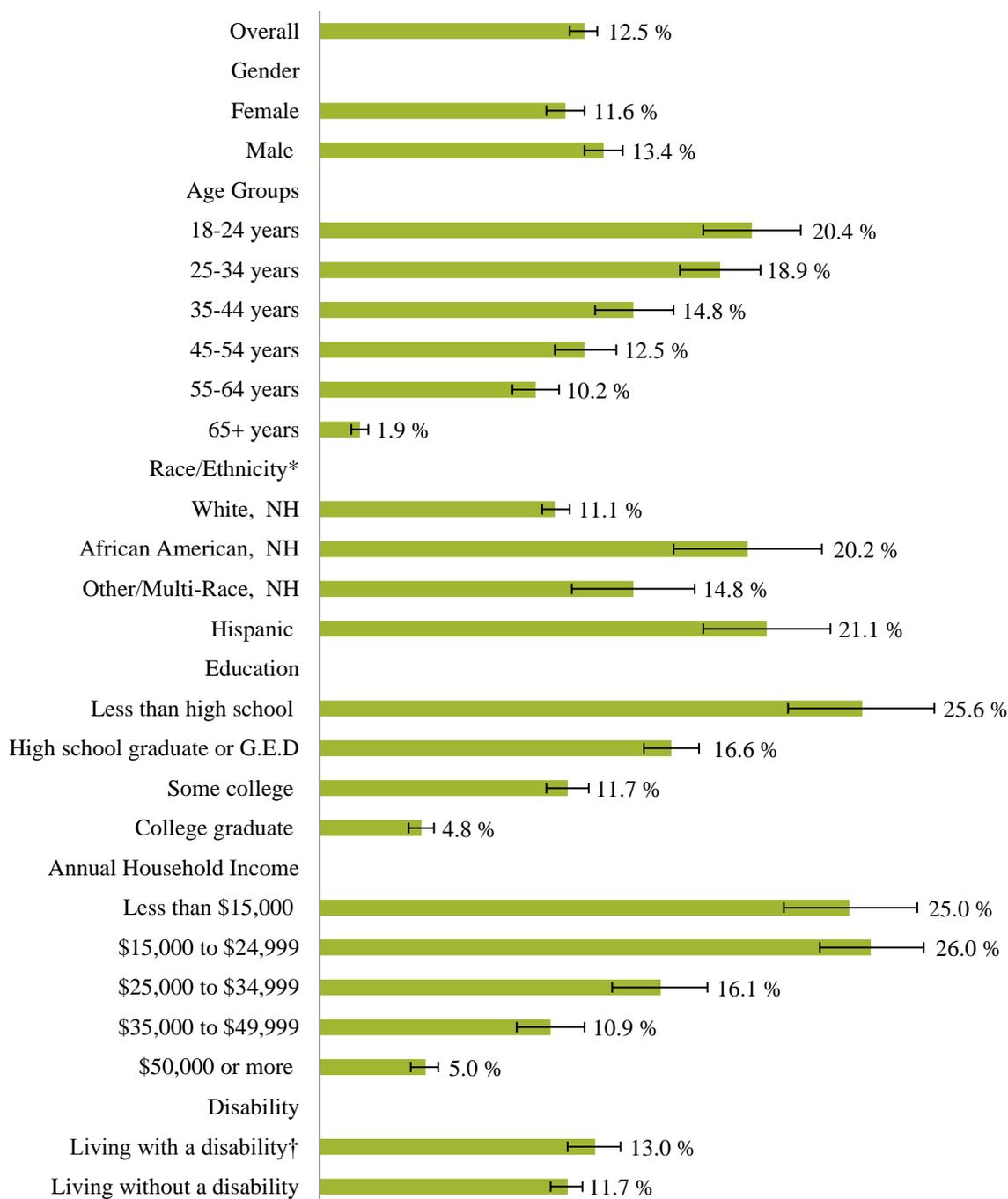
Demographic Characteristics	Weighted Percentage	95% CI
Overall	12.5	11.8-13.1
Gender		
Female	11.6	10.7-12.5
Male	13.4	12.5-14.3
Age Groups		
18-24 years	20.4	18.1-22.7
25-34 years	18.9	17.0-20.8
35-44 years	14.8	13.0-16.7
45-54 years	12.5	11.1-14.0
55-64 years	10.2	9.1-11.3
65+ years	1.9	1.5-2.3
Race/Ethnicity*		
White, NH	11.1	10.5-11.8
African-American, NH	20.2	16.7-23.7
Other/Multi-Race, NH	14.8	11.9-17.7
Hispanic	21.1	18.1-24.1
Education		
Less than high school	25.6	22.1-29.0
High school graduate or G.E.D	16.6	15.3-17.9
Some college	11.7	10.7-12.7
College graduate	4.8	4.2-5.4
Annual Household Income		
Less than \$15,000	25.0	21.9-28.2
\$15,000 to \$24,999	26.0	23.6-28.5
\$25,000 to \$34,999	16.1	13.8-18.3
\$35,000 to \$49,999	10.9	9.3-12.5
\$50,000 or more	5.0	4.3-5.6
Disability		
Living with a disability†	13.0	11.7-14.2
Living without a disability	11.7	10.9-12.4

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Lack Health Care Coverage, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Lack Health Care Coverage by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	12.5	10.5-14.5
No	12.4	11.8-13.1
Arthritis		
Yes	8.8	7.8-9.9
No	13.7	12.9-14.4
Weight		
Normal or Underweight, BMI<25	12.8	11.6-14.0
Overweight, 25<= BMI<30	11.0	10.0-12.1
Obese, BMI>=30	12.3	11.2-13.5
Diabetes		
Yes	8.0	6.5-9.5
No	13.0	12.3-13.6

The percentage of Kansas adults ages 18 years and older with no health care coverage was significantly **higher** among:

- Adults without arthritis compared with those with arthritis
- Adults without diabetes compared with those with diabetes

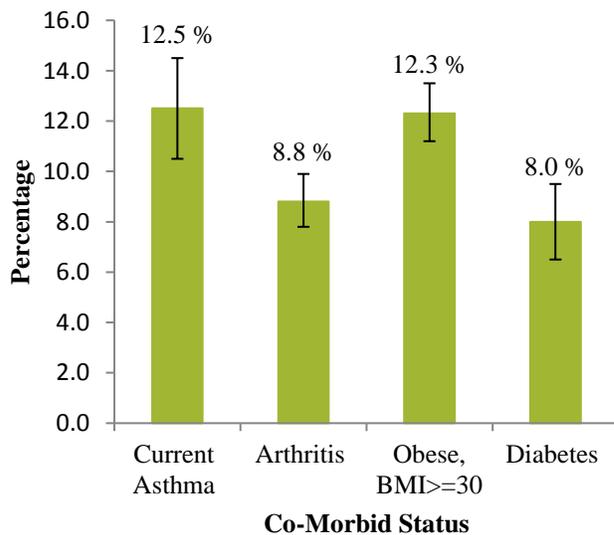
The percentage of Kansas adults ages 18 years and older with no health care coverage did not differ significantly by current asthma status or weight category.

SUMMARY

Approximately 12.5 percent of Kansas adults ages 18 years and older lacked health care coverage. Also, significant disparities were seen among age, race/ethnicity, education and annual household income groups, as well as those without co-morbid conditions (arthritis or diabetes).

The Healthy People 2020 target is for 100 percent of persons to have health insurance. Further public health efforts are needed to reach the target and to address disparities seen in various population subgroups in Kansas.

Percentage of Adults Ages 18 Years and Older Who Lack Health Care Coverage, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Access to Health Care: No Personal Health Care Provider

Health-related outcomes are shown to be substantially improved when people have access to primary health care and a personal doctor. People who have a personal health care provider also indicate they receive appropriate preventive care, have their problems identified and pay lower costs related to hospitalization due to timely diagnostic tests, fewer prescriptions and fewer emergency room visits.³

No personal doctor among Kansans ages 18 years and older:

In 2017, approximately 1 in 5 Kansas adults ages 18 years and older did not have a personal health care provider. The percentage of Kansas adults with no personal health care provider was significantly **higher** among:

- Males compared with females
- Younger adults compared with adults in older age groups
- Non-Hispanic African-Americans, non-Hispanic other/multi-race adults and Hispanics, compared with non-Hispanic whites (age-adjusted prevalence)
- Adults who had less than high school education compared with those with higher levels of education
- Adults with an annual household income less than \$35,000 compared with adults with an annual household income greater than \$35,000; and adults with an annual household income less than \$50,000 compared with adults with an annual household income greater than \$50,000
- Adults living without a disability compared with those living with a disability
- Adults who were uninsured compared to adults who were insured

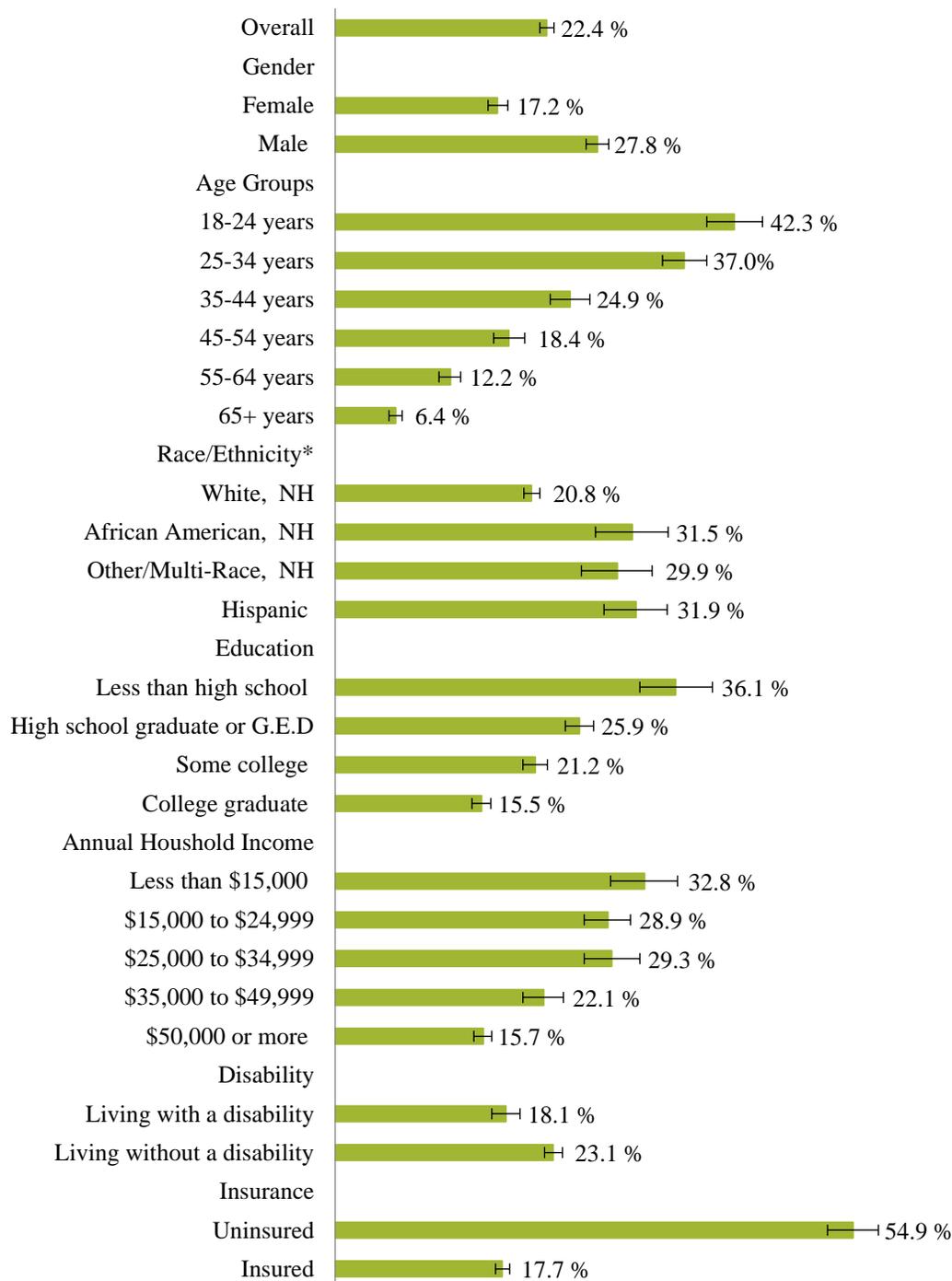
Percentage of Adults Ages 18 Years and Older With No Personal Doctor, KS BRFSS 2017		
Demographic Characteristics	Weighted Percentage	95% CI
Overall	22.4	21.7-23.2
Gender		
Female	17.2	16.2-18.3
Male	27.8	26.6-29.0
Age Groups		
18-24 years	42.3	39.4-45.3
25-34 years	37.0	34.7-39.4
35-44 years	24.9	22.8-27.0
45-54 years	18.4	16.8-20.1
55-64 years	12.2	11.0-13.3
65+ years	6.4	5.7-7.1
Race/Ethnicity*		
White, NH	20.8	20.0-21.7
African-American, NH	31.5	27.6-35.3
Other/Multi-Race, NH	29.9	26.1-33.6
Hispanic	31.9	28.5-35.2
Education		
Less than high school	36.1	32.3-40.0
High school graduate or GED	25.9	24.4-27.4
Some college	21.2	19.9-22.5
College graduate	15.5	14.5-16.5
Annual Household Income		
Less than \$15,000	32.8	29.2-36.3
\$15,000 to \$24,999	28.9	26.4-31.3
\$25,000 to \$34,999	29.3	26.4-32.3
\$35,000 to \$49,999	22.1	19.9-24.2
\$50,000 or more	15.7	14.7-16.6
Disability		
Living with a disability†	18.1	16.6-19.6
Living without a disability	23.1	22.2-24.1
Insurance		
Uninsured	54.9	52.2-57.6
Insured	17.7	17.0-18.5

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years And Older With No Personal Doctor, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

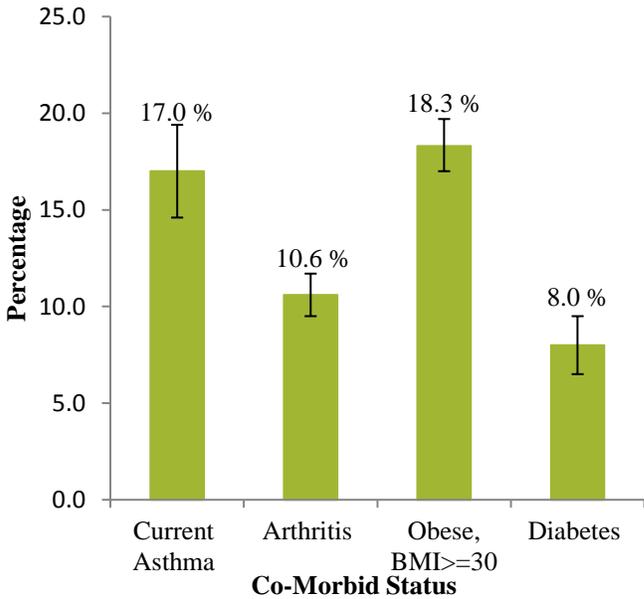
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With No Personal Doctor by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	17.0	14.6-19.4
	No	22.9	22.1-23.8
Arthritis	Yes	10.6	9.5-11.7
	No	26.2	25.2-27.1
Weight	Normal or Underweight, BMI<25	24.9	23.4-26.4
	Overweight, 25<= BMI<30	22.5	21.2-23.9
	Obese, BMI>=30	18.3	17.0-19.7
Diabetes	Yes	8.0	6.5-9.5
	No	24.1	23.2-24.9

Percentage of Adults Ages 18 Years And Older With No Personal Doctor, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older with no personal health care provider was significantly **higher** among:

- Adults with no current asthma compared with those with current asthma
- Adults with no arthritis compared with those with arthritis
- Adults who were normal or underweight compared with those who were obese
- Adults with no diabetes compared with those with diabetes

SUMMARY

Approximately 22.4 percent of Kansas adults ages 18 years and older did not have a personal health care provider. In addition, higher percentages of adults who did not have a personal doctor were seen among: males, young adults, African-Americans, other/multi-race adults, Hispanics, adults with income lower than \$35,000, adults with lower education, those without co-morbid conditions (current asthma, arthritis, obesity or diabetes) and those living without a disability.

The Healthy People 2020 target is for 83.9 percent of persons to have a usual primary care provider. Further public health efforts are needed to reach the target and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Injury and Violence: Seat Belt Use

Motor vehicle crashes are the leading cause of death for people ages 1 to 54 years.⁴ Crashes can lead to premature death, disability, poor mental health, high medical costs and lost productivity.⁵ Seat belts use is one of the most effective ways to reduce injuries and mortality due to motor vehicle crashes.⁴ Increasing use of seat belts is one of the objectives for the prevention of unintentional injury. The Healthy People 2020 goal for injury prevention is to prevent unintentional injuries and reduce their consequences.

In 2017, 1 in 6 Kansas adults ages 18 years and older did not always wear a seat belt when they drove or rode in a car. The percentage of Kansas adults who did not always wear a seat belt when they drove or rode in a car was significantly **higher** among:

- Males compared with females
- Adults ages 34 years or younger compared with adults in older age groups
- Adults who were not college graduates compared with those who were college graduates
- Adults with annual household income between \$15,000 and \$49,999 compared with adults whose annual household income was \$50,000 or more and less than \$15,000
- Adults living with a disability compared with those living without a disability
- Adults who were uninsured compared with adults who were insured

The percentage of Kansas adults who did not always wear a seat belt when they drove or rode in a car did not differ significantly by race/ethnicity group.

Percentage of Adults Ages 18 Years and Older Who Do Not Always Wear a Seat Belt When They Drive or Ride in a Car, KS BRFSS 2017

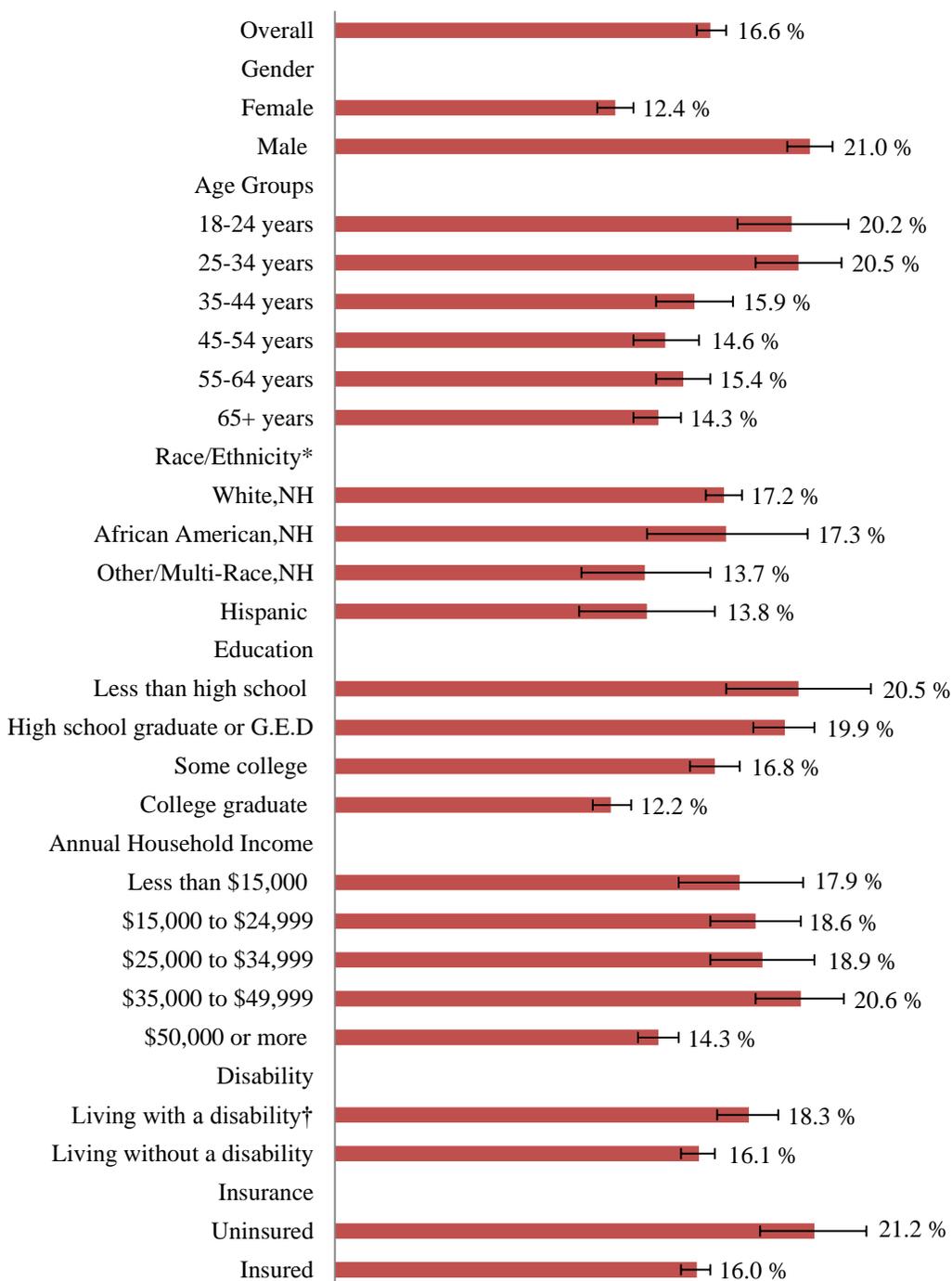
Demographic Characteristics	Weighted Percentage	95% CI
Overall	16.6	16.0-17.3
Gender		
Female	12.4	11.6-13.2
Male	21.0	20.0-22.0
Age Groups		
18-24 years	20.2	17.8-22.7
25-34 years	20.5	18.6-22.4
35-44 years	15.9	14.2-17.6
45-54 years	14.6	13.2-16.1
55-64 years	15.4	14.2-16.6
65+ years	14.3	13.2-15.3
Race/Ethnicity*		
White, NH	17.2	16.4-18.0
African-American, NH	17.3	13.8-20.9
Other/Multi-Race, NH	13.7	10.9-16.6
Hispanic	13.8	10.8-16.8
Education		
Less than high school	20.5	17.3-23.7
High school graduate or G.E.D	19.9	18.5-21.2
Some college	16.8	15.7-17.9
College graduate	12.2	11.4-13.1
Annual Household Income		
Less than \$15,000	17.9	15.2-20.7
\$15,000 to \$24,999	18.6	16.6-20.6
\$25,000 to \$34,999	18.9	16.6-21.2
\$35,000 to \$49,999	20.6	18.6-22.5
\$50,000 or more	14.3	13.4-15.2
Disability		
Living with a disability†	18.3	16.9-19.6
Living without a disability	16.1	15.3-16.8
Insurance		
Uninsured	21.2	18.8-23.5
Insured	16.0	15.3-16.6

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011-2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Do Not Always Wear a Seatbelt When They Drive or Ride in a Car, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

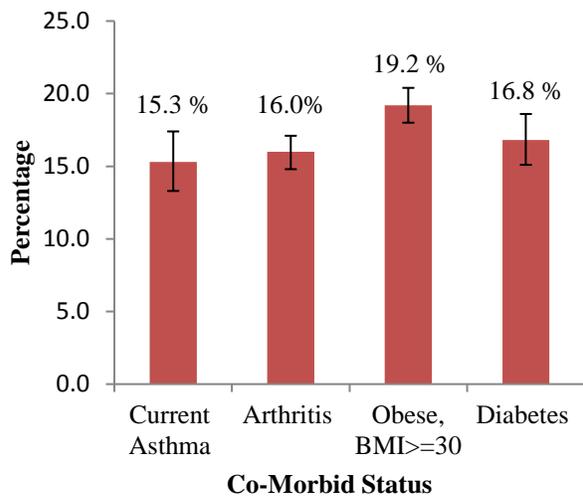
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Do Not Always Wear a Seat Belt When They Drive or Ride in a Car by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	15.3	13.3-17.4
	No	16.8	16.1-17.5
Arthritis	Yes	16.0	14.8-17.1
	No	16.8	16.0-17.5
Weight	Normal or Underweight, BMI<25	14.9	13.6-16.1
	Overweight, 25<= BMI<30	16.6	15.4-17.7
	Obese, BMI>=30	19.2	18.0-20.4
Diabetes	Yes	16.8	15.1-18.6
	No	16.6	15.9-17.3

Percentage of Adults Who Do Not Always Wear a Seatbelt When They Drive or Ride in a Car, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults who did not always wear a seat belt when they drove or rode in a car was significantly **higher** among:

- Adults who were obese compared with those who were not obese

The percentage of Kansas adults who did not always wear a seat belt when they drove or rode in a car did not differ significantly by current asthma status, arthritis status or diabetes status.

SUMMARY

Approximately 16.6 percent of Kansas adults ages 18 years and older did not always wear a seat belt when they drove or rode in a car. In addition, higher percentages of adults who did not always wear a seat belt when they drove or rode in a car were seen among: males, adults ages 34 years or younger, adults who were not college graduates, adults with annual household income between \$15,000 and \$49,999 compared with adults whose annual household income was \$50,000 or more, uninsured adults, those with co-morbid conditions (obesity) and those living with a disability.

The Healthy People 2020 target is for 92 percent of persons to use a seat belt when they drive or ride in a car. Further public health efforts are needed to reach the target and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Clinical Preventative Services: Flu Vaccine

Life expectancy has increased since the 20th century largely due to several immunizations. Vaccines are a core component of any preventative service and are a very cost effective preventive service.⁶ Influenza can have a costly impact resulting in doctor visits, hospitalization, loss of productivity and death.⁷ The Healthy People 2020 goal is to increase the percentage of non-institutionalized adults who get vaccinated annually against seasonal influenza.

In 2017, approximately 3 in 5 Kansas adults ages 18 years and older did not get immunized against influenza during the past 12 months. The percentage of Kansas adults who did not get immunized against influenza during the past 12 months was significantly **higher** among:

- Males compared with females
- Adults ages 18 to 54 years compared with adults ages 55 years and older
- Non-Hispanic African-Americans when compared with non-Hispanic whites and non-Hispanic other/multi-race adults (age-adjusted prevalence)
- Adults who are not college graduates compared with college graduates
- Adults with annual household income of less than \$50,000 compared with adults whose annual household income was \$50,000 or greater
- Adults living without a disability compared with those living with a disability
- Adults with no insurance compared with adults with insurance

Percentage of Adults Ages 18 Years and Older Who Did Not Get Immunized Against Influenza During the Past 12 Months, KS BRFSS 2017

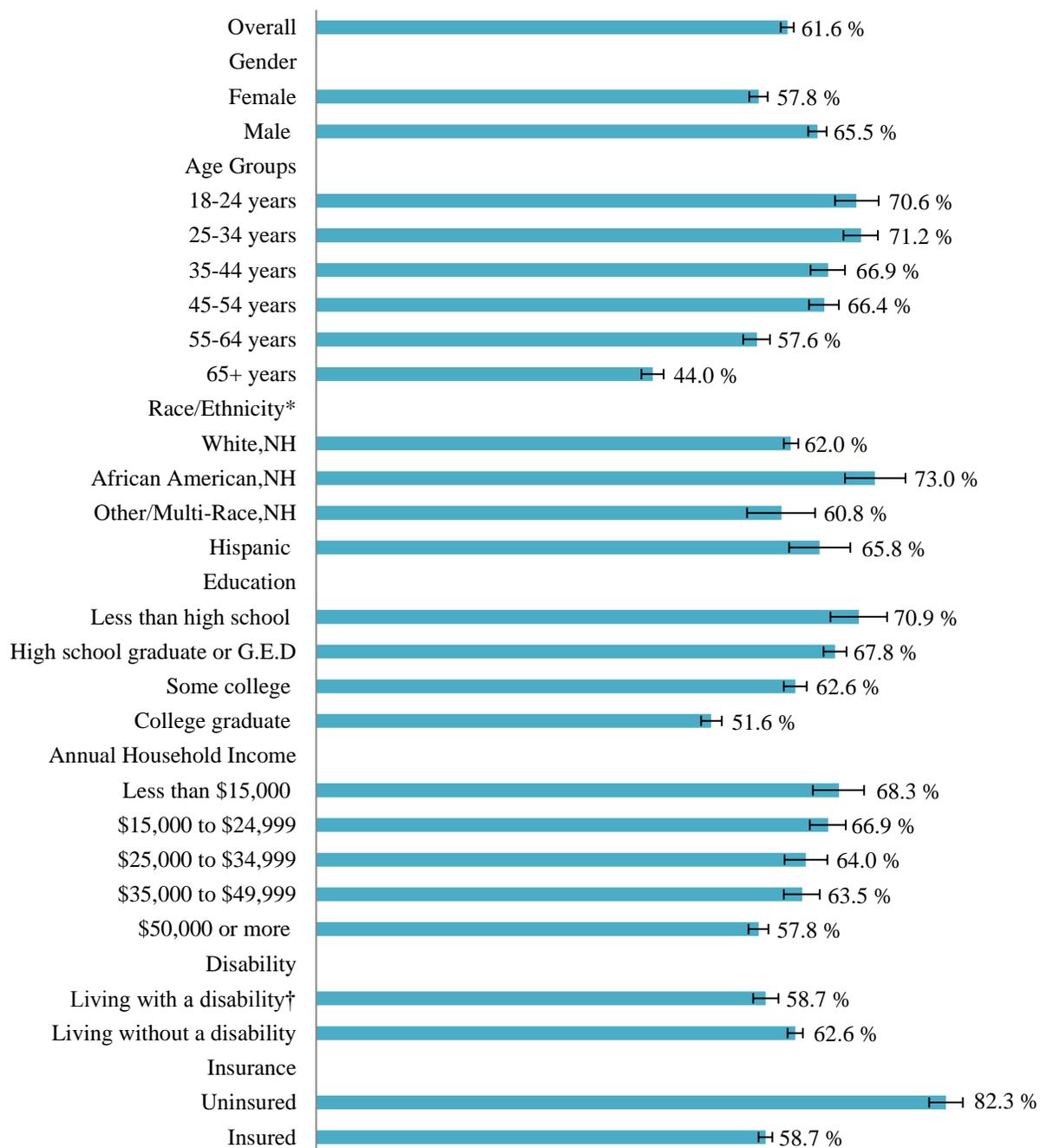
Demographic Characteristics	Weighted Percentage	95% CI
Overall	61.6	60.7-62.4
Gender		
Female	57.8	56.6-59.0
Male	65.5	64.3-66.7
Age Groups		
18-24 years	70.6	67.8-73.5
25-34 years	71.2	68.9-73.4
35-44 years	66.9	64.6-69.1
45-54 years	66.4	64.4-68.3
55-64 years	57.6	55.8-59.3
65+ years	44.0	42.5-45.4
Race/Ethnicity*		
White, NH	62.0	61.1-63.0
African-American, NH	73.0	69.1-77.0
Other/Multi-Race, NH	60.8	56.3-65.2
Hispanic	65.8	61.8-69.8
Education		
Less than high school	70.9	67.2-74.6
High school graduate or G.E.D	67.8	66.3-69.3
Some college	62.6	61.1-64.1
College graduate	51.6	50.3-53.0
Annual Household Income		
Less than \$15,000	68.3	64.9-71.6
\$15,000 to \$24,999	66.9	64.5-69.2
\$25,000 to \$34,999	64.0	61.2-66.8
\$35,000 to \$49,999	63.5	61.1-65.8
\$50,000 or more	57.8	56.5-59.1
Disability		
Living with a disability†	58.7	57.1-60.4
Living without a disability	62.6	61.6-63.6
Insurance		
Uninsured	82.3	80.1-84.5
Insured	58.7	57.8-59.6

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Did Not Get Immunized Against Influenza During the Past 12 Months, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

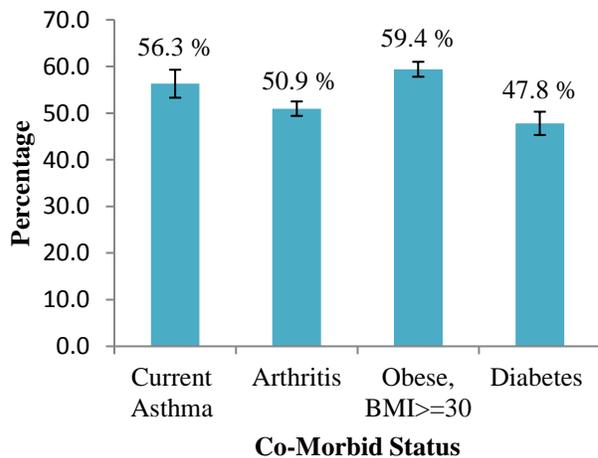
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Did Not Get Immunized Against Influenza During the Past 12 Months by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	56.3	53.3-59.3
No	62.1	61.2-62.9
Arthritis		
Yes	50.9	49.4-52.5
No	65.0	64.0-66.0
Weight		
Normal or Underweight, BMI<25	64.4	62.9-66.0
Overweight, 25<= BMI<30	60.8	59.4-62.3
Obese, BMI>=30	59.4	57.8-61.0
Diabetes		
Yes	47.8	45.3-50.3
No	63.2	62.3-64.1

Percentage of Adults Ages 18 Years and Older Who Did Not Get Immunized Against Influenza During the Past 12 Months, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who did not get immunized against influenza during the past 12 months was significantly **higher** among:

- Adults without current asthma compared with those with current asthma
- Adults without arthritis compared with those with arthritis
- Adults who are normal or underweight compared with those who are overweight or obese
- Adults without diabetes compared with those with diabetes

People at risk of developing flu-related complications include those with asthma and adults ages 65 years and older.⁸ Approximately 56 percent of Kansas adults with current asthma and 44 percent of adults who are at risk of developing flu-related complications (adults ages 65 years and older) did not get immunized against influenza during the past 12 months.

SUMMARY

Approximately 61.6 percent of Kansas adults ages 18 years and older did not get immunized against influenza during the past 12 months. In addition, higher percentages of adults who did not get immunized against influenza during the past 12 months were seen among: males, adults ages 18 to 54 years, African-Americans, adults who are not college graduates, adults with lower income, adults with no insurance, those without co-morbid conditions (diabetes, arthritis, overweight/obese, or current asthma) and those living without disabilities.

The Healthy People 2020 goal is to increase the percentage of noninstitutionalized adults who get vaccinated annually against seasonal influenza. To meet this goal, further public health efforts are needed in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Clinical Preventative Services: Pneumonia Vaccine

In the U.S., about 1 million adults get pneumococcal pneumonia and 5 to 7 percent will die from it every year.⁹ The best way to protect adults from pneumonia is to get vaccinated. Vaccines are a core component of any preventative service and are a very cost effective preventive service.⁶ The Healthy People 2020 goal is to increase the percentage of non-institutionalized adults ages 65 years and older who are vaccinated against the pneumococcal disease to 90 percent.

In 2017, approximately 1 in 4 Kansas adults ages 65 years and older have never received a pneumonia vaccination. The percentage of Kansas adults ages 65 years and older who never received a pneumonia vaccination was significantly **higher** among:

- Adults who are highschool graduates or obtained their G.E.D compared to college graduates
- Adults with annual household income of less than \$15,000 compared with adults whose annual household income is \$15,000 to \$24,999 and \$35,000 or greater
- Adults living without a disability compared with those living with a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 65 years and older who never received a pneumonia vaccination did not differ significantly by gender or race/ethnicity group.

Percentage of Adults Ages 65 Years and Older Who Have Never Had Pneumonia Vaccination, KS BRFSS 2017

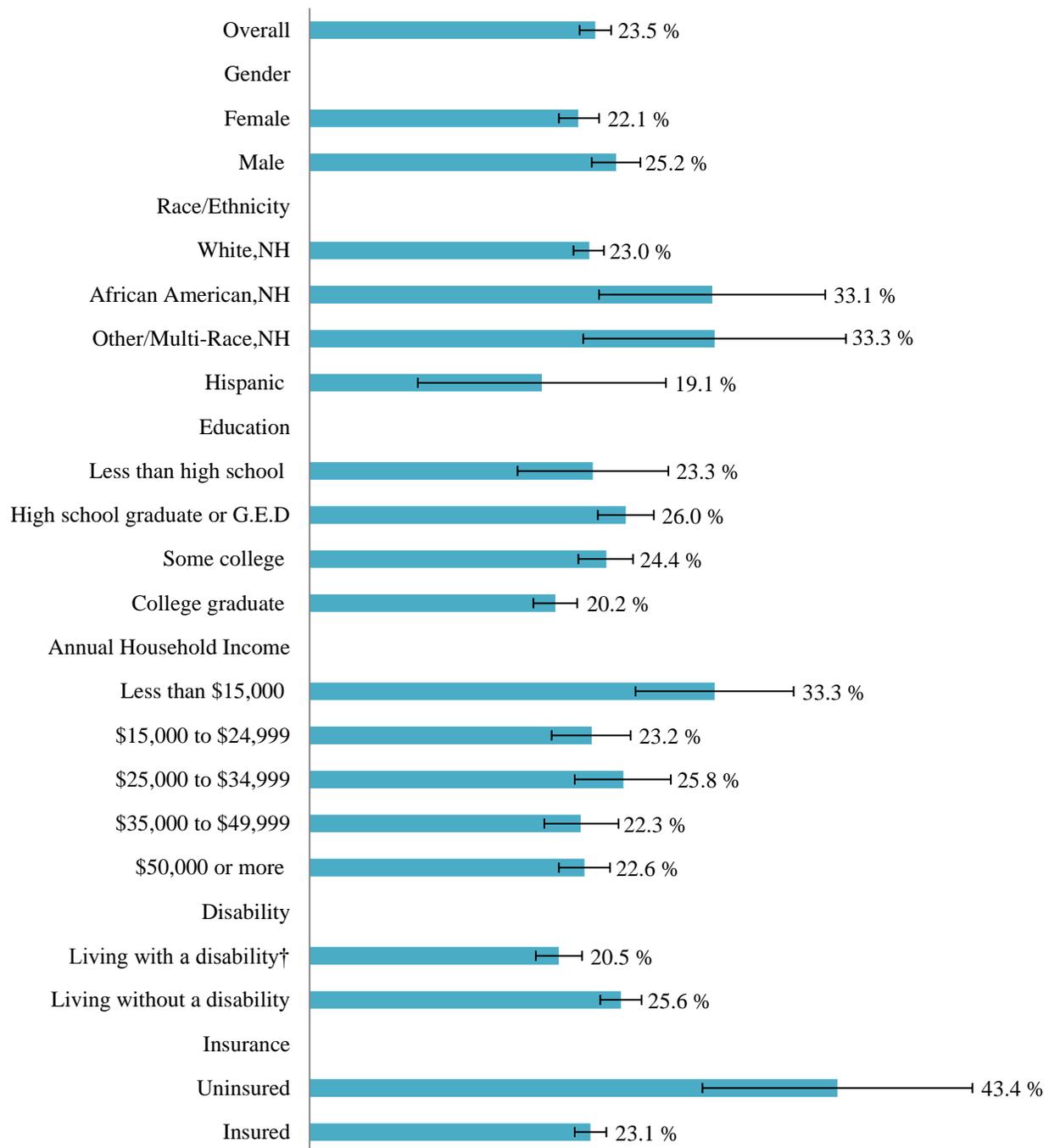
Demographic Characteristics	Weighted Percentage	95% CI
Overall	23.5	22.2-24.8
Gender		
Female	22.1	20.5-23.8
Male	25.2	23.2-27.2
Race/Ethnicity		
White, NH	23.0	21.7-24.2
African-American, NH	33.1	23.8-42.4
Other/Multi-Race, NH	33.3	22.5-44.1
Hispanic	19.1	8.9-29.3
Education		
Less than high school	23.3	17.1-29.5
High school graduate or G.E.D	26.0	23.7-28.3
Some college	24.4	22.1-26.6
College graduate	20.2	18.4-22.0
Annual Household Income		
Less than \$15,000	33.3	26.8-39.8
\$15,000 to \$24,999	23.2	19.9-26.4
\$25,000 to \$34,999	25.8	21.8-29.7
\$35,000 to \$49,999	22.3	19.3-25.4
\$50,000 or more	22.6	20.5-24.7
Disability		
Living with a disability†	20.5	18.6-22.4
Living without a disability	25.6	23.9-27.3
Insurance		
Uninsured	43.4	32.3-54.5
Insured	23.1	21.8-24.4

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 65 Years and Older Who Have Never Had Pneumonia Vaccination, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

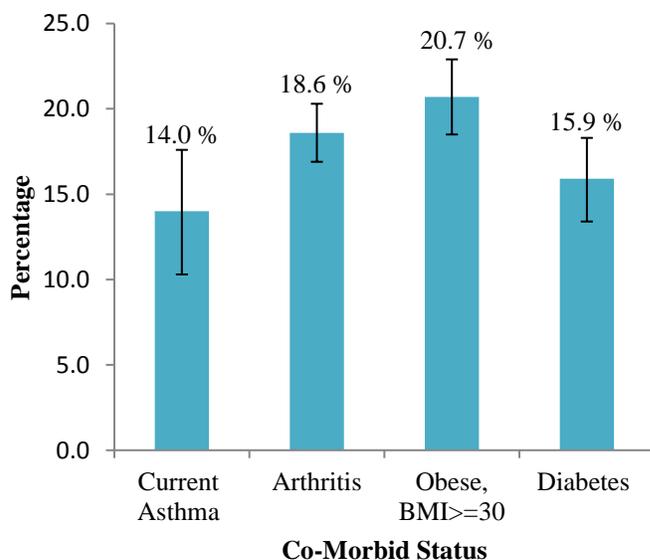
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 65 Years and Older Who Have Never Had Pneumonia Vaccination by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	14.0	10.3-17.6
	No	24.3	22.9-25.6
Arthritis	Yes	18.6	16.9-20.3
	No	28.5	26.6-30.4
Weight	Normal or Underweight, BMI<25	23.9	21.6-26.3
	Overweight, 25<=BMI<30	24.3	22.2-26.4
	Obese, BMI>=30	20.7	18.5-22.9
Diabetes	Yes	15.9	13.4-18.3
	No	25.7	24.3-27.2

Percentage of Adults Ages 65 Years and Older Who Have Never Had Pneumonia Vaccination, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 65 years and older who never received a pneumonia vaccination was significantly **higher** among:

- Adults without current asthma compared with those with current asthma
- Adults without arthritis compared with those with arthritis
- Adults without diabetes compare to those with diabetes

The percentage of Kansas adults ages 65 years and older who never received a pneumonia vaccination did not differ significantly by weight category.

SUMMARY

Approximately 23.5 percent of Kansas adults ages 65 years and older have never received a pneumonia vaccination. In addition, higher percentages of adults who have never received a pneumonia vaccination were seen among: adults who are high school graduates/have their G.E.D, adults with lower income, adults with no insurance, those without co-morbid conditions (current asthma, arthritis or diabetes) and those living without a disability.

The Healthy People 2020 goal is to increase the percentage of non-institutionalized adults ages 65 years and older who are vaccinated against the pneumococcal disease to 90 percent. To meet the goal for Kansas, the percentage of adults who get immunized against pneumococcal needs to increase; further public health efforts are needed.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity & Obesity:

Obesity

Obesity is a complex health issue that can have a wide range of negative health outcomes associated with it, including but not limited to coronary heart disease, cancers, hypertension and sleep apnea.¹⁰ The wide range of health consequences demonstrates the need to reach the Healthy People 2020 goal to reduce the proportion of adults who are obese.

In 2017, approximately 1 in 3 Kansas adults ages 18 years and older were obese. The percentage of Kansas adults who were obese was significantly **higher** among:

- Adults ages 25 years and older compared with adults ages 18-24 years; and adults ages 35-64 years compared with adults ages 65 years and older
- Hispanics compared to non-Hispanic whites and non-Hispanic other/multi-race adults (age-adjusted prevalence)
- Adults with a less than college graduation compared with college graduates
- Adults with annual household income less than \$25,000 and \$35,000 to \$49,999 compared with adults with an annual household income greater than \$50,000
- Adults living with a disability compared with adults living without a disability

The percentage Kansas adults ages 18 years and older who were obese did not differ significantly by gender or insurance status.

Percentage of Adults Ages 18 Years and Older Who Were Obese, KS BRFSS 2017

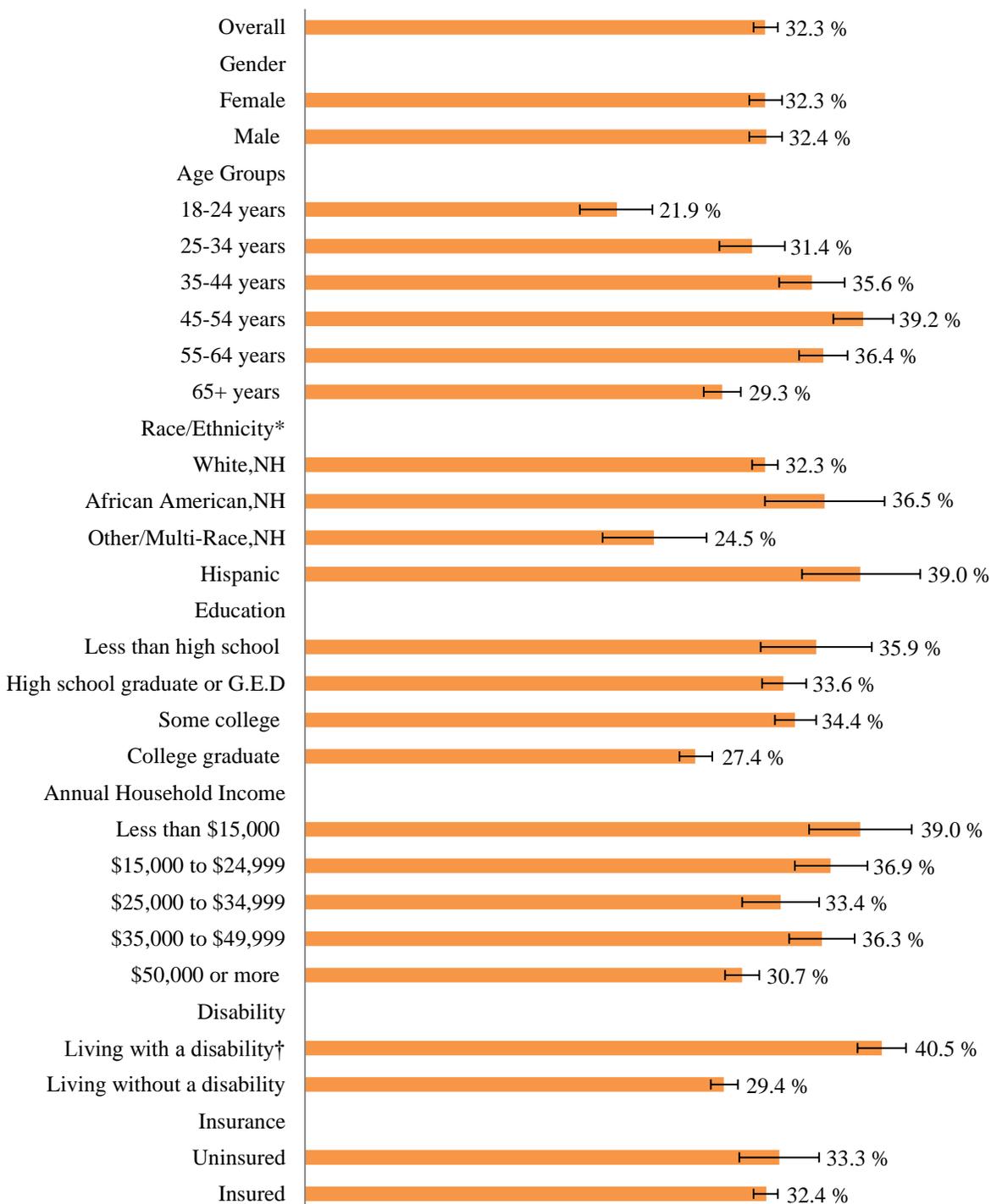
Demographic Characteristics	Weighted Percentage	95% CI
Overall	32.3	31.5-33.2
Gender		
Female	32.3	31.2-33.5
Male	32.4	31.2-33.5
Age Groups		
18-24 years	21.9	19.3-24.4
25-34 years	31.4	29.1-33.7
35-44 years	35.6	33.3-37.9
45-54 years	39.2	37.1-41.3
55-64 years	36.4	34.7-38.1
65+ years	29.3	28.0-30.6
Race/Ethnicity*		
White, NH	32.3	31.4-33.2
African-American, NH	36.5	32.3-40.7
Other/Multi-Race, NH	24.5	20.9-28.2
Hispanic	39.0	34.9-43.2
Education		
Less than high school	35.9	32.0-39.8
High school graduate or G.E.D	33.6	32.1-35.2
Some college	34.4	33.0-35.9
College graduate	27.4	26.3-28.6
Annual Household Income		
Less than \$15,000	39.0	35.4-42.6
\$15,000 to \$24,999	36.9	34.4-39.5
\$25,000 to \$34,999	33.4	30.7-36.1
\$35,000 to \$49,999	36.3	34.0-38.6
\$50,000 or more	30.7	29.5-31.9
Disability		
Living with a disability	40.5	38.8-42.2
Living without a disability	29.4	28.5-30.4
Insurance		
Uninsured	33.3	30.5-36.1
Insured	32.4	31.5-33.2

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Obese, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Obese by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	43.7	40.8-46.7
No	31.1	30.3-32.0
Arthritis		
Yes	42.3	40.7-43.8
No	29.2	28.2-30.1
Diabetes		
Yes	57.5	55.1-60.0
No	29.3	28.5-30.2

The percentage of Kansas adults ages 18 years and older who were obese was significantly **higher** among:

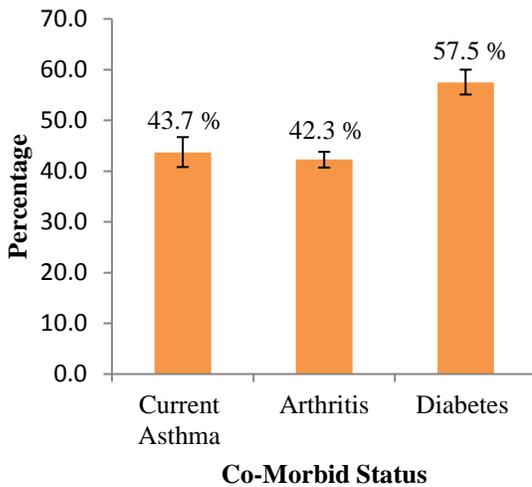
- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 32.3 percent of Kansas adults ages 18 years and older were obese. In addition, higher percentages of adults who were obese were seen among: middle aged adults, Hispanics, adults with income less than \$25,000 and those with income between \$35,000 and \$49,999, adults with less than college graduate education, adults with co-morbid conditions (current asthma, diabetes or arthritis) and adults living with a disability.

The Healthy People 2020 goal is to reduce the proportion of adults who are obese to 30.5 percent. The goal for the overall population is met in Kansas; however, overall prevalence is still high and there are disparities in population subgroups that have not met the HP 2020 target. Therefore, further public health efforts are needed to address overall prevalence and disparities in population subgroups in Kansas.

Percentage of Adults Ages 18 Years and Older Who Were Obese, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity and Obesity:

Leisure-Time Physical Activity

Physical activity can help to improve health outcomes. People who are physically active can live longer and have a lower risk of chronic health conditions including but not limited to heart disease, depression and some cancers.¹¹ Thus, inactive adults have a higher risk of living unhealthy lives. The Healthy People 2020 goal is to reduce the proportion of adults who engage in no leisure-time physical activity.

In 2017, approximately 1 in 4 Kansas adults ages 18 years and older did not participate in leisure-time physical activity in the past 30 days. The percentage of Kansas adults ages 18 years and older who did not participate in leisure-time physical activity in the past 30 days was significantly **higher** among:

- Older adults compared with adults in younger age groups
- Hispanics and non-Hispanic African-Americans compared with non-Hispanic whites
- Adults with lower education compared with adults in higher education groups
- Adults with annual household income of lower than \$50,000 compared with adults with annual household income of \$50,000 or greater
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 18 years and older who did not participate in leisure-time physical activity in the past 30 days was not significantly different by gender.

Percentage of Adults Ages 18 Years and Older Not Participating in Leisure-Time Physical Activity in the Past 30 Days, KS BRFSS 2017

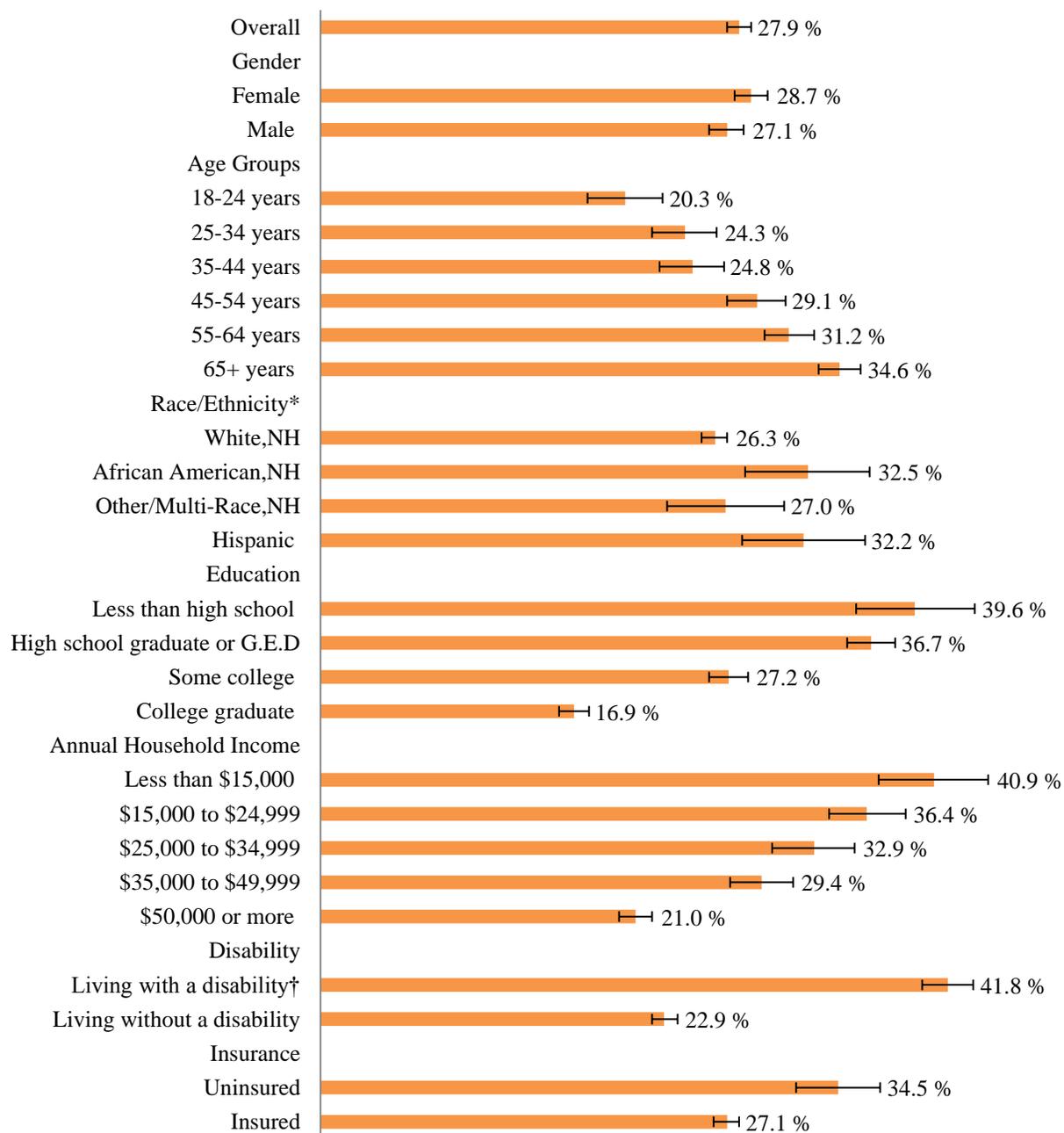
Demographic Characteristics	Weighted Percentage	95% CI
Overall	27.9	27.1-28.7
Gender		
Female	28.7	27.6-29.8
Male	27.1	25.9-28.2
Age Groups		
18-24 years	20.3	17.8-22.8
25-34 years	24.3	22.1-26.4
35-44 years	24.8	22.6-26.9
45-54 years	29.1	27.1-31.0
55-64 years	31.2	29.6-32.9
65+ years	34.6	33.2-36.0
Race/Ethnicity*		
White, NH	26.3	25.4-27.1
African-American, NH	32.5	28.3-36.6
Other/Multi-Race, NH	27.0	23.1-30.9
Hispanic	32.2	28.1-36.3
Education		
Less than high school	39.6	35.7-43.6
High school graduate or GED	36.7	35.1-38.3
Some college	27.2	25.9-28.5
College graduate	16.9	15.9-17.9
Annual Household Income		
Less than \$15,000	40.9	37.2-44.5
\$15,000 to \$24,999	36.4	33.9-39.0
\$25,000 to \$34,999	32.9	30.1-35.6
\$35,000 to \$49,999	29.4	27.3-31.5
\$50,000 or more	21.0	19.9-22.1
Disability		
Living with a disability	41.8	40.1-43.5
Living without a disability†	22.9	22.1-23.8
Insurance		
Uninsured	34.5	31.7-37.3
Insured	27.1	26.2-27.9

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Not Participating in Any Physical Activity Other Than Their Regular Job in the Past 30 Days, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

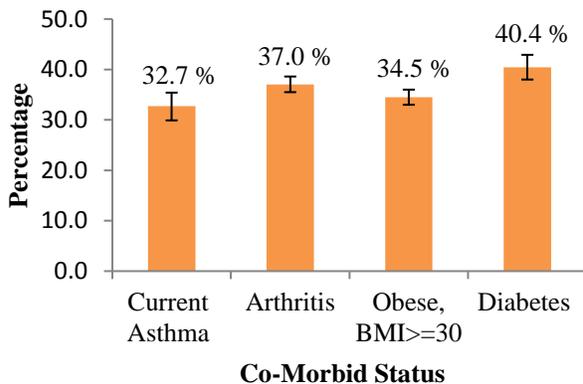
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Not Participating in Leisure-Time Physical Activity in the Past 30 Days by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	32.7	29.9-35.4
No	27.4	26.5-28.2
Arthritis		
Yes	37.0	35.5-38.6
No	24.8	23.9-25.7
Weight		
Normal or Underweight, BMI<25	23.2	21.7-24.6
Overweight, 25<= BMI<30	25.1	23.8-26.4
Obese, BMI>=30	34.5	33.0-36.0
Diabetes		
Yes	40.4	38.0-42.9
No	26.4	25.6-27.3

Percentage of Adults Ages 18 Years and Older Not Participating in Any Physical Activity Other Than Their Regular Job in the Past 30 Days, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who did not participate in leisure-time physical activity in the past 30 days was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were overweight, normal weight or underweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 27.9 percent of Kansas adults ages 18 years and older did not participate in leisure-time physical activity in the past 30 days. In addition, higher percentages of adults who did not participate in leisure-time physical activity in the past 30 days were seen among: older adults, Hispanics, non-Hispanic African-Americans, uninsured adults, adults with annual household income of less than \$50,000, adults with lower education, adults with no health insurance, adults with co-morbid conditions (current asthma, arthritis, diabetes or obesity), and adults living with disabilities.

The Healthy People 2020 goal is to reduce the proportion of adults who do not participate in leisure-time physical activity to 32.6 percent. While the Healthy People 2020 objective is being met, in Kansas the overall prevalence is still high and there are disparities in population subgroups that have not met the HP 2020 target. Therefore, further public health efforts are needed to address overall prevalence and disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity and Obesity:

Physical Activity (Aerobic & Strengthening)

Aerobic and strength training are both important components of physical activity. People who are physically active can live longer and have a lower risk of chronic health conditions including but not limited to heart disease, depression and some cancers.¹¹ Thus, inactive adults have a higher risk of living unhealthy lives. The Healthy People 2020 goal is to increase the proportion of adults who meet federal physical activity guidelines of 150 minutes of moderate-intensity aerobic activity and 2 or more days of muscle-strengthening activities every week, 75 minutes of vigorous-intensity aerobic activity and 2 or more days of muscle-strengthening activities every week, or equivalent mix of moderate- and vigorous-intensity activities and 2 or more days of muscle-strengthening activities every week.¹²

In 2017, approximately 4 in 10 Kansas adults ages 18 years and older did not participate in any recommended physical activity (aerobic and strengthening). The percentage of Kansas adults ages 18 years and older that did not participate in any recommended physical activity (aerobic and strengthening) was significantly **higher** among:

- Females compared with males
- Adults ages 35 years and older compared with adults ages 18 to 24 years
- Non-Hispanic African-Americans compared with non-Hispanic whites (age-adjusted prevalence)
- Adults with lower education compared with adults in higher education groups
- Adults with annual household income of lower than \$50,000 compared with adults with annual household income of \$50,000 or greater
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

Percentage of Adults Not Participating in Any Recommended Physical Activity (Aerobic and Strengthening), KS BRFSS 2017

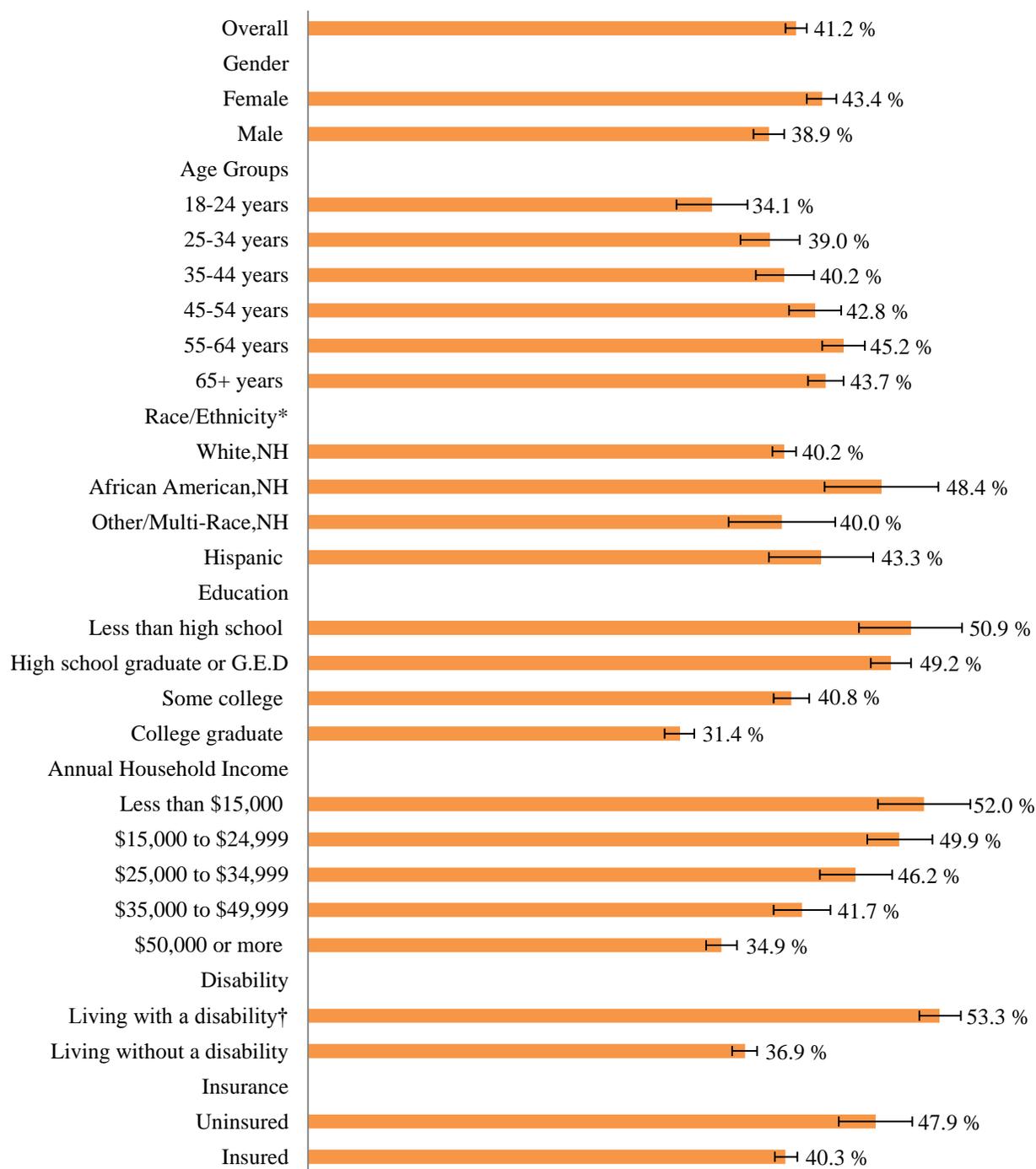
Demographic Characteristics	Weighted Percentage	95% CI
Overall	41.2	40.3-42.1
Gender		
Female	43.4	42.1-44.6
Male	38.9	37.6-40.2
Age Groups		
18-24 years	34.1	31.1-37.1
25-34 years	39.0	36.5-41.5
35-44 years	40.2	37.8-42.7
45-54 years	42.8	40.6-45.0
55-64 years	45.2	43.4-47.0
65+ years	43.7	42.2-45.2
Race/Ethnicity*		
White,NH	40.2	39.2-41.2
African-American,NH	48.4	43.6-53.2
Other/Multi-Race,NH	40.0	35.5-44.5
Hispanic	43.3	38.9-47.7
Education		
Less than high school	50.9	46.5-55.2
High school graduate or G.E.D	49.2	47.5-50.9
Some college	40.8	39.3-42.3
College graduate	31.4	30.1-32.6
Annual Household Income		
Less than \$15,000	52.0	48.1-55.9
\$15,000 to \$24,999	49.9	47.2-52.7
\$25,000 to \$34,999	46.2	43.2-49.3
\$35,000 to \$49,999	41.7	39.3-44.1
\$50,000 or more	34.9	33.6-36.2
Disability		
Living with a disability†	53.3	51.6-55.1
Living without a disability	36.9	35.8-37.9
Insurance		
Uninsured	47.9	44.8-51.0
Insured	40.3	39.4-41.3

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Not Participating in Any Recommended Physical Activity (Aerobic and Strengthening), KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

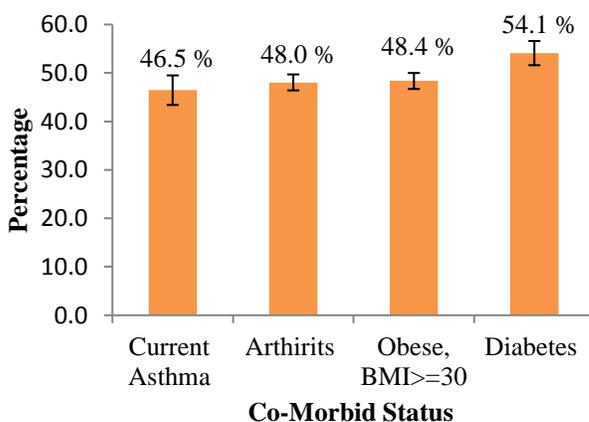
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Not Participating in Any Physical Activity (Aerobic and Strengthening) by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	46.5	43.4-49.5
No	40.6	39.7-41.6
Arthritis		
Yes	48.0	46.4-49.7
No	38.7	37.7-39.8
Weight		
Normal or Underweight, BMI<25	36.0	34.3-37.6
Overweight, 25<= BMI<30	37.4	35.9-38.9
Obese, BMI>=30	48.4	46.7-50.0
Diabetes		
Yes	54.1	51.6-56.6
No	39.6	38.7-40.6

Percentage of Adults Not Participating in Any Physical Activity (Aerobic and Strengthening), by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older that did not participate in any recommended physical activity (aerobic and strengthening) was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were overweight, normal weight or underweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 41.2 percent of Kansas adults ages 18 years and older did not participate in any recommended physical activity (aerobic and strengthening). In addition, higher percentages of adults who did not participate in any recommended physical activity (aerobic and strengthening) were seen among: females, adults ages 35 years and older, non-Hispanic African-Americans, adults with lower income and education, uninsured adults, those with co-morbid conditions (current asthma, arthritis, diabetes or obesity) and those living with disabilities.

The Healthy People 2020 goal is to increase the proportion of adults who meet federal physical activity guidelines for aerobic and muscle-strengthening activities. Therefore further public health efforts are needed to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity and Obesity: Physical Activity (Aerobic &/or Strengthening)

Aerobic and strength training are both important components of physical activity. People who are physically active can live longer and have a lower risk of chronic health conditions.¹¹ The Healthy People 2020 goal is to increase the proportion of adults who meet federal physical activity guidelines of 150 minutes of moderate-intensity aerobic activity and 2 or more days of muscle-strengthening activities every week, 75 minutes of vigorous-intensity aerobic activity and 2 or more days of muscle-strengthening activities every week, or equivalent mix of moderate- and vigorous-intensity activities and 2 or more days of muscle-strengthening activities every week.¹² Adults in this analysis did not meet these guidelines.

In 2017, approximately 4 in 5 Kansas adults ages 18 years and older did not participate in recommended physical activity (aerobic and/or strengthening). The percentage of Kansas adults that did not participate in recommended physical activity (aerobic and/or strengthening) was significantly **higher** among:

- Females compared with males
- Adults ages 55 years and older compared with adults ages 18 to 44 years
- Adults with lower education compared with adults in higher education groups
- Adults with annual household income of less than \$50,000 compared with adults with an annual household income of \$50,000 or higher
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults that did not participate in recommended physical activity (aerobic and/or strengthening) did not differ significantly by race/ethnicity.

Percentage of Adults Not Participating in the Recommended Physical Activity (Aerobic and/or Strengthening), KS BRFSS 2017

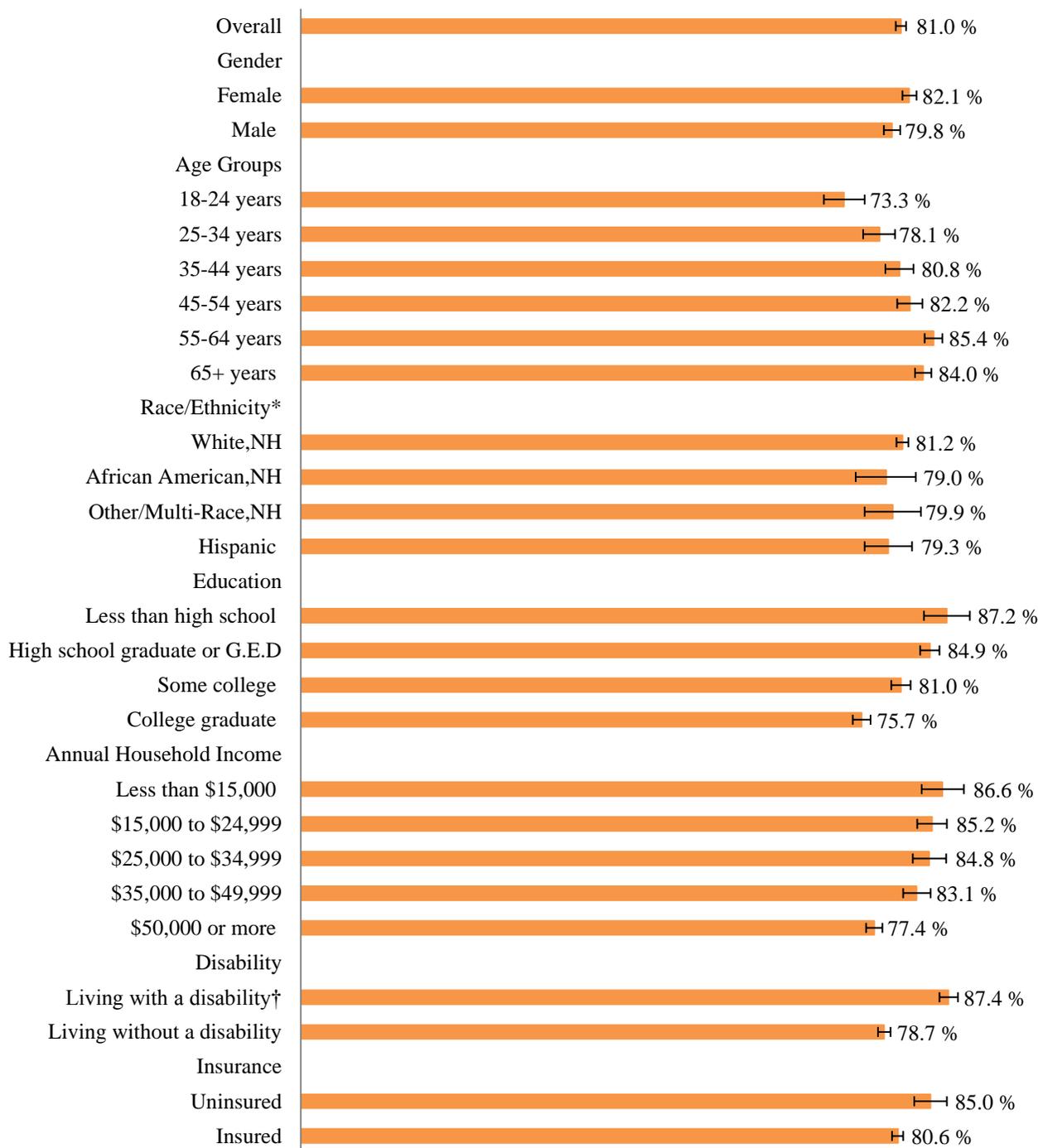
Demographic Characteristics	Weighted Percentage	95% CI
Overall	81.0	80.3-81.7
Gender		
Female	82.1	81.2-83.1
Male	79.8	78.7-80.9
Age Groups		
18-24 years	73.3	70.6-76.1
25-34 years	78.1	75.9-80.2
35-44 years	80.8	78.9-82.7
45-54 years	82.2	80.5-83.9
55-64 years	85.4	84.2-86.6
65+ years	84.0	82.9-85.1
Race/Ethnicity*		
White, NH	81.2	80.4-82.0
African-American, NH	79.0	74.9-83.0
Other/Multi-Race, NH	79.9	76.1-83.7
Hispanic	79.3	76.1-82.5
Education		
Less than high school	87.2	84.1-90.3
High school graduate or G.E.D	84.9	83.6-86.2
Some college	81.0	79.7-82.3
College graduate	75.7	74.5-76.9
Annual Household Income		
Less than \$15,000	86.6	83.8-89.5
\$15,000 to \$24,999	85.2	83.2-87.2
\$25,000 to \$34,999	84.8	82.6-87.1
\$35,000 to \$49,999	83.1	81.3-85.0
\$50,000 or more	77.4	76.3-78.5
Disability		
Living with a disability†	87.4	86.2-88.7
Living without a disability	78.7	77.9-79.6
Insurance		
Uninsured	85.0	82.8-87.2
Insured	80.6	79.8-81.3

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Not Participating in the Recommended Level of Physical Activity (Aerobic and/or Strengthening), KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

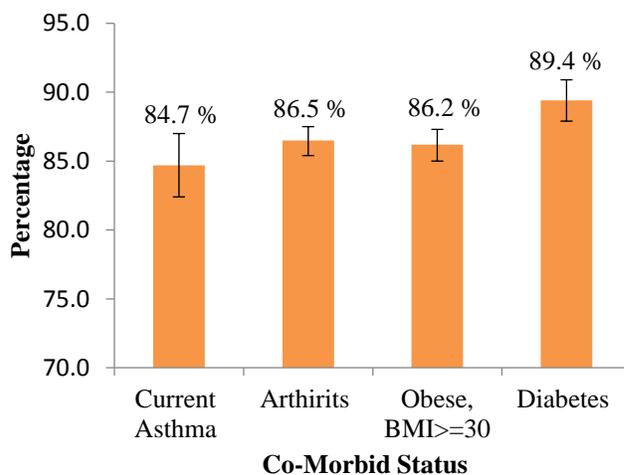
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Not Participating in the Recommended Level of Physical Activity (Aerobic and/or Strengthening), KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	84.7	82.4-87.0
	No	80.7	79.9-81.4
Arthritis			
	Yes	86.5	85.4-87.5
	No	79.1	78.2-80.1
Weight			
	Normal or Underweight, BMI<25	76.1	74.6-77.5
	Overweight, 25<= BMI<30	80.1	78.8-81.3
	Obese, BMI>=30	86.2	85.0-87.3
Diabetes			
	Yes	89.4	87.9-90.9
	No	80.0	79.2-80.8

Percentage of Adults Not Participating in the Recommended Level of Physical Activity (Aerobic and/or Strengthening), by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older that did not participate in recommended physical activity (aerobic and/or strengthening) was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were overweight or obese compared with those who were normal weight or underweight
- Adults who were obese compared with those who were overweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 81.0 percent Kansas adults ages 18 years and older did not participate in recommended physical activity (aerobic and/or strengthening). In addition, higher percentages of adults who did not participate in recommended physical activity (aerobic and/or strengthening) were seen among: females, adults ages 55 years and older, uninsured adults, adults with lower education, adults with an income less than \$50,000, those with co-morbid conditions (asthma, arthritis, diabetes, overweight or obesity) and those living with disabilities.

The Healthy People 2020 goal is to increase the proportion of adults who meet federal physical activity guidelines for aerobic and muscle-strengthening activities. Therefore further public health efforts are needed to reduce prevalence of not participating in recommended physical activity and to address associated disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity and Obesity: Fruit Consumption

Fruit provides important vitamins, minerals and fiber that are good for the human body.¹² Eating fruits can help to lower the risk for many chronic diseases and may be protective against certain types of cancers,¹³ leading to a healthier lifestyle and greater quality of life. The Healthy People 2020 goal is to increase the consumption of fruits in the diet.

In 2017, approximately 4 in 10 Kansas adults ages 18 years and older did not consume fruit at least once per day. The percentage of Kansas adults ages 18 years and older who did not consume fruit at least once per day was significantly **higher** among:

- Males compared with females
- Adults ages 18 to 64 years compared with adults ages 65 years and older
- Adults with lower education compared with adults in higher education groups
- Adults with annual household income less than \$15,000 compared with adults with an annual household income greater than \$15,000; and adults with annual household income less than \$50,000 compared with adults with an annual household income greater than \$50,000
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults that did not consume fruit at least once per day did not differ significantly by race/ethnicity groups.

Percentage of Adults Who Did Not Consume Fruit at Least Once Per Day, KS BRFSS 2017 [‡]		
Demographic Characteristics	Weighted Percentage	95% CI
Overall	37.5	36.7-38.4
Gender		
Female	34.0	32.8-35.2
Male	41.3	40.0-42.5
Age Groups		
18-24 years	40.3	37.2-43.4
25-34 years	38.3	35.9-40.7
35-44 years	38.4	36.0-40.8
45-54 years	41.0	38.9-43.1
55-64 years	38.3	36.6-40.0
65+ years	31.2	29.8-32.6
Race/Ethnicity*		
White, NH	38.4	37.4-39.4
African-American, NH	41.4	36.9-45.9
Other/Multi-Race, NH	34.0	29.7-38.4
Hispanic	38.3	34.1-42.5
Education		
Less than high school	47.1	42.9-51.4
High school graduate or G.E.D	42.0	40.3-43.7
Some college	37.9	36.4-39.4
College graduate	30.1	28.9-31.4
Annual Household Income		
Less than \$15,000	48.8	45.1-52.6
\$15,000 to \$24,999	40.8	38.2-43.4
\$25,000 to \$34,999	39.6	36.7-42.5
\$35,000 to \$49,999	38.1	35.6-40.5
\$50,000 or more	34.1	32.9-35.4
Disability		
Living with a disability [†]	42.1	40.4-43.9
Living without a disability	35.9	34.9-36.9
Insurance		
Uninsured	43.5	40.5-46.5
Insured	36.8	35.9-37.8

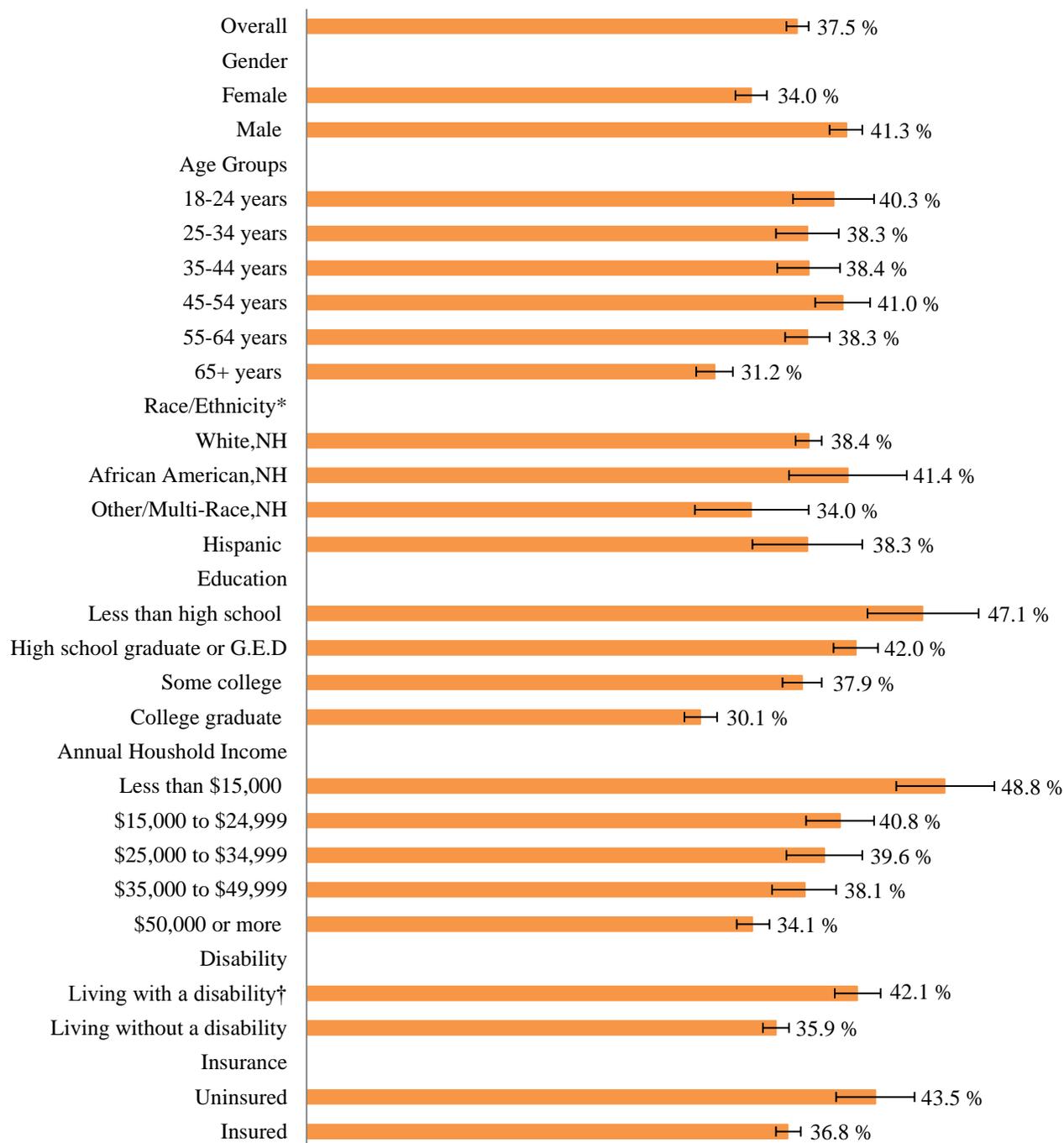
*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

[†]Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

[‡]In 2017, the fruit and vegetable questions have been modified for all states. Fruit consumption includes: 100% PURE fruit juices/blends. Please refer to Technical Notes for more information.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Did Not Consume Fruit at Least Once Per Day, KS BRFSS 2017‡



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the fruit and vegetable questions have been modified for all states. Fruit consumption includes: 100% PURE fruit juices/blends. Please refer to Technical Notes for more information.

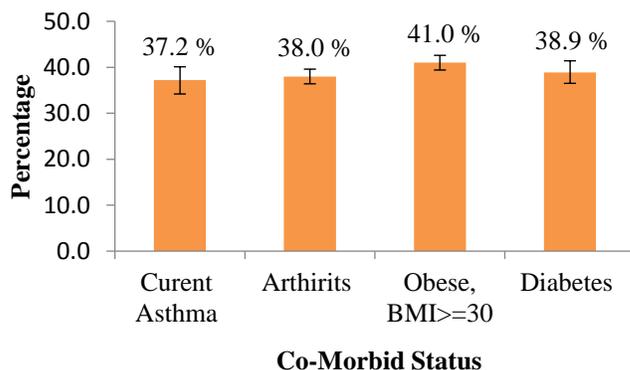
Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Did Not Consume Fruit at Least Once Per Day, KS BRFSS 2017†

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	37.2	34.2-40.1
No	37.5	36.6-38.4
Arthritis		
Yes	38.0	36.4-39.6
No	37.4	36.4-38.5
Weight		
Normal or Underweight, BMI<25	35.4	33.7-37.0
Overweight, 25<= BMI<30	37.3	35.8-38.8
Obese, BMI>=30	41.0	39.4-42.6
Diabetes		
Yes	38.9	36.5-41.4
No	37.4	36.4-38.3

†In 2017, the fruit and vegetable questions have been modified for all states. Fruit consumption includes: 100% PURE fruit juices/blends. Please refer to Technical Notes for more information.

Percentage of Adults Who Did Not Consume Fruit at Least Once Per Day, by Co-Morbid Conditions, KS BRFSS 2017‡



‡In 2017, the fruit and vegetable questions have been modified for all states. Fruit consumption includes: 100% PURE fruit juices/blends. Please refer to Technical Notes for more information.

The percentage of Kansas adults ages 18 years and older who did not consume fruit at least once per day was significantly **higher** among:

- Adults who were obese compared with those who were normal weight or underweight, and those who were overweight

The percentage of Kansas adults ages 18 years and older who did not consume fruit at least once per day did not differ significantly by current asthma, arthritis or diabetes status.

SUMMARY

Approximately 37.5 percent of Kansas adults ages 18 years and older did not consume fruit at least once per day. In addition, higher percentages of adults who did not consume fruit at least once per day were seen among: males, adults ages 18-64 years, adults with lower education, adults with an annual household income of less than \$15,000, uninsured adults, adults living with co-morbid conditions (obesity) and those living with disabilities.

Healthy People 2020 goal is to increase the contribution of fruits to the diet. Therefore, further public health efforts are needed to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Nutrition, Physical Activity and Obesity: Vegetable Consumption

Vegetables provide important vitamins, minerals, and fiber that are good for the human body.¹² Eating vegetables can help to lower the risk for many chronic diseases and may be protective against certain type of cancers,¹³ leading to a healthier lifestyle and greater quality of life. The Healthy People 2020 goal is to increase the variety and contribution of vegetables to the diet.

In 2017, approximately 2 in 12 Kansas adults ages 18 years and older did not consume vegetables at least once per day. The percentage of Kansas adults ages 18 years and older who did not consume vegetables at least once per day was significantly **higher** among:

- Males compared with females
- Adults ages 18 to 24 years compared with adults in older age groups
- Non-Hispanic African-Americans and Hispanics compared with non-Hispanic other/multi- race adults and non-Hispanic whites (age-adjusted prevalence)
- Adults with lower education compared with adults in higher education groups
- Adults with lower annual household income compared with adults in higher annual household income groups
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

Percentage of Adults Who Did Not Consume Vegetables at Least Once Per Day, KS BRFSS 2017‡

Demographic Characteristics	Weighted Percentage	95% CI
Overall	17.3	16.6-18.0
Gender		
Female	15.1	14.2-16.0
Male	19.5	18.5-20.6
Age Groups		
18-24 years	24.5	21.9-27.2
25-34 years	17.1	15.2-18.9
35-44 years	14.4	12.7-16.2
45-54 years	16.0	14.4-17.6
55-64 years	17.0	15.6-18.4
65+ years	16.2	15.0-17.4
Race/Ethnicity*		
White, NH	16.1	15.3-16.8
African-American, NH	26.2	22.2-30.2
Other/Multi-Race, NH	15.5	12.3-18.7
Hispanic	24.1	20.2-27.9
Education		
Less than high school	24.5	21.0-28.1
High school graduate or G.E.D	22.1	20.7-23.6
Some college	15.9	14.7-17.0
College graduate	12.3	11.4-13.2
Annual Household Income		
Less than \$15,000	30.4	26.9-33.9
\$15,000 to \$24,999	23.3	21.0-25.6
\$25,000 to \$34,999	20.6	18.1-23.2
\$35,000 to \$49,999	16.6	14.8-18.4
\$50,000 or more	12.6	11.6-13.5
Disability		
Living with a disability†	22.0	20.5-23.5
Living without a disability	15.6	14.8-16.4
Insurance		
Uninsured	22.3	19.8-24.7
Insured	16.6	15.9-17.3

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

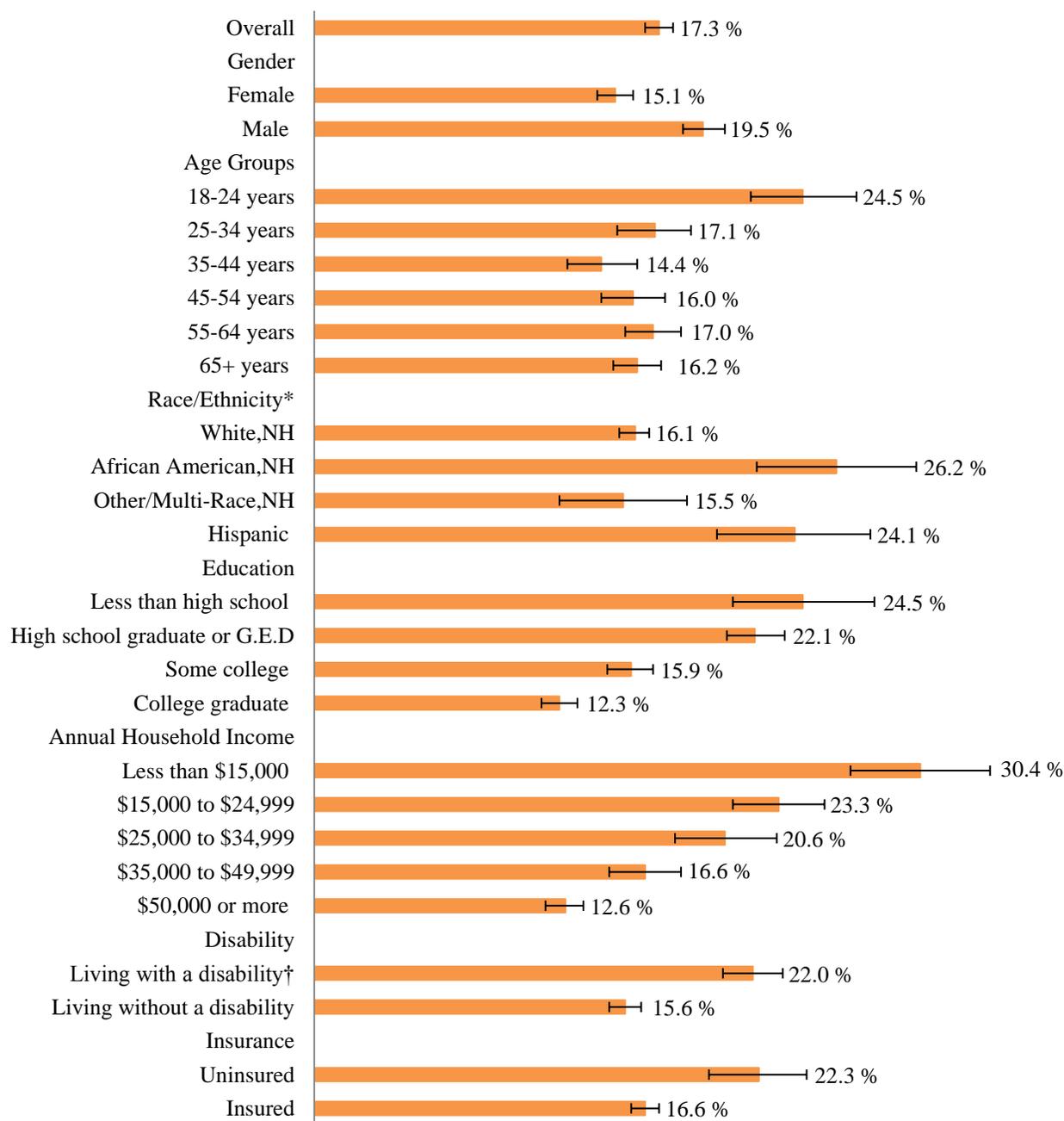
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the fruit and vegetable questions have been modified for all states.

Vegetable consumption includes: green leafy or lettuce salad, fried potatoes, any other kind of potatoes/sweet potatoes, or other vegetables. Please refer to Technical Notes for more information.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Did Not Consume Vegetables At Least Once Per Day, KS BRFSS 2017‡



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the fruit and vegetable questions have been modified for all states. Vegetable consumption includes: green leafy or lettuce salad, fried potatoes, any other kind of potatoes/sweet potatoes, or other vegetables. Please refer to Technical Notes for more information.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Who Did Not Consume Vegetables At Least Once Per Day, KS BRFSS 2017‡

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	17.9	15.5-20.3
No	17.1	16.4-17.9
Arthritis		
Yes	17.9	16.6-19.2
No	17.0	16.2-17.8
Weight		
Normal or Underweight, BMI<25	16.5	15.2-17.8
Overweight, 25<=BMI<30	16.7	15.5-17.9
Obese, BMI>=30	19.1	17.8-20.4
Diabetes		
Yes	19.4	17.3-21.6
No	17.0	16.3-17.8

‡In 2017, the fruit and vegetable questions have been modified for all states. Vegetable consumption includes: green leafy or lettuce salad, fried potatoes, any other kind of potatoes/sweet potatoes, or other vegetables. Please refer to Technical Notes for more information.

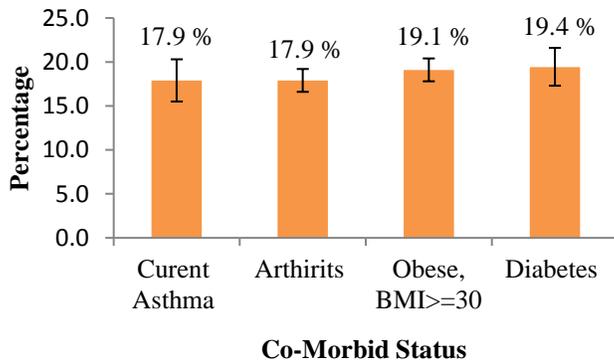
The percentage of Kansas adults ages 18 years and older who did not consume vegetables at least once per day did not differ significantly by current asthma, arthritis, diabetes or weight category status.

SUMMARY

Approximately 17.3 percent of Kansas adults ages 18 years and older did not consume vegetables at least once per day. In addition, higher percentages of adults who did not consume vegetables at least once per day were seen among: males, adults ages 18 to 24 years, non-Hispanic African-Americans, Hispanics, uninsured adults, adults with lower income and education and adults living with a disability.

The Healthy People 2020 goal is to increase the variety and contribution of vegetables to the diet. Therefore, further public health efforts are needed to address disparities in population subgroups in Kansas.

Percentage of Adults Who Did Not Consume Vegetables At Least Once Per Day, by Co-Morbid Conditions, KS BRFSS 2017‡



‡In 2017, the fruit and vegetable questions have been modified for all states. Vegetable consumption includes: green leafy or lettuce salad, fried potatoes, any other kind of potatoes/sweet potatoes, or other vegetables. Please refer to Technical Notes for more information.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Tobacco Use: Current Cigarette Smoking

Tobacco use is one of the most preventable causes of morbidity and mortality.¹⁵ More deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides and homicides combined.^{16, 17} The Healthy People 2020 goal is to reduce smoking among adults.

Current smoking is defined as adults who have smoked 100 cigarettes in their entire life and smoke now, either every day or some days. In 2017, approximately 1 in 6 Kansas adults ages 18 years and older currently smoke cigarettes. The percentage of Kansas adults ages 18 years and older who currently smoke cigarettes was significantly **higher** among:

- Males compared with females.
- Adults younger than 65 years compared with adults ages 65 years and older
- Non-Hispanic African-Americans compared with non-Hispanic whites and Hispanics (age-adjusted prevalence)
- Adults with lower education compared with adults in higher education groups
- Adults with lower annual household income compared with adults in higher annual household income groups
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

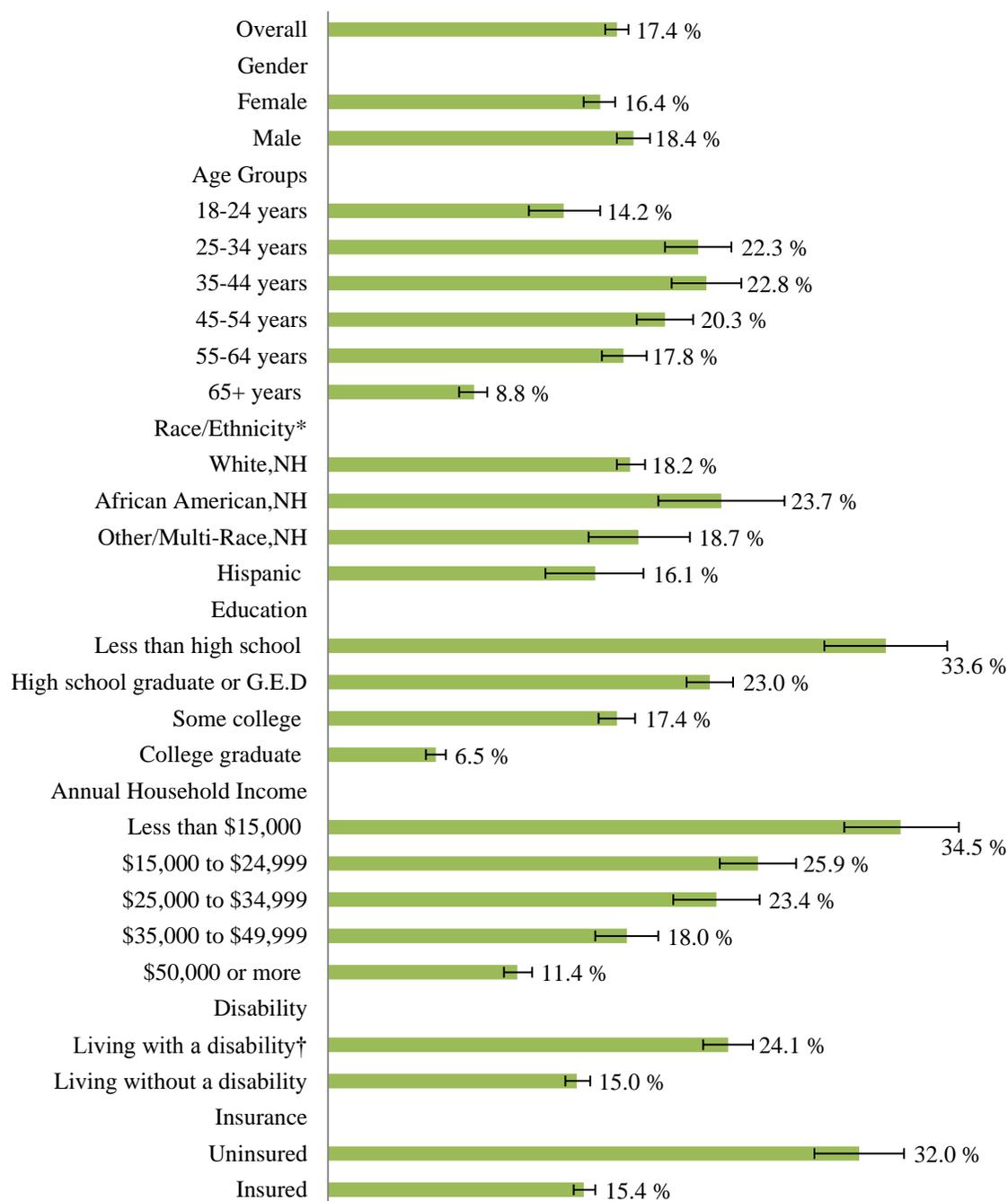
Percentage of Adults Ages 18 Years and Older Who Currently Smoke Cigarettes, KS BRFSS 2017		
Demographic Characteristics	Weighted	
	Percentage	95% CI
Overall	17.4	16.7-18.1
Gender		
Female	16.4	15.4-17.3
Male	18.4	17.4-19.4
Age Groups		
18-24 years	14.2	12.1-16.4
25-34 years	22.3	20.3-24.3
35-44 years	22.8	20.7-24.9
45-54 years	20.3	18.6-22.0
55-64 years	17.8	16.5-19.2
65+ years	8.8	7.9-9.6
Race/Ethnicity*		
White, NH	18.2	17.4-19.1
African-American, NH	23.7	19.9-27.5
Other/Multi-Race, NH	18.7	15.7-21.8
Hispanic	16.1	13.1-19.0
Education		
Less than high school	33.6	29.9-37.3
High school graduate or GED	23.0	21.6-24.4
Some college	17.4	16.3-18.5
College graduate	6.5	5.9-7.1
Annual Household Income		
Less than \$15,000	34.5	31.1-38.0
\$15,000 to \$24,999	25.9	23.6-28.2
\$25,000 to \$34,999	23.4	20.8-26.0
\$35,000 to \$49,999	18.0	16.1-19.9
\$50,000 or more	11.4	10.6-12.3
Disability		
Living with a disability†	24.1	22.6-25.6
Living without a disability	15.0	14.3-15.8
Insurance		
Uninsured	32.0	29.3-34.7
Insured	15.4	14.8-16.1

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Smoke Cigarettes, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

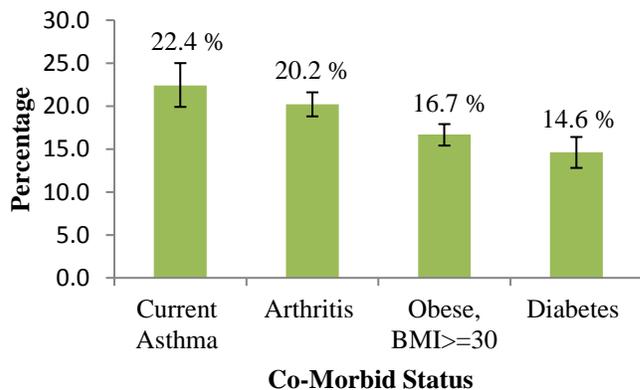
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Smoke Cigarettes by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma Status		
Yes	22.4	19.9-25.0
No	16.8	16.1-17.5
Arthritis Status		
Yes	20.2	18.8-21.6
No	16.4	15.6-17.2
Weight Category		
Normal or Underweight, BMI<25	20.8	19.4-22.1
Overweight, 25<= BMI<30	16.2	15.0-17.3
Obese, BMI>=30	16.7	15.4-17.9
Diabetes Status		
Yes	14.6	12.8-16.4
No	17.7	17.0-18.5

Percentage of Adults Ages 18 Years and Older Who Currently Smoke Cigarettes, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who currently smoke cigarettes was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were normal or underweight compared with those who were overweight or obese
- Adults without diabetes compared with those with diabetes

SUMMARY

About 17.4 percent of Kansas adults ages 18 years and older currently smoke cigarettes. In addition, higher percentages of adults who currently smoke cigarettes were seen among: males, adults younger than 65, non-Hispanic African-Americans, uninsured adults, adults with lower income and education, adults with co-morbid conditions (current asthma or arthritis), those living with a disability, those who are normal or underweight weight category and those without diabetes.

The Healthy People 2020 goal is to reduce smoking by adults to 12 percent. Therefore, further public health efforts are needed to reach the objective and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Tobacco Use: Smokeless Tobacco

Smokeless tobacco causes a number of serious oral health problems, including cancer of the mouth and gums, periodontal disease and tooth loss.¹⁸ The Healthy People 2020 goal is to reduce the use of smokeless tobacco products by adults.

A smokeless tobacco user is defined as an adult who currently uses chewing tobacco, snuff or snus (Swedish for snuff) some days or every day. In 2017, approximately 1 in 18 Kansas adults ages 18 years and older were currently using any smokeless tobacco product. The percentage of Kansas adults ages 18 years and older who currently use any smokeless tobacco products was significantly **higher** among:

- Males compared with females
- Adults ages 54 years and younger compared with adults ages 55 years and older
- Non-Hispanic whites compared with non-Hispanic African-Americans, non-Hispanic other/multi-race adults and Hispanics (age-adjusted prevalence)
- Adults who were not college graduates compared with those who were college graduates
- Adults with income level of \$50,000 or more compared with those at income level \$25,000 to \$34,999

The percentage of Kansas adults ages 18 years and older who currently use any smokeless tobacco products did not differ significantly by living with a disability status or insurance status.

Percentage of Adults Ages 18 Years and Older Who Currently Use Any Smokeless Tobacco Products, KS BRFSS 2017

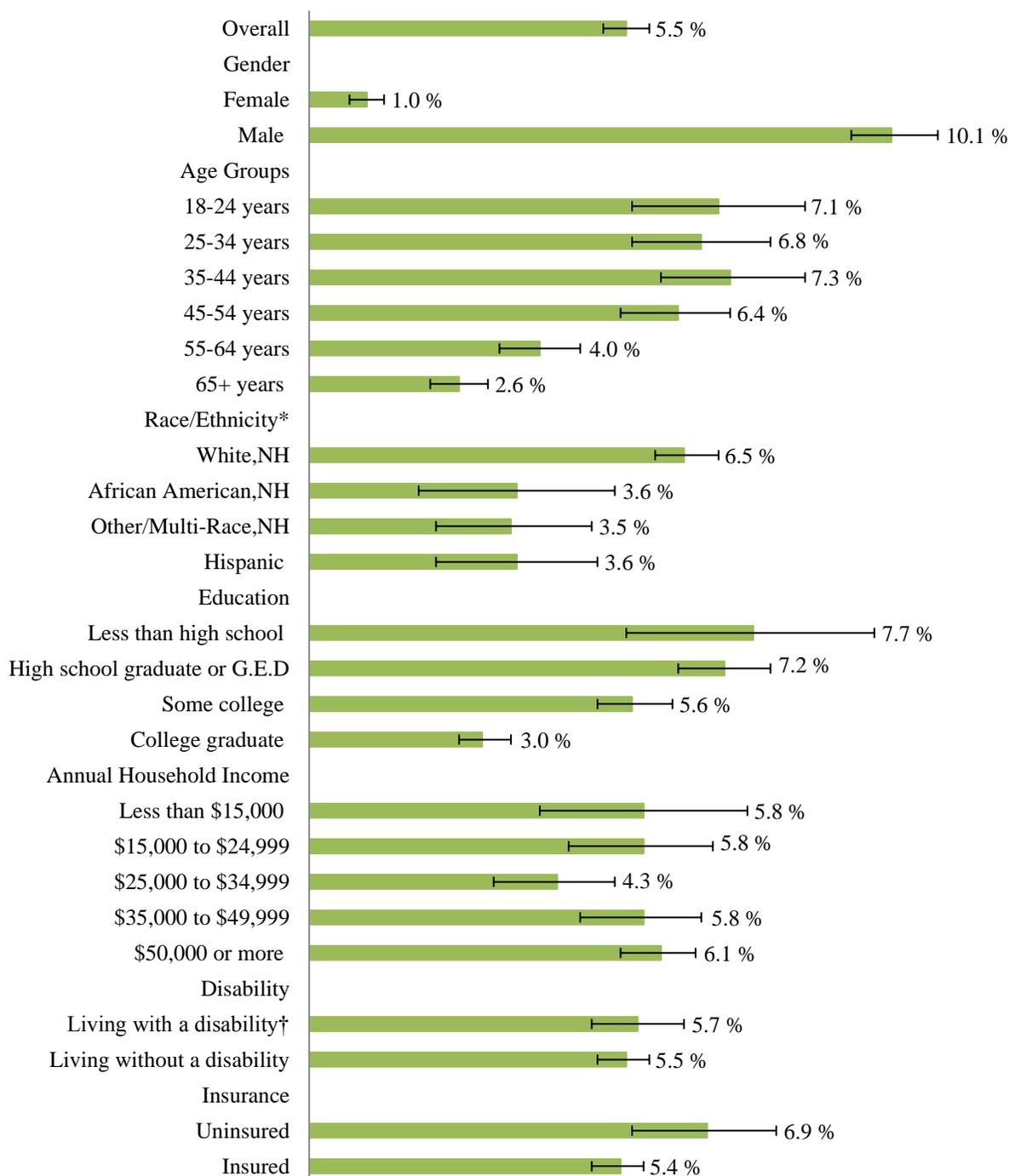
Demographic Characteristics	Weighted Percentage	95% CI
Overall	5.5	5.1-5.9
Gender		
Female	1.0	0.7-1.3
Male	10.1	9.4-10.9
Age Groups		
18-24 years	7.1	5.6-8.6
25-34 years	6.8	5.6-8.0
35-44 years	7.3	6.1-8.6
45-54 years	6.4	5.4-7.3
55-64 years	4.0	3.3-4.7
65+ years	2.6	2.1-3.1
Race/Ethnicity*		
White, NH	6.5	6.0-7.1
African-American, NH	3.6	1.9-5.3
Other/Multi-Race, NH	3.5	2.2-4.9
Hispanic	3.6	2.2-5.0
Education		
Less than high school	7.7	5.5-9.8
High school graduate or G.E.D	7.2	6.4-8.0
Some college	5.6	5.0-6.3
College graduate	3.0	2.6-3.5
Annual Household Income		
Less than \$15,000	5.8	4.0-7.6
\$15,000 to \$24,999	5.8	4.5-7.0
\$25,000 to \$34,999	4.3	3.2-5.3
\$35,000 to \$49,999	5.8	4.7-6.8
\$50,000 or more	6.1	5.4-6.7
Disability		
Living with a disability†	5.7	4.9-6.5
Living without a disability	5.5	5.0-5.9
Insurance		
Uninsured	6.9	5.6-8.1
Insured	5.4	4.9-5.8

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Use Any Smokeless Tobacco Products, KS BRFSS 2017



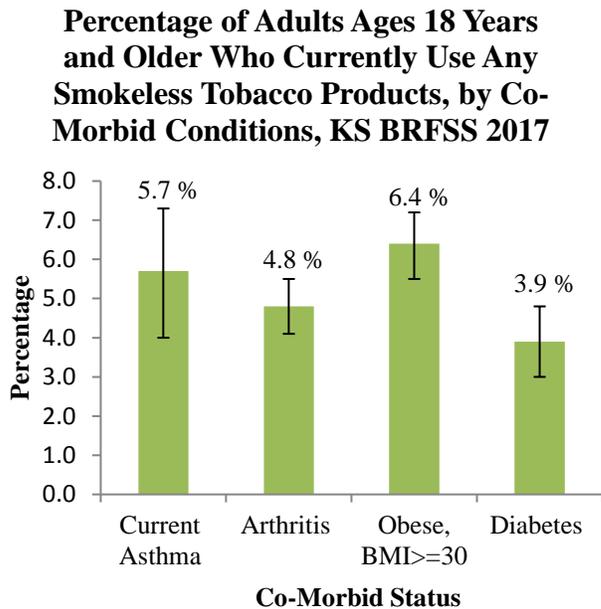
*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Use Any Smokeless Tobacco Products by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	5.7	4.0-7.3
	No	5.5	5.1-5.9
Arthritis	Yes	4.8	4.1-5.5
	No	5.8	5.3-6.3
Weight	Normal or Underweight, BMI<25	4.0	3.4-4.7
	Overweight, 25<= BMI<30	6.8	6.1-7.6
	Obese, BMI>=30	6.4	5.5-7.2
Diabetes	Yes	3.9	3.0-4.8
	No	5.7	5.3-6.2



The percentage of Kansas adults ages 18 years and older who currently use any smokeless tobacco products was significantly **higher** among:

- Adults who were overweight or obese compared with adults who were normal or underweight
- Adults without diabetes compared with adults with diabetes

The percentage of Kansas adults who currently use any smokeless tobacco products did not differ significantly by current asthma or arthritis status.

SUMMARY

Approximately 5.5 percent of Kansas adults ages 18 years and older were current smokeless tobacco product users. In addition, higher percentages of adults who were currently using any smokeless tobacco products were seen among: males, adults ages 54 years and younger, non-Hispanic whites, education level groups lower than college graduate, adults with income level of \$50,000 or more, adults with co-morbid conditions (obesity/overweight) and those without diabetes.

The Healthy People 2020 goal is to reduce the use of smokeless tobacco products by adults to 0.2 percent. Therefore, further public health efforts are needed to reach the objective and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Tobacco Use: Electronic Cigarettes

Electronic cigarettes or e-cigarettes are battery-powered devices that provide doses of nicotine and other additives to the user in an aerosol. It has been determined that E-cigarettes are not safe for youth, young adults, pregnant women, or adults who do not currently use tobacco products. E-cigarettes release nicotine when inhaled and nicotine has been linked to adverse effects on adolescent brain development that may result in lasting deficits in cognitive function and is addictive and toxic to developing fetuses.¹⁹

In 2017, approximately 1 in 22 Kansas adults ages 18 years and older who currently use Electronic Cigarettes or E-Cigarettes. The percentage of Kansas adults ages 18 years and older who currently use Electronic Cigarettes or E-Cigarettes was significantly **higher** among:

- Males compared with females.
- Younger adults compared with adults in older age groups
- Adults who were not college graduates compared with those who were college graduates
- Adults with an annual household income of less than \$15,000 compared with adults with an annual household income of \$35,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 18 years and older who currently use Electronic Cigarettes or E-Cigarettes did not differ significantly by race/ethnicity groups.

Percentage of Adults Ages 18 Years and Older Who Currently Use Electronic Cigarettes or E-Cigarettes, KS BRFSS 2017‡		
Demographic Characteristics	Weighted Percentage	95% CI
Overall	4.6	4.2-5.0
Gender		
Female	3.5	3.0-4.0
Male	5.7	5.0-6.4
Age Groups		
18-24 years	9.8	8.0-11.5
25-34 years	6.4	5.2-7.6
35-44 years	5.8	4.5-7.1
45-54 years	3.9	3.0-4.7
55-64 years	2.7	2.1-3.2
65+ years	0.9	0.6-1.2
Race/Ethnicity*		
White, NH	5.0	4.5-5.4
African-American, NH	6.1	3.8-8.4
Other/Multi-Race, NH	4.4	2.6-6.2
Hispanic	4.0	2.4-5.7
Education		
Less than high school	7.5	5.2-9.8
High school graduate or G.E.D	6.4	5.6-7.3
Some college	4.6	4.0-5.3
College graduate	1.8	1.5-2.2
Annual Household Income		
Less than \$15,000	7.9	5.8-10.0
\$15,000 to \$24,999	5.3	4.0-6.6
\$25,000 to \$34,999	6.3	4.6-8.1
\$35,000 to \$49,999	4.0	3.1-5.0
\$50,000 or more	3.6	3.0-4.1
Disability		
Living with a disability†	6.2	5.2-7.1
Living without a disability	4.1	3.6-4.5
Insurance		
Uninsured	8.5	6.8-10.2
Insured	4.1	3.7-4.5

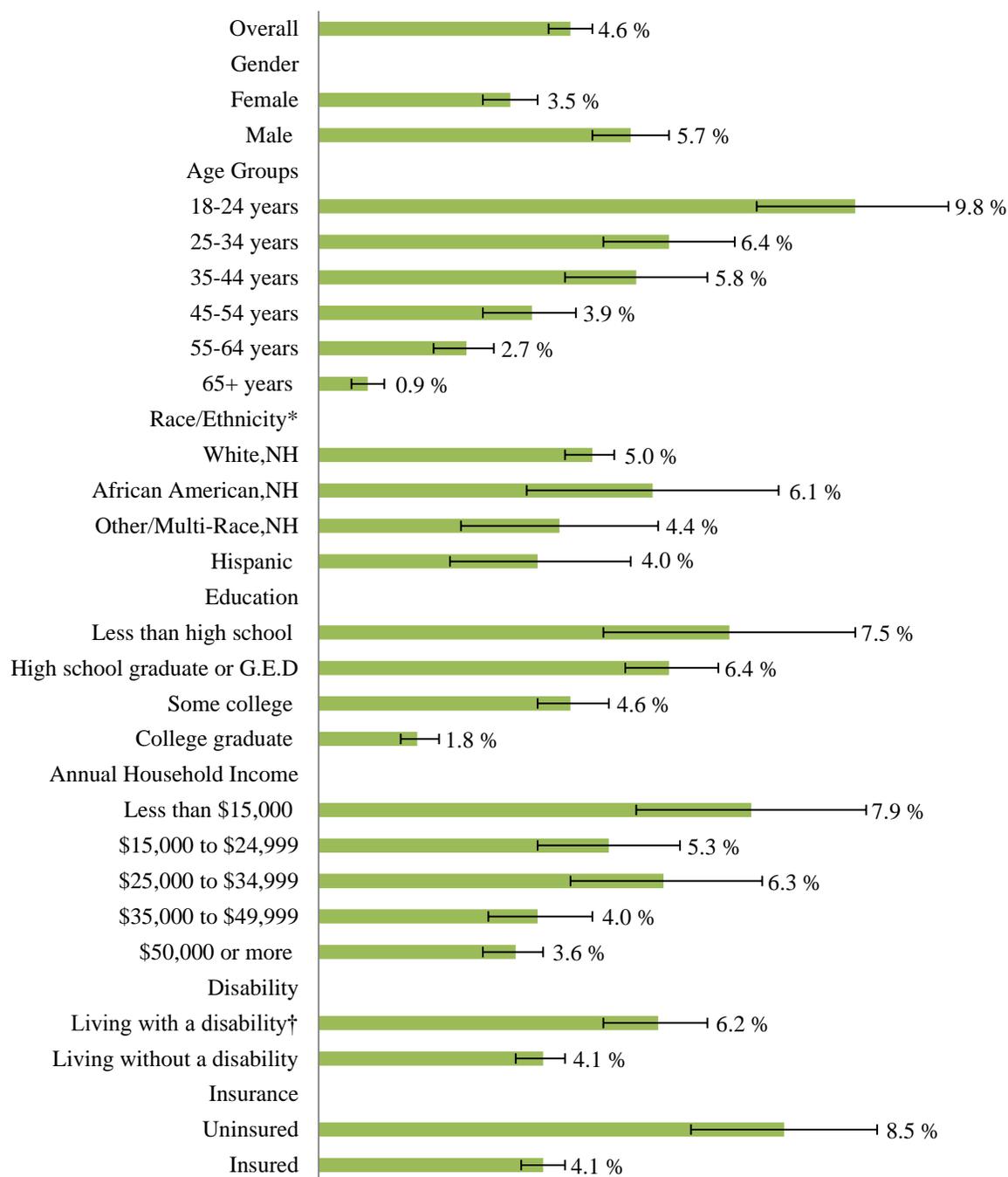
‡In 2017, Respondents who ever used e-cigarettes or other electronic vaping products were asked if now they currently use e-cigarettes or other electronic vaping products.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Use Electronic Cigarettes or E- Cigarettes, KS BRFSS 2017‡



‡In 2017, Respondents who ever used e-cigarettes or other electronic vaping products were asked if they currently use e-cigarettes or other electronic vaping products.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

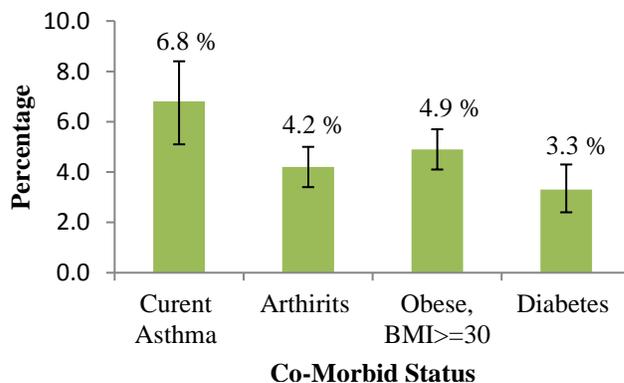
Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Currently Use Electronic Cigarettes or E-Cigarettes by Co-Morbid Conditions, KS BRFSS 2017‡

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	6.8	5.1-8.4
No	4.4	3.9-4.8
Arthritis		
Yes	4.2	3.4-5.0
No	4.7	4.2-5.2
Weight		
Normal or Underweight, BMI<25	5.2	4.4-5.9
Overweight, 25<= BMI<30	4.1	3.5-4.8
Obese, BMI>=30	4.9	4.1-5.7
Diabetes		
Yes	3.3	2.4-4.3
No	4.8	4.3-5.2

‡In 2017, Respondents who ever used e-cigarettes or other electronic vaping products were asked if now they currently use e-cigarettes or other electronic vaping products.

Percentage of Adults Ages 18 Years and Older Who Currently Use Electronic Cigarettes or E-Cigarettes, by Co-Morbid Conditions, KS BRFSS 2017‡



‡In 2017, Respondents who ever used e-cigarettes or other electronic vaping products were asked if now they currently use e-cigarettes or other electronic vaping products.

The percentage of Kansas adults ages 18 years and older who have ever used or tried e-cigarettes was significantly **higher** among:

- Adults with current asthma compared with those without current asthma

The percentage of Kansas adults ages 18 years and older who currently use e-cigarettes did not differ significantly by arthritis status, diabetes status or weight category.

SUMMARY

Approximately 4.6 percent of Kansas adults ages 18 years and older who currently use e-cigarettes. In addition, higher percentages of adults who currently use e-cigarettes were seen among: males, younger adults, adults with less than a college graduation, adults with an annual household income of less than \$15,000, uninsured adults, adults with co-morbid conditions (current asthma), and those living with a disability.

Therefore, further public health efforts are needed to reduce e-cigarette use and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Oral Health: Oral Health Care System

Oral health is an essential and integral component of overall health throughout life. Oral health refers to the health of the teeth, gums, and the entire oral-facial system that allows us to smile, speak, and chew.²⁰ Some of the most common diseases that impact oral health include tooth decay (cavities), gum (periodontal) disease, and oral cancer.²⁰ Oral conditions are inter-related to other chronic conditions, such as diabetes and heart disease.²¹ The Healthy People 2020 goal is to increase the proportion of adults who used the oral health care system in the past year.

In 2017, approximately 1 in 3 Kansas adults ages 18 years and older did not use the oral health care system in the past 12 months. The percentage of Kansas adults ages 18 years and older who did not use the oral health care system in the past 12 months was significantly **higher** among:

- Males compared with females
- Non-Hispanic other/multi-race adults and Hispanics compared with non-Hispanic whites (age-adjusted prevalence)
- Adults with lower education compared with adults in higher education groups
- Adults with lower annual household income compared with adults in higher annual household income groups
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 18 years and older who did not use the oral health care system in the past 12 months did not differ significantly by age groups.

Percentage of Adults Ages 18 Years and Older Who Have Not Used the Oral Health Care System in the Past 12 Months, KS BRFSS 2017

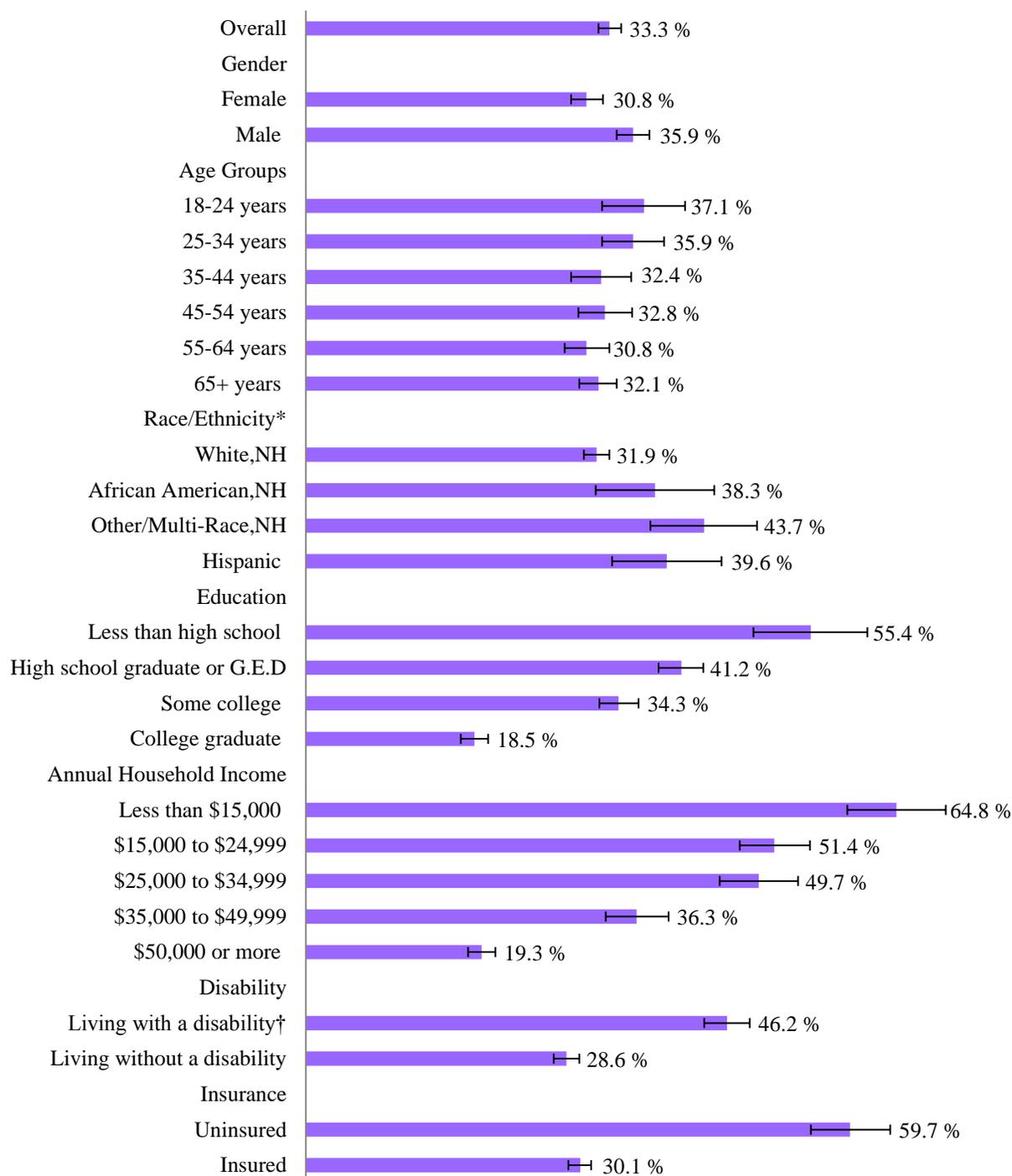
Demographic Characteristics	Weighted Percentage	95% CI
Overall	33.3	32.1-34.6
Gender		
Female	30.8	29.1-32.6
Male	35.9	34.1-37.7
Age Groups		
18-24 years	37.1	32.5-41.6
25-34 years	35.9	32.5-39.3
35-44 years	32.4	29.1-35.7
45-54 years	32.8	29.9-35.8
55-64 years	30.8	28.4-33.3
65+ years	32.1	30.0-34.1
Race/Ethnicity*		
White, NH	31.9	30.5-33.3
African-American, NH	38.3	31.8-44.8
Other/Multi-Race, NH	43.7	37.8-49.5
Hispanic	39.6	33.6-45.6
Education		
Less than high school	55.4	49.1-61.6
High school graduate or G.E.D	41.2	38.7-43.6
Some college	34.3	32.2-36.5
College graduate	18.5	17.0-20.0
Annual Household Income		
Less than \$15,000	64.8	59.4-70.2
\$15,000 to \$24,999	51.4	47.6-55.3
\$25,000 to \$34,999	49.7	45.4-54.0
\$35,000 to \$49,999	36.3	32.9-39.8
\$50,000 or more	19.3	17.8-20.8
Disability		
Living with a disability†	46.2	43.7-48.7
Living without a disability	28.6	27.2-30.0
Insurance		
Uninsured	59.7	55.4-64.1
Insured	30.1	28.8-31.3

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Have Not Used The Oral Health Care System In the Past 12 Months, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Have Not Used the Oral Health Care System In the Past 12 Months by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	38.0	33.7-42.3
No	32.7	31.5-34.0
Arthritis		
Yes	38.4	36.1-40.7
No	31.4	30.0-32.9
Weight		
Normal or Underweight, BMI<25	30.5	28.2-32.7
Overweight, 25<= BMI<30	31.2	29.1-33.2
Obese, BMI>=30	39.1	36.8-41.3
Diabetes		
Yes	39.1	35.6-42.6
No	32.6	31.3-33.9

The percentage of Kansas adults ages 18 years and older who did not use the oral health care system in the past 12 months was significantly **higher** among:

- Adults with arthritis compared with those without arthritis
- Adults who were obese compared adults who were overweight, normal weight or underweight
- Adults with diabetes compared with those without diabetes

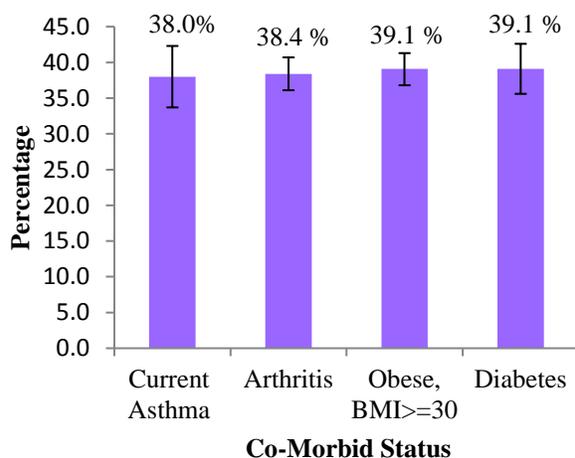
The percentage of Kansas adults ages 18 years and older who have not used the oral health care system in the past 12 months did not differ significantly by current asthma status.

SUMMARY

Approximately 33.3 percent of Kansas adults ages 18 years and older did not use the oral health care system in the past 12 months. In addition, higher percentages of adults who did not use the oral health care system in the past 12 months were seen among: males, Hispanics, other/multi-race adults, uninsured adults, adults with lower income and education, adults with co-morbid conditions (diabetes, arthritis or obesity) and those living with a disability.

To address associated disparities with accessing the oral health care system, further public health efforts are needed in Kansas.

Percentage of Adults Ages 18 Years and Older Who Have Not Used The Oral Health Care System In the Past 12 Months, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Substance Abuse: Binge Drinking

Alcohol consumption is the third leading preventable cause of death in the U.S.²² Binge drinking is defined as adult males having five or more drinks on one occasion and adult females having four or more drinks on one occasion in the past 30 days. Binge drinking is associated with alcohol poisoning, unintentional injuries, suicide and hypertension, among other health outcomes.²³ The Healthy People 2020 goal is to reduce the proportion of adults engaging in binge drinking during the past 30 days.

In 2017, approximately 1 in 6 Kansas adults ages 18 years and older were binge drinkers. The percentage of Kansas adults ages 18 years and older who were binge drinkers was significantly **higher** among:

- Males compared with females
- Younger adults compared with older adults
- Non-Hispanic whites compared with non-Hispanic other/multi-race adults (age-adjusted prevalence)
- Adults with an annual household income of \$50,000 or more compared with adults with an annual household income of less than \$35,000
- Adults living without a disability compared with adults living with a disability

The percentage of Kansas adults ages 18 years and older who were binge drinkers did not differ significantly by education groups or insurance status.

Percentage of Adults Ages 18 Years and Older Who Were Binge Drinkers, KS BRFSS 2017‡		
Demographic Characteristics	Weighted Percentage	95% CI
Overall	17.2	16.5-17.9
Gender		
Female	12.4	11.5-13.3
Male	22.1	21.0-23.2
Age Groups		
18-24 years	26.4	23.8-29.0
25-34 years	27.4	25.2-29.5
35-44 years	22.4	20.4-24.4
45-54 years	16.9	15.3-18.4
55-64 years	10.6	9.6-11.7
65+ years	4.5	3.9-5.0
Race/Ethnicity*		
White, NH	19.3	18.5-20.2
African-American, NH	16.7	13.0-20.4
Other/Multi-Race, NH	13.0	10.1-15.9
Hispanic	17.7	14.8-20.6
Education		
Less than high school	14.4	11.4-17.3
High school graduate or G.E.D	16.9	15.6-18.3
Some college	18.6	17.3-19.8
College graduate	16.8	15.7-17.8
Annual Household Income		
Less than \$15,000	14.5	11.8-17.2
\$15,000 to \$24,999	12.2	10.5-14.0
\$25,000 to \$34,999	16.3	14.0-18.5
\$35,000 to \$49,999	18.5	16.5-20.5
\$50,000 or more	20.7	19.6-21.9
Disability		
Living with a disability†	11.8	10.6-12.9
Living without a disability	19.1	18.3-20.0
Insurance		
Uninsured	19.6	17.3-21.9
Insured	16.9	16.2-17.6

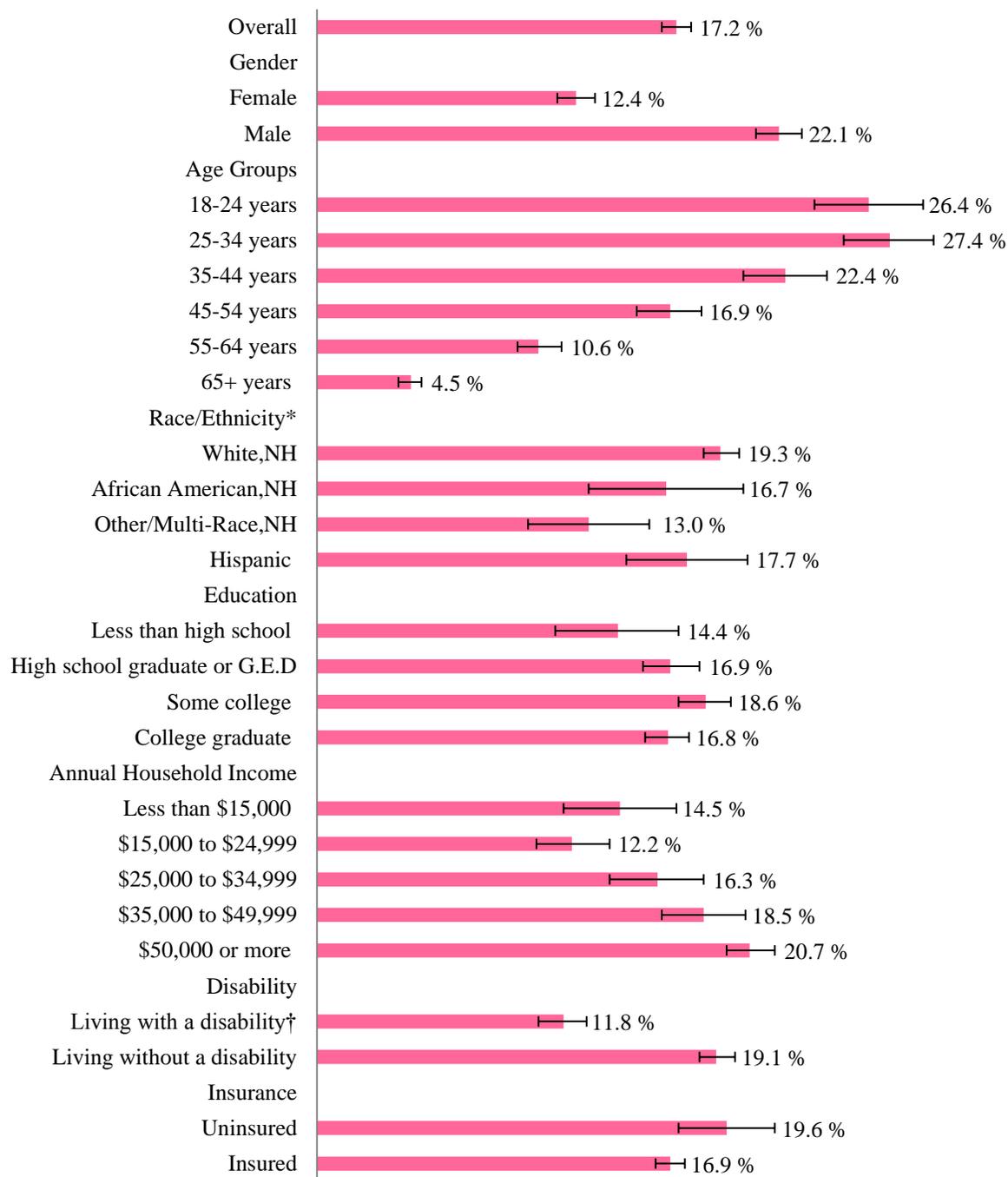
‡ Binge drinkers are defined as males having five or more drinks or females having four or more drinks on one occasion in the past 30 days.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Binge Drinkers, KS BRFSS 2017‡



‡ Binge drinkers are defined as males having five or more drinks or females having four or more drinks on one occasion in the past 30 days.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

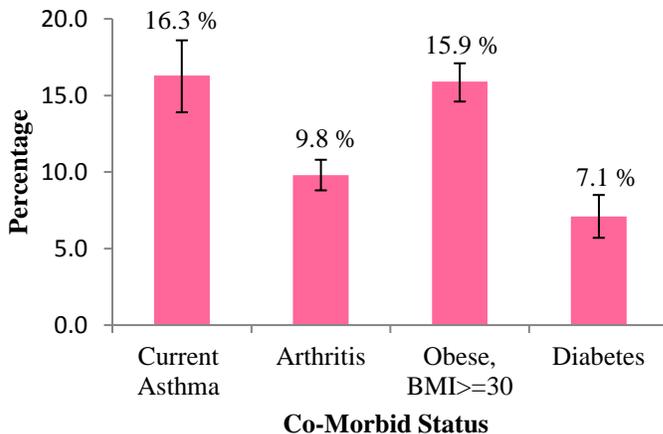
Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Binge Drinkers by Co-Morbid Conditions, KS BRFSS 2017‡

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	16.3	13.9-18.6
	No	17.3	16.6-18.1
Arthritis			
	Yes	9.8	8.8-10.8
	No	19.7	18.8-20.6
Weight			
	Normal or Underweight, BMI<25	18.4	17.1-19.7
	Overweight, 25<= BMI<30	19.0	17.8-20.3
	Obese, BMI>=30	15.9	14.6-17.1
Diabetes			
	Yes	7.1	5.7-8.5
	No	18.4	17.6-19.2

‡ Binge drinkers are defined as males having five or more drinks or females having four or more drinks on one occasion in the past 30 days.

Percentage of Adults Ages 18 Years and Older Who Were Binge Drinkers, by Co-Morbid Conditions, KS BRFSS 2017‡



‡ Binge drinkers are defined as males having five or more drinks or females having four or more drinks on one occasion in the past 30 days.

The percentage of Kansas adults ages 18 years and older who were binge drinkers was significantly **higher** among:

- Adults without arthritis compared with those with arthritis
- Adults who were overweight compared to those who are obese
- Adults without diabetes compared with those with diabetes

The percentage of Kansas adults ages 18 years and older who were binge drinkers did not differ significantly by current asthma status.

SUMMARY

Approximately 17.2 percent of Kansas adults ages 18 years and older were binge drinkers. In addition, higher prevalence of binge drinking was seen among: males, younger adults, non-Hispanic whites, adults with annual household income of \$50,000 or more, adults without arthritis, adults without diabetes, adults who were overweight and adults living without a disability.

The Healthy People 2020 goal is to reduce the proportion of adults ages 18 years and older engaging in binge drinking to 24.2 percent. Kansas is meeting the Healthy People 2020 goal. However, overall prevalence is still high and there are disparities in population subgroups that have not met the HP 2020 target. Therefore, further public health efforts are needed to address overall prevalence and disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Mental Health: Depression

Depression and anxiety are considered to be the leading causes of mental health disorders. Mental health is essential to a person's well-being, healthy relationships, healthy behaviors and physical health.²⁴

Healthy People 2020 included mental health as a leading health indicator and included an objective to reduce the proportion of adults ages 18 years and older who experience major depressive episodes.

In 2017, approximately 1 in 5 Kansas adults ages 18 years and older had ever been diagnosed with depression. The percentage of Kansas adults ages 18 years and older who were ever diagnosed with depression was significantly **higher** among:

- Females compared with males
- Adults ages younger than 65 years compared with adults ages 65 years and older
- Adults who had less than high school education compared with adults who had more than a high school education; and adults who were not college graduates compared with college graduates
- Adults with lower annual household income compared with adults with higher annual household income
- Adults living with a disability compared with adults living without a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with depression did not differ significantly by race/ethnicity groups.

Percentage of Adults Ages 18 Years and Older Who Were Ever Diagnosed With Depression, KS BRFSS 2017

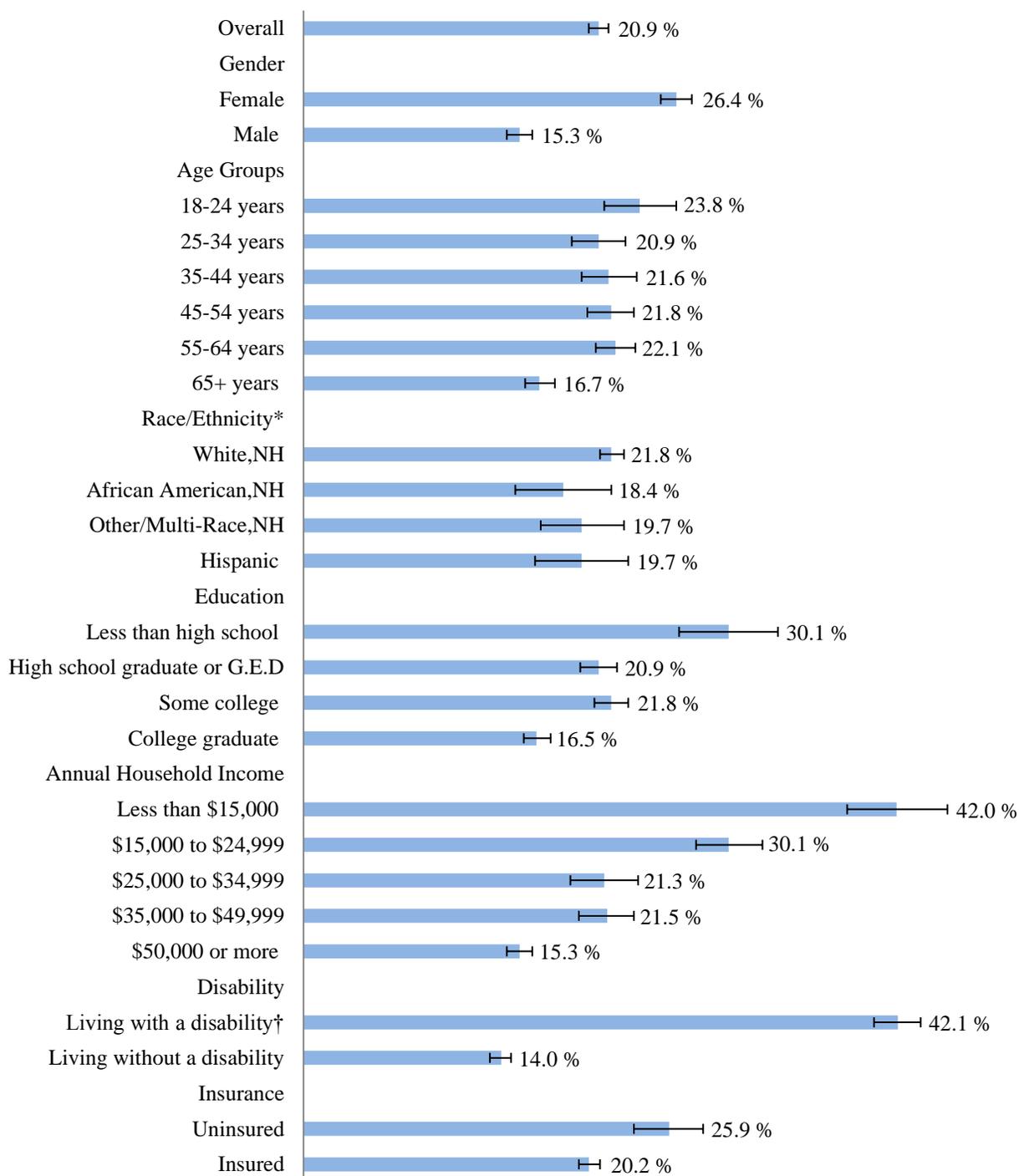
Demographic Characteristics	Weighted Percentage	95% CI
Overall	20.9	20.2-21.6
Gender		
Female	26.4	25.3-27.5
Male	15.3	14.4-16.2
Age Groups		
18-24 years	23.8	21.3-26.4
25-34 years	20.9	19.0-22.8
35-44 years	21.6	19.7-23.6
45-54 years	21.8	20.1-23.4
55-64 years	22.1	20.7-23.5
65+ years	16.7	15.7-17.8
Race/Ethnicity*		
White, NH	21.8	21.0-22.7
African-American, NH	18.4	15.0-21.8
Other/Multi-Race, NH	19.7	16.8-22.7
Hispanic	19.7	16.4-23.0
Education		
Less than high school	30.1	26.6-33.6
High school graduate or G.E.D	20.9	19.6-22.2
Some college	21.8	20.6-23.0
College graduate	16.5	15.6-17.5
Annual Household Income		
Less than \$15,000	42.0	38.5-45.6
\$15,000 to \$24,999	30.1	27.8-32.5
\$25,000 to \$34,999	21.3	18.9-23.7
\$35,000 to \$49,999	21.5	19.5-23.4
\$50,000 or more	15.3	14.4-16.2
Disability		
Living with a disability†	42.1	40.4-43.7
Living without a disability	14.0	13.2-14.7
Insurance		
Uninsured	25.9	23.4-28.3
Insured	20.2	19.5-21.0

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Ever Diagnosed With Depression, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Were Ever Diagnosed With Depression by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	40.5	37.7-43.4
	No	18.8	18.1-19.5
Arthritis	Yes	34.2	32.7-35.7
	No	16.6	15.9-17.4
Weight	Normal or Underweight, BMI<25	19.3	17.9-20.6
	Overweight, 25<= BMI<30	18.3	17.1-19.5
	Obese, BMI>=30	27.0	25.6-28.4
Diabetes	Yes	31.4	29.1-33.6
	No	19.7	18.9-20.4

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with depression was significantly **higher** among:

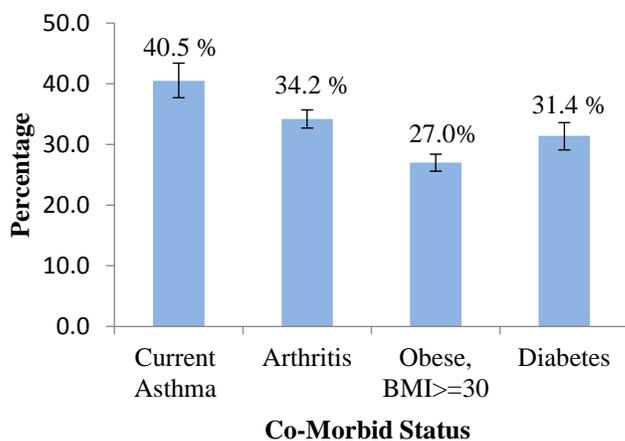
- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were normal weight, underweight or overweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 20.9 percent of Kansas adults ages 18 years and older have ever been diagnosed with depression. In addition, higher percentages of adults who have ever been diagnosed with depression were seen among: females, adults younger than 65 years of age, adults who have less than high school education, adults with lower annual household income, adults with no insurance, adults with co-morbid conditions (current asthma, arthritis, diabetes or obesity), and those living with a disability.

To address high prevalence of depression and associated disparities among adults ages 18 years and older, further public health efforts are needed in Kansas.

Percentage of Adults Ages 18 Years and Older Who Were Ever Diagnosed With Depression, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Diabetes

Diabetes is the seventh leading cause of death in the U.S.²⁵ Diabetes is a major cause of heart disease and stroke, and the leading cause of kidney failure, non-traumatic lower limb amputations, and new cases of blindness among adults in the U.S.²⁵ The Healthy People 2020 goal for diabetes is to reduce the disease burden of diabetes mellitus and improve the quality of life for all persons who have, or are at risk for, diabetes mellitus.

In 2017, approximately 1 in 10 Kansas adults ages 18 years and older had ever been diagnosed with diabetes. The percentage of Kansas adults ages 18 years and older who were ever diagnosed with diabetes was significantly **higher** among:

- Older adults compared with younger adults
- Non-Hispanic African-Americans and Hispanics compared with non-Hispanic whites (age-adjusted prevalence)
- Adults with less education compared with adults in higher education groups
- Adults with annual household income of less than \$50,000 compared with adults with annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with diabetes did not differ significantly by gender groups.

Percentage of Adults Ages 18 Years and Older With Diagnosed Diabetes, KS BRFSS 2017

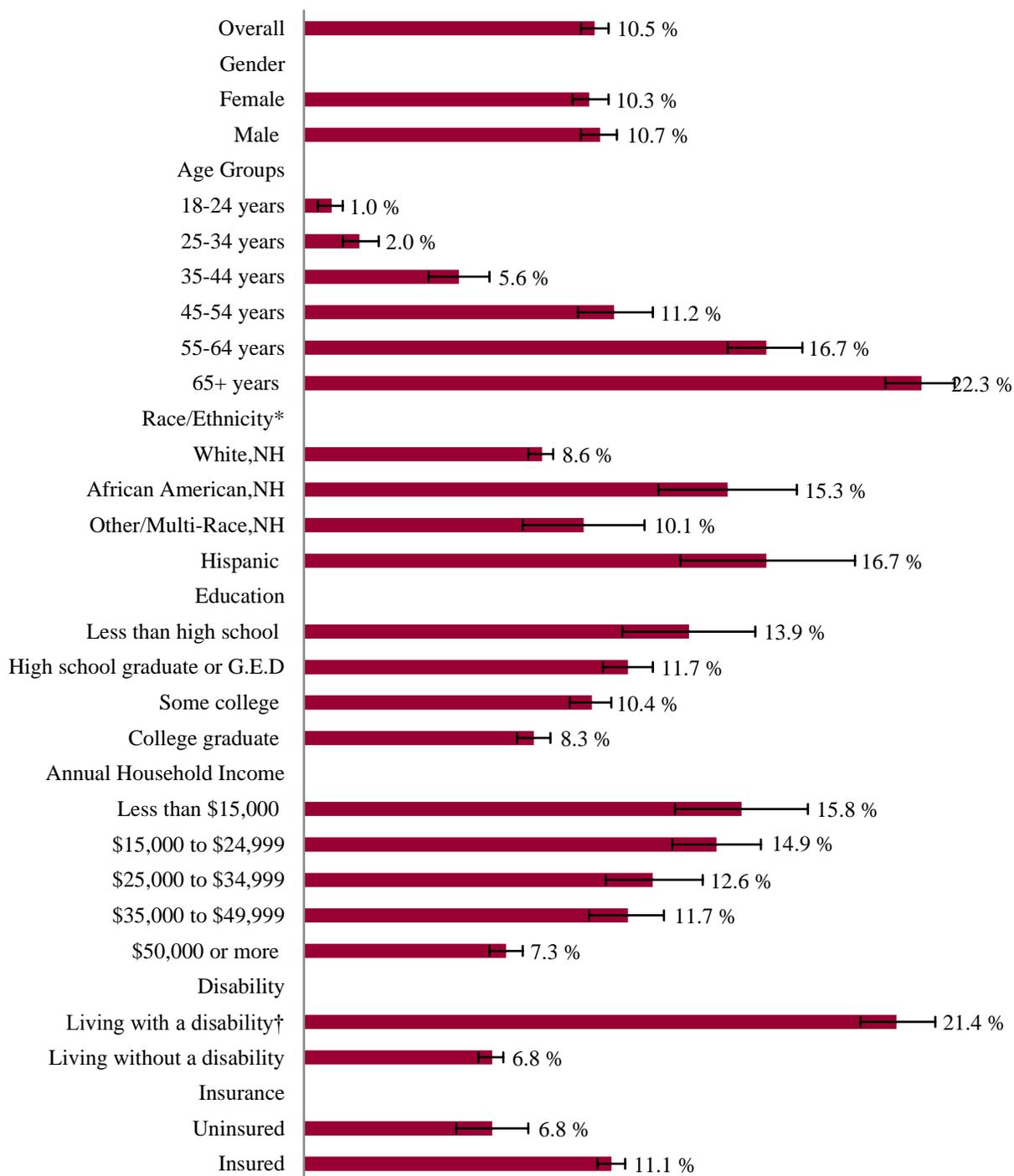
Demographic Characteristics	Weighted Percentage	95% CI
Overall	10.5	10.0-11.0
Gender		
Female	10.3	9.7-11.0
Male	10.7	10.0-11.3
Age Groups		
18-24 years	1.0	0.5-1.4
25-34 years	2.0	1.4-2.7
35-44 years	5.6	4.5-6.7
45-54 years	11.2	9.9-12.6
55-64 years	16.7	15.3-18.0
65+ years	22.3	21.0-23.5
Race/Ethnicity*		
White, NH	8.6	8.1-9.0
African-American, NH	15.3	12.8-17.8
Other/Multi-Race, NH	10.1	7.9-12.3
Hispanic	16.7	13.6-19.9
Education		
Less than high school	13.9	11.5-16.3
High school graduate or GED	11.7	10.8-12.6
Some college	10.4	9.6-11.1
College graduate	8.3	7.7-8.9
Annual Household Income		
Less than \$15,000	15.8	13.4-18.2
\$15,000 to \$24,999	14.9	13.3-16.5
\$25,000 to \$34,999	12.6	10.9-14.4
\$35,000 to \$49,999	11.7	10.3-13.0
\$50,000 or more	7.3	6.7-7.9
Disability		
Living with a disability†	21.4	20.1-22.8
Living without a disability	6.8	6.3-7.2
Insurance		
Uninsured	6.8	5.5-8.1
Insured	11.1	10.6-11.6

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Diabetes, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility,self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Diabetes by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	15.6	13.6-17.5
	No	10.0	9.5-10.5
Arthritis			
	Yes	22.1	20.8-23.4
	No	6.8	6.4-7.3
Weight			
	Normal or Underweight, BMI<25	4.5	3.8-5.1
	Overweight, 25<= BMI<30	8.8	8.0-9.5
	Obese, BMI>=30	18.9	17.8-20.1

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with diabetes was significantly **higher** among:

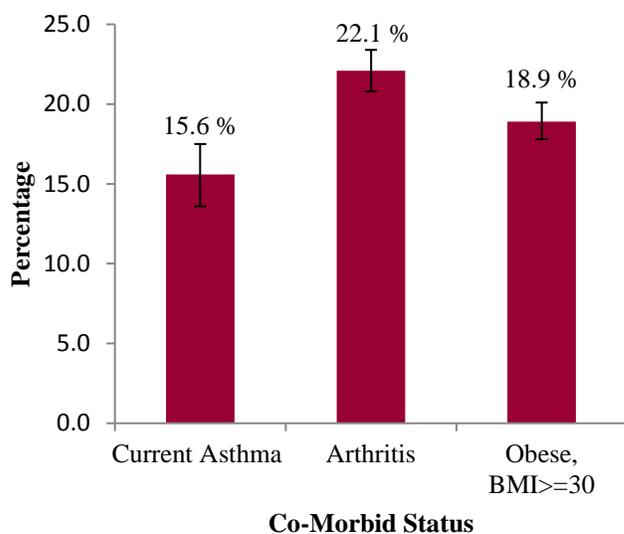
- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were overweight, normal weight or underweight

SUMMARY

Approximately 10.5 percent of Kansas adults ages 18 years and older have ever been diagnosed with diabetes. In addition, higher percentages of adults who have ever been diagnosed with diabetes were seen among: older adults, non-Hispanic African-Americans, Hispanics, those with less education, those with annual household income of less than \$50,000, those with insurance, those with chronic health conditions (current asthma, arthritis or obesity) and those living with a disability.

To reduce prevalence of diabetes among adults ages 18 years and older and to address associated disparities, further public health efforts are needed in Kansas.

Percentage of Adults Ages 18 Years and Older With Diagnosed Diabetes, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Asthma

Asthma affects not only the individual but also their families, schools, neighborhoods, cities and states. The cost of asthma also affects the health care system since the annual health care expenditures for asthma are estimated at \$20.7 billion.²⁶ The Healthy People 2020 goal for asthma is to reduce the disease, death and economic burden, and improve the quality of life for all persons with asthma.

In 2017, approximately 1 in 11 Kansas adults ages 18 years and older had been diagnosed with current asthma. The percentage of Kansas adults ages 18 years and older who were diagnosed with current asthma was significantly **higher** among:

- Females compared with males
- Adults ages 18 to 24 years compared to adults ages 25 to 34 years or 65 years and older
- Adults who had less than high school education compared with college graduates; and adults who had some college education compared with college graduates
- Adults with lower annual household income compared with adults with higher annual household income
- Adults living with a disability compared with adults living without a disability

The percentage of Kansas adults ages 18 years and older who were diagnosed with current asthma did not differ significantly by race/ethnicity groups or insurance status.

Percentage of Adults Ages 18 Years and Older With Current Asthma, KS BRFSS 2017

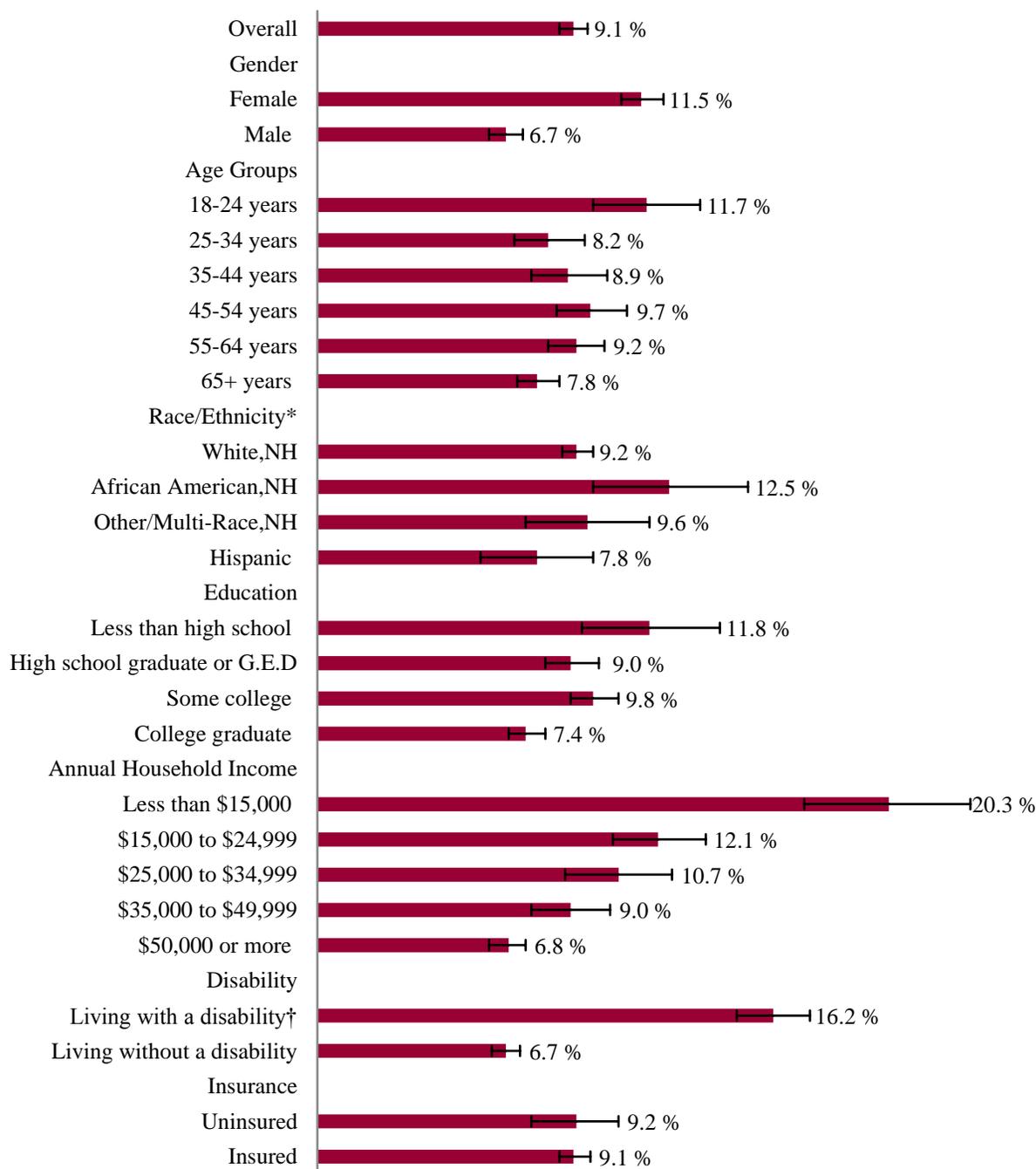
Demographic Characteristics	Weighted Percentage	95% CI
Overall	9.1	8.6-9.6
Gender		
Female	11.5	10.8-12.3
Male	6.7	6.1-7.3
Age Groups		
18-24 years	11.7	9.8-13.6
25-34 years	8.2	7.0-9.5
35-44 years	8.9	7.6-10.3
45-54 years	9.7	8.5-11.0
55-64 years	9.2	8.2-10.2
65+ years	7.8	7.1-8.6
Race/Ethnicity*		
White, NH	9.2	8.7-9.8
African-American, NH	12.5	9.8-15.3
Other/Multi-Race, NH	9.6	7.4-11.8
Hispanic	7.8	5.8-9.8
Education		
Less than high school	11.8	9.4-14.3
High school graduate or G.E.D	9.0	8.1-10.0
Some college	9.8	9.0-10.7
College graduate	7.4	6.8-8.1
Annual Household Income		
Less than \$15,000	20.3	17.3-23.2
\$15,000 to \$24,999	12.1	10.5-13.8
\$25,000 to \$34,999	10.7	8.8-12.6
\$35,000 to \$49,999	9.0	7.6-10.4
\$50,000 or more	6.8	6.1-7.4
Disability		
Living with a disability†	16.2	14.9-17.5
Living without a disability	6.7	6.2-7.2
Insurance		
Uninsured	9.2	7.6-10.7
Insured	9.1	8.6-9.7

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older with Current Asthma, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older with Current Asthma by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Arthritis		
Yes	14.6	13.5-15.8
No	7.4	6.8-7.9
Weight		
Normal or Underweight, BMI<25	8.2	7.3-9.1
Overweight, 25<= BMI<30	7.2	6.4-8.0
Obese, BMI>=30	12.5	11.5-13.6
Diabetes		
Yes	13.5	11.9-15.2
No	8.6	8.1-9.1

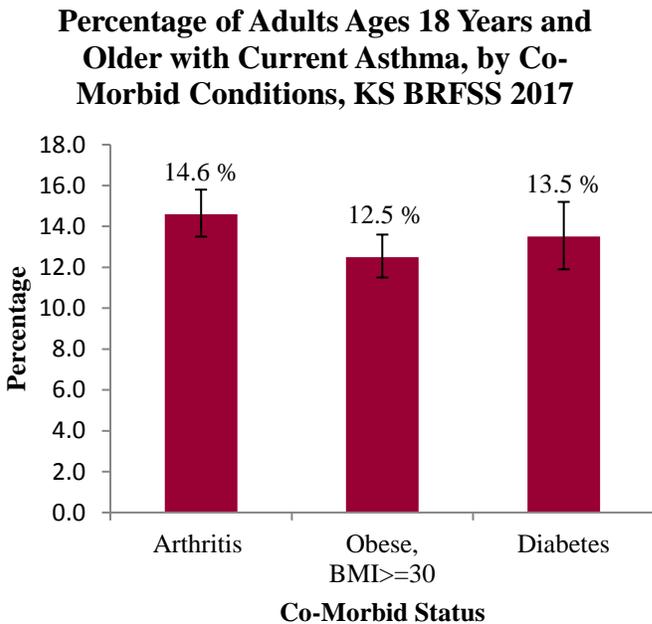
The percentage of Kansas adults ages 18 years and older who were diagnosed with current asthma was significantly **higher** among:

- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were normal weight or underweight and those who were overweight
- Adults with diabetes compared with those without diabetes

SUMMARY

About 9.1 percent of Kansas adults ages 18 years and older have been diagnosed with current asthma. In addition, higher percentages of adults who have been diagnosed with current asthma were seen among: females, adults ages 18 to 24 years, adults who had less than high school education, adults with lower annual household incomes, those with chronic health conditions (arthritis, diabetes or obesity) and those living with a disability.

To address overall burden of current asthma and associated disparities, further public health efforts are needed in Kansas.



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Arthritis

Arthritis is the most common cause of disability.²⁷ In 2013 the U.S. total attributable cost for Arthritis and other rheumatoid conditions was about \$304 billion (\$140 billion medical expenditures and \$164 billion as loss of earnings).²⁸ Arthritis includes people who have ever been told they have some form of arthritis, rheumatoid arthritis, gout, lupus or fibromyalgia. The Healthy People 2020 goal for arthritis is to reduce the disease and economic burden, and improve the quality of life for all persons with arthritis.

In 2017, approximately 1 in 4 Kansas adults ages 18 years and older had diagnosed arthritis. The percentage of Kansas adults ages 18 years and older who were diagnosed with arthritis was significantly **higher** among:

- Females compared with males
- Older adults compared with younger adults
- Adults with lower education compared with college graduates
- Adults with lower annual household incomes compared with adults in higher annual household income groups
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who were diagnosed with arthritis did not differ significantly by race/ethnicity groups.

Percentage of Adults Ages 18 Years and Older Diagnosed With Some Form of Arthritis, Rheumatoid Arthritis, Gout, Lupus or Fibromyalgia, KS BRFSS 2017

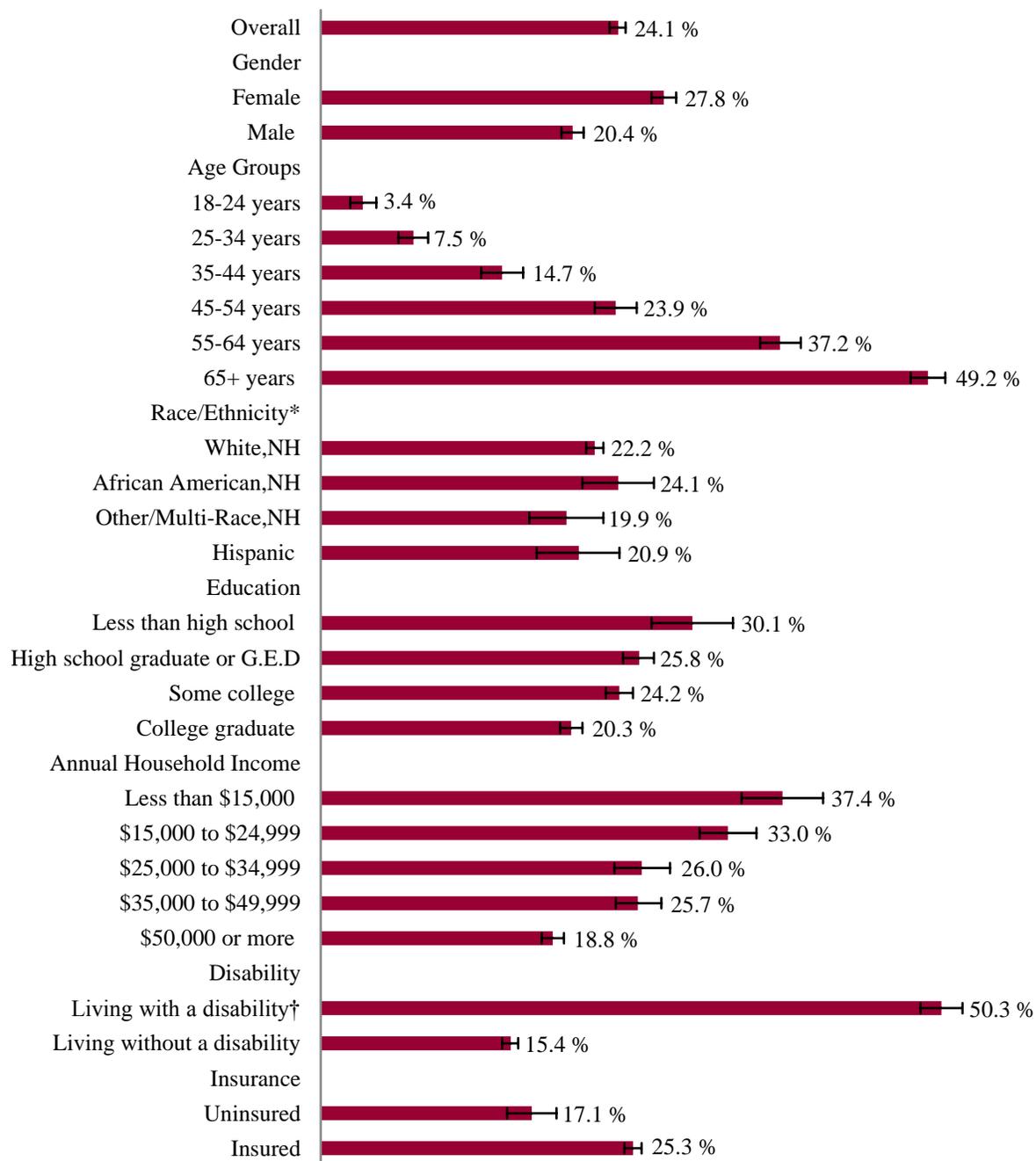
Demographic Characteristics	Weighted Percentage	95% CI
Overall	24.1	23.5-24.8
Gender		
Female	27.8	26.8-28.8
Male	20.4	19.5-21.3
Age Groups		
18-24 years	3.4	2.3-4.4
25-34 years	7.5	6.3-8.7
35-44 years	14.7	13.0-16.4
45-54 years	23.9	22.2-25.6
55-64 years	37.2	35.5-38.8
65+ years	49.2	47.8-50.6
Race/Ethnicity*		
White, NH	22.2	21.5-22.9
African-American, NH	24.1	21.2-27.0
Other/Multi-Race, NH	19.9	16.9-22.9
Hispanic	20.9	17.6-24.3
Education		
Less than high school	30.1	26.8-33.4
High school graduate or G.E.D	25.8	24.6-27.1
Some college	24.2	23.1-25.3
College graduate	20.3	19.4-21.2
Annual Household Income		
Less than \$15,000	37.4	34.1-40.7
\$15,000 to \$24,999	33.0	30.7-35.3
\$25,000 to \$34,999	26.0	23.7-28.2
\$35,000 to \$49,999	25.7	23.8-27.5
\$50,000 or more	18.8	17.9-19.7
Disability		
Living with a disability†	50.3	48.6-52.0
Living without a disability	15.4	14.8-16.1
Insurance		
Uninsured	17.1	15.1-19.1
Insured	25.3	24.6-26.0

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Diagnosed With Some Form of Arthritis, Rheumatoid Arthritis, Gout, Lupus, or Fibromyalgia, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

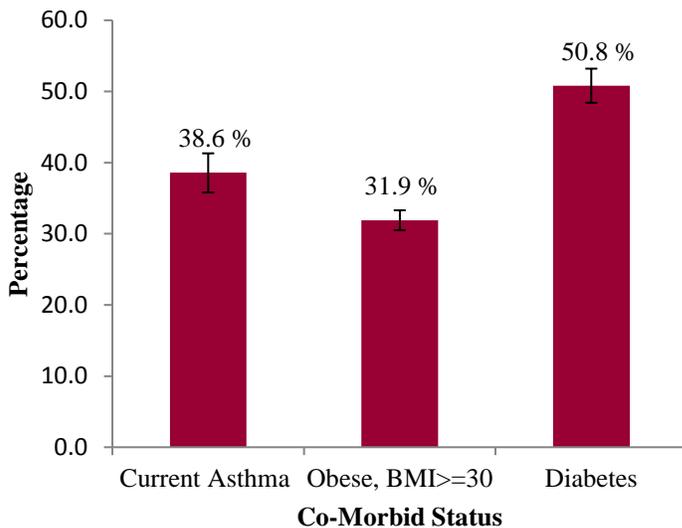
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Diagnosed With Some Form of Arthritis, Rheumatoid Arthritis, Gout, Lupus or Fibromyalgia by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	38.6	35.8-41.3
	No	22.6	21.9-23.3
Weight			
	Normal or Underweight, BMI<25	17.9	16.8-19.0
	Overweight, 25<= BMI<30	23.6	22.5-24.8
	Obese, BMI>=30	31.9	30.5-33.3
Diabetes			
	Yes	50.8	48.4-53.2
	No	21.0	20.4-21.7

Percentage of Adults Ages 18 Years and Older Diagnosed With Some Form of Arthritis, Rheumatoid Arthritis, Gout, Lupus, or Fibromyalgia, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who were diagnosed with arthritis was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults who were obese or overweight compared with those who were normal weight or underweight
- Adults who were obese compared with those who were overweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 24.1 percent of Kansas adults ages 18 years and older have been diagnosed with arthritis. In addition, higher percentages of adults who have ever been diagnosed with arthritis were seen among: females, older adults, those with lower education, those with a lower annual household income, those with insurance, those with co-morbid conditions (current asthma, diabetes or obesity) and those living with a disability.

To address high prevalence of arthritis and associated disparities in population subgroups, further public health efforts are needed in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Hypertension

A major modifiable risk factor for heart disease and stroke is hypertension.²⁹ Adults with hypertension are at higher risk for first heart attack, first stroke, chronic (long lasting) heart failure and kidney disease.³⁰ The Healthy People 2020 goal is to reduce the proportion of adults with hypertension.

In 2017, about 1 in 3 Kansas adults ages 18 years and older had ever been diagnosed with hypertension. The percentage of Kansas adults ages 18 years and older who were ever diagnosed with hypertension was significantly **higher** among:

- Males compared with females
- Older adults compared with younger adults
- Non-Hispanic African-Americans compared with all other race/ethnicity groups (age-adjusted prevalence).
- Adults with less than some college education compared with adults with some college or more education
- Adults with an annual household income less than \$15,000 compared with adults with an annual household income of \$35,000 or more; and adults with an annual household income less than \$50,000 compared with adults with an annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

Percentage of Adults Ages 18 Years and Older With Diagnosed Hypertension KS BRFSS 2017

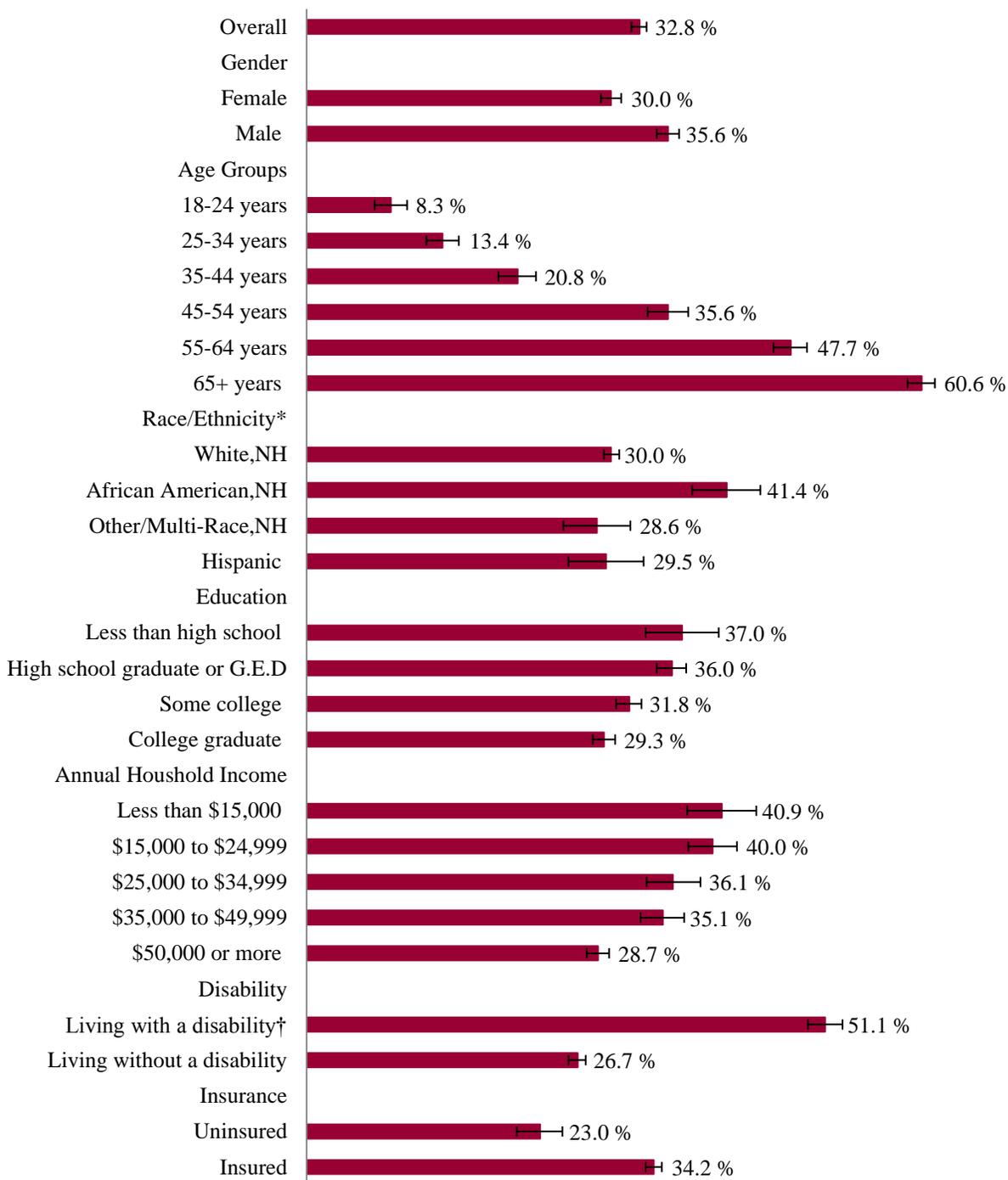
Demographic Characteristics	Weighted Percentage	95% CI
Overall	32.8	32.0-33.5
Gender		
Female	30.0	29.0-31.0
Male	35.6	34.5-36.7
Age Groups		
18-24 years	8.3	6.7-9.9
25-34 years	13.4	11.8-15.0
35-44 years	20.8	18.9-22.6
45-54 years	35.6	33.6-37.6
55-64 years	47.7	46.0-49.3
65+ years	60.6	59.2-61.9
Race/Ethnicity*		
White, NH	30.0	29.3-30.8
African-American, NH	41.4	38.0-44.7
Other/Multi-Race, NH	28.6	25.3-31.9
Hispanic	29.5	25.8-33.2
Education		
Less than high school	37.0	33.4-40.6
High school graduate or G.E.D	36.0	34.5-37.4
Some college	31.8	30.5-33.0
College graduate	29.3	28.2-30.4
Annual Household Income		
Less than \$15,000	40.9	37.5-44.3
\$15,000 to \$24,999	40.0	37.6-42.4
\$25,000 to \$34,999	36.1	33.5-38.8
\$35,000 to \$49,999	35.1	32.9-37.2
\$50,000 or more	28.7	27.6-29.8
Disability		
Living with a disability†	51.1	49.4-52.8
Living without a disability	26.7	25.8-27.5
Insurance		
Uninsured	23.0	20.7-25.2
Insured	34.2	33.4-35.0

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Hypertension, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

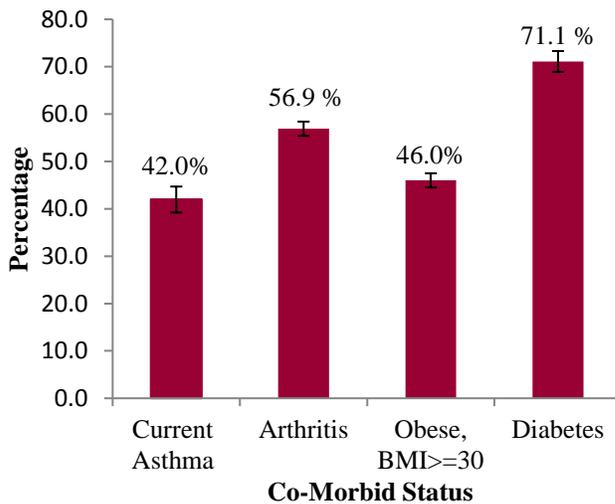
Percentage of Adults Ages 18 Years and Older With Diagnosed Hypertension by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	42.0	39.2-44.7
	No	31.8	31.0-32.6
Arthritis	Yes	56.9	55.4-58.4
	No	25.0	24.2-25.8
Weight	Normal or Underweight, BMI<25	20.8	19.6-22.0
	Overweight, 25<= BMI<30	33.7	32.4-35.1
	Obese, BMI>=30	46.0	44.5-47.5
Diabetes	Yes	71.1	68.9-73.3
	No	28.3	27.5-29.0

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with hypertension was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were overweight compared with those who were normal/underweight
- Adults who were obese compared with those who were normal weight/underweight and those who were overweight
- Adults with diabetes compared with those without diabetes

Percentage of Adults Ages 18 Years and Older With Diagnosed Hypertension, by Co-Morbid Conditions, KS BRFSS 2017



SUMMARY

About 32.8 percent of Kansas adults ages 18 years and older have ever been diagnosed with hypertension. In addition, higher percentages of adults who have ever been diagnosed with hypertension were seen among: males, older adults, non-Hispanic African-Americans, adults with less than some college education, adults with an annual household income of less than \$15,000, adults with insurance, those with co-morbid conditions (current asthma, arthritis, diabetes, obesity) and those living with a disability.

The Healthy People 2020 objective is to reduce the proportion of adults with hypertension to 26.9 percent. Further public health efforts are needed to reach the objective and to address disparities in population subgroups in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Cholesterol Test

Cholesterol is a waxy, fatty substance that the human body needs, but too much cholesterol can cause build up in the artery walls.³¹ There are no signs and symptoms of high cholesterol, therefore getting your blood checked is the only way to know.³² High cholesterol increases the risk for heart disease and stroke—two leading causes of death.^{R6} The Healthy People 2020 goal is to increase the proportion of adults who have had their blood cholesterol checked with the preceding 5 years.

In 2017, approximately 1 in 7 Kansas adults ages 18 years and older did not have their cholesterol checked within the past 5 years. The percentage of Kansas adults ages 18 years and older who did not have their cholesterol checked within the past 5 years was significantly **higher** among:

- Males compared with females
- Younger adults compared with older adults
- Adults with lower education compared with adults with higher education
- Adults with income lower than \$35,000 compared with adults with income \$35,000 or higher; Adults with income lower than \$50,000 compared with adults with income \$50,000 or higher
- Adults living without a disability compared with adults living with a disability
- Adults with no insurance compared with adults with insurance

The percentage of Kansas adults ages 18 years and older who did not have their cholesterol checked within the past 5 years did not differ significantly by race/ethnicity groups.

Percentage of Adults Ages 18 Years and Older Who Did Not Have Their Cholesterol Checked Within the Past 5 Years, KS BRFSS 2017 ‡

Demographic Characteristics	Weighted Percentage	95% CI
Overall	15.2	14.5-15.9
Gender		
Female	13.6	12.7-14.6
Male	16.9	15.8-17.9
Age Groups		
18-24 years	39.9	36.5-43.3
25-34 years	27.4	25.1-29.6
35-44 years	16.6	14.7-18.5
45-54 years	10.1	8.8-11.3
55-64 years	7.1	6.2-8.0
65+ years	3.5	2.9-4.0
Race/Ethnicity*		
White, NH	17.8	16.9-18.7
African-American, NH	14.3	11.0-17.7
Other/Multi-Race, NH	16.7	13.3-20.1
Hispanic	15.3	12.5-18.2
Education		
Less than high school	22.0	18.4-25.6
High school graduate or G.E.D	18.5	17.1-19.9
Some college	16.2	15.0-17.4
College graduate	9.1	8.3-9.9
Annual Household Income		
Less than \$15,000	22.7	19.3-26.0
\$15,000 to \$24,999	19.2	16.8-21.5
\$25,000 to \$34,999	21.9	19.0-24.9
\$35,000 to \$49,999	14.8	13.0-16.7
\$50,000 or more	10.7	9.9-11.6
Disability		
Living with a disability†	11.2	9.9-12.5
Living without a disability	16.3	15.4-17.2
Insurance		
Uninsured	36.3	33.3-39.2
Insured	12.5	11.8-13.2

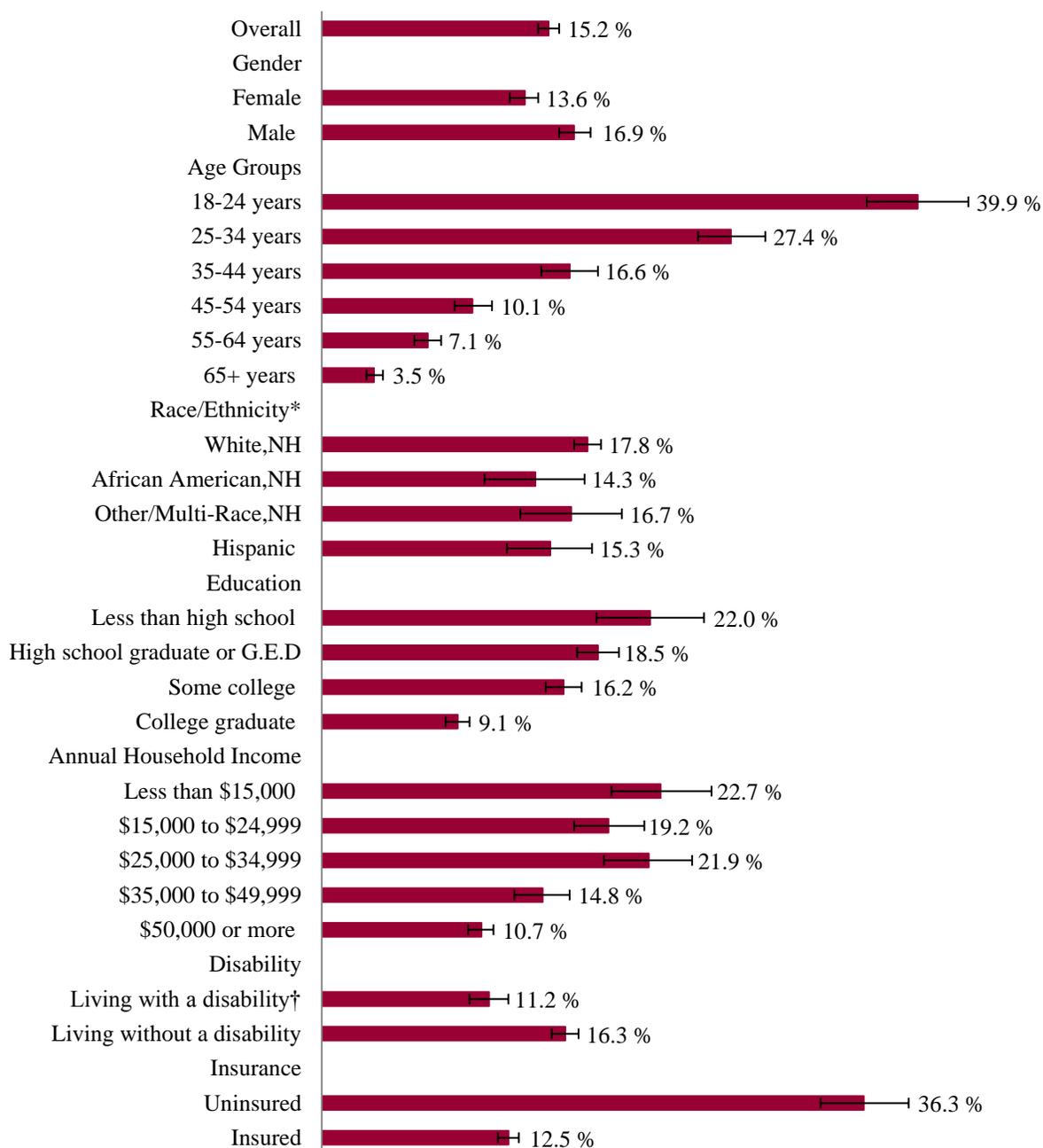
*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Did Not Have Their Cholesterol Checked Within the Past 5 Years, KS BRFSS 2017 ‡



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

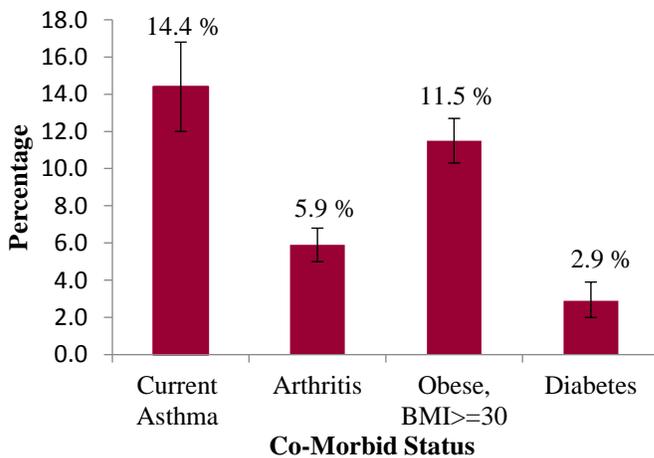
Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Did Not Have Their Cholesterol Checked Within the Past 5 Years by Co-Morbid Conditions, KS BRFSS 2017‡

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	14.4	12.0-16.8
	No	15.3	14.6-16.1
Arthritis			
	Yes	5.9	5.0-6.8
	No	18.4	17.5-19.3
Weight			
	Normal or Underweight, BMI<25	19.9	18.4-21.4
	Overweight, 25<= BMI<30	13.9	12.7-15.0
	Obese, BMI>=30	11.5	10.3-12.7
Diabetes			
	Yes	2.9	2.0-3.9
	No	16.7	16.0-17.5

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

Percentage of Adults Ages 18 Years and Older Who Did Not Have Their Cholesterol Checked Within the Past 5 Years, by Co-Morbid Conditions, KS BRFSS 2017‡



‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

The percentage of Kansas adults ages 18 years old and older who did not have their cholesterol checked within the past 5 years was significantly **higher** among:

- Adults without arthritis compared with those with arthritis
- Adults who were normal/underweight compared with those who were overweight or obese
- Adults without diabetes compared with those with diabetes

The percentage of Kansas adults ages 18 years and older who did not have their cholesterol checked within the past 5 years did not differ significantly by current asthma status.

SUMMARY

Approximately 15.2 percent of Kansas adults ages 18 years old and older did not have their cholesterol checked within the past 5 years. In addition, higher percentages of adults who did not have their cholesterol checked within the past 5 years were seen among: males, younger adults, those with lower education, adults with lower annual household income, uninsured adults, those without co-morbid conditions (arthritis, diabetes, obesity/overweight) adults and adults living without a disability.

The Healthy People 2020 objective is to increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years. Further public health efforts are needed to increase the prevalence of cholesterol testing among adults ages 18 years and older to reach this objective in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: High Cholesterol

High blood cholesterol puts a person at twice the risk for developing heart disease,³³ which was the leading cause of death in Kansas in 2017.³⁴ The Healthy People 2020 goal for high blood cholesterol is to reduce the proportion of adults with high total blood cholesterol levels.

In 2017, approximately 1 in 3 Kansas adults ages 18 years and older had ever been tested and diagnosed with high cholesterol. The percentage of Kansas adults ages 18 years and older who were ever tested and diagnosed with high cholesterol was significantly **higher** among:

- Older adults compared with younger adults
- Adults with lower than \$50,000 annual household incomes compared with adults with an annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who were ever tested and diagnosed with high cholesterol did not differ significantly by gender, race/ethnicity (age-adjusted prevalence) or education groups.

Percentage of Adults Ages 18 Years and Older Tested and Diagnosed With High Cholesterol, KS BRFSS 2017 ‡

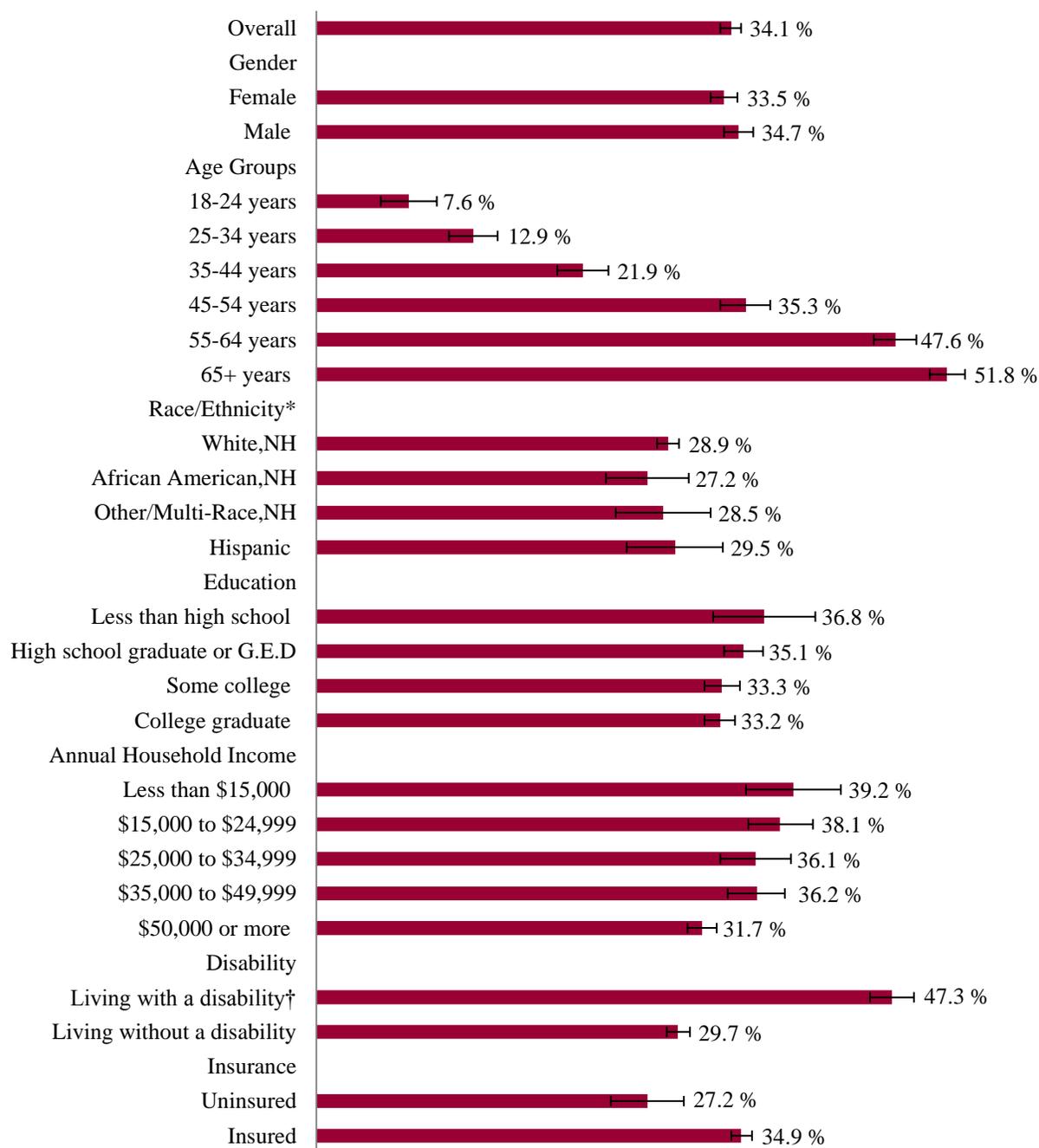
Demographic Characteristics	Weighted Percentage	95% CI
Overall	34.1	33.2-34.9
Gender		
Female	33.5	32.4-34.6
Male	34.7	33.5-35.9
Age Groups		
18-24 years	7.6	5.3-9.9
25-34 years	12.9	10.9-14.9
35-44 years	21.9	19.8-24.0
45-54 years	35.3	33.2-37.3
55-64 years	47.6	45.8-49.3
65+ years	51.8	50.4-53.3
Race/Ethnicity*		
White, NH	28.9	28.0-29.8
African-American, NH	27.2	23.8-30.6
Other/Multi-Race, NH	28.5	24.6-32.4
Hispanic	29.5	25.5-33.4
Education		
Less than high school	36.8	32.6-41.0
High school graduate or G.E.D	35.1	33.5-36.7
Some college	33.3	31.9-34.8
College graduate	33.2	31.9-34.4
Annual Household Income		
Less than \$15,000	39.2	35.3-43.1
\$15,000 to \$24,999	38.1	35.5-40.8
\$25,000 to \$34,999	36.1	33.2-39.0
\$35,000 to \$49,999	36.2	33.8-38.5
\$50,000 or more	31.7	30.5-32.9
Disability		
Living with a disability†	47.3	45.5-49.1
Living without a disability	29.7	28.8-30.7
Insurance		
Uninsured	27.2	24.2-30.2
Insured	34.9	34.1-35.8

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

Percentage of Adults Ages 18 Years and Older Tested and Diagnosed With High Cholesterol, KS BRFSS 2017 ‡



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

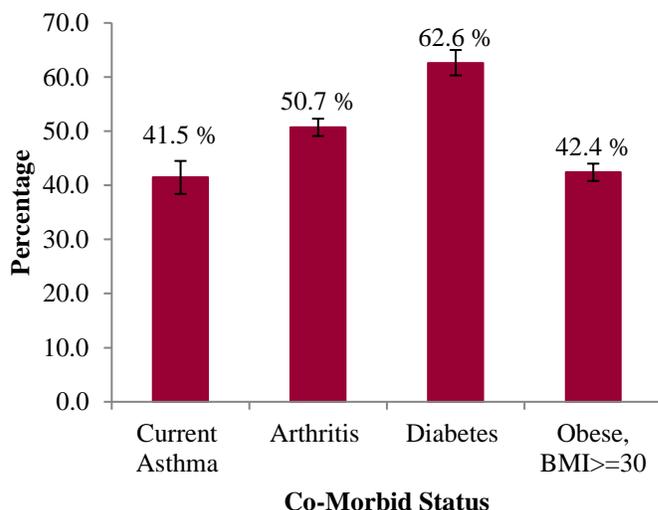
Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Tested and Diagnosed With High Cholesterol by Co-Morbid Conditions, KS BRFSS 2017‡

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	41.5	38.4-44.5
No	33.4	32.5-34.2
Arthritis		
Yes	50.7	49.1-52.3
No	27.8	26.8-28.7
Weight		
Normal or Underweight, BMI<25	24.2	22.8-25.6
Overweight, 25<= BMI<30	35.5	34.0-36.9
Obese, BMI>=30	42.4	40.8-44.0
Diabetes		
Yes	62.6	60.3-65.0
No	30.1	29.2-30.9

‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

Percentage of Adults Aged 18 Years and Older Tested Diagnosed with High Cholesterol by Co-Morbid Conditions, KS BRFSS 2017 ‡



‡In 2017, the cholesterol questions have been modified for all states. Please refer to Technical Notes for more information.

The percentage of Kansas adults ages 18 years and older who were ever tested and diagnosed with high cholesterol was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were overweight compared with those who were normal/underweight
- Adults who were obese compared with those who were overweight or normal/underweight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 34.1 percent of Kansas adults ages 18 years and older have ever been tested and diagnosed with high cholesterol. In addition, higher percentages of adults who have ever been diagnosed with high cholesterol were seen among: older adults, adults with lower annual household income, those with insurance, and those with chronic health conditions (current asthma, arthritis, diabetes, overweight or obesity) and those living with a disability.

The Healthy People 2020 goal for high blood cholesterol is to reduce the proportion of adults with high total blood cholesterol levels. Therefore, to reduce prevalence of high cholesterol among adults ages 18 years old and older and to address associated disparities, further public health efforts are needed in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Heart Disease

In 2017, the leading cause of death among Kansans was heart disease.³⁴ Heart disease refers to several different types of heart conditions, the most common being coronary artery disease.³⁵ Coronary artery disease can cause heart attacks, angina and heart failure.³⁶ In the U.S., coronary heart disease costs \$108.9 billion each year.³⁷ One Healthy People 2020 goal for heart disease is to increase overall cardiovascular health in the U.S. population.

In 2017, approximately 1 in 25 Kansas adults ages 18 years and older had ever been diagnosed with heart disease. The percentage of Kansas adults ages 18 years and older that had ever been diagnosed with heart disease was significantly **higher** among:

- Males compared with females
- Older adults compared with younger adults
- Adults with less than a high school education or were high school graduates/obtained a GED compared with college graduates
- Adults with an annual household income of less than \$50,000 compared with adults with an annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who had ever been diagnosed with heart disease did not differ significantly by race/ethnicity groups (age-adjusted prevalence).

Percentage of Adults Ages 18 Years and Older With Diagnosed Heart Disease, KS BRFSS 2017

Demographic Characteristics	Weighted Percentage	95% CI
Overall	4.0	3.7-4.3
Gender		
Female	3.3	2.9-3.6
Male	4.7	4.3-5.1
Age Groups		
18-24 years	**	**
25-34 years	0.5	0.1-0.9
35-44 years	0.9	0.5-1.2
45-54 years	2.8	2.0-3.5
55-64 years	6.2	5.4-7.0
65+ years	11.1	10.2-12.0
Race/Ethnicity*		
White, NH	3.4	3.1-3.6
African-American, NH	4.8	3.2-6.5
Other/Multi-Race, NH	3.9	2.6-5.3
Hispanic	2.8	1.4-4.2
Education		
Less than high school	5.5	4.1-6.9
High school graduate or G.E.D	4.5	4.0-5.1
Some college	3.6	3.2-4.1
College graduate	3.3	2.9-3.7
Annual Household Income		
Less than \$15,000	5.7	4.3-7.1
\$15,000 to \$24,999	6.2	5.2-7.3
\$25,000 to \$34,999	4.0	3.2-4.9
\$35,000 to \$49,999	4.6	3.8-5.4
\$50,000 or more	2.7	2.4-3.0
Disability		
Living with a disability†	9.3	8.4-10.1
Living without a disability	2.2	2.0-2.4
Insurance		
Uninsured	1.7	1.1-2.3
Insured	4.3	4.0-4.6

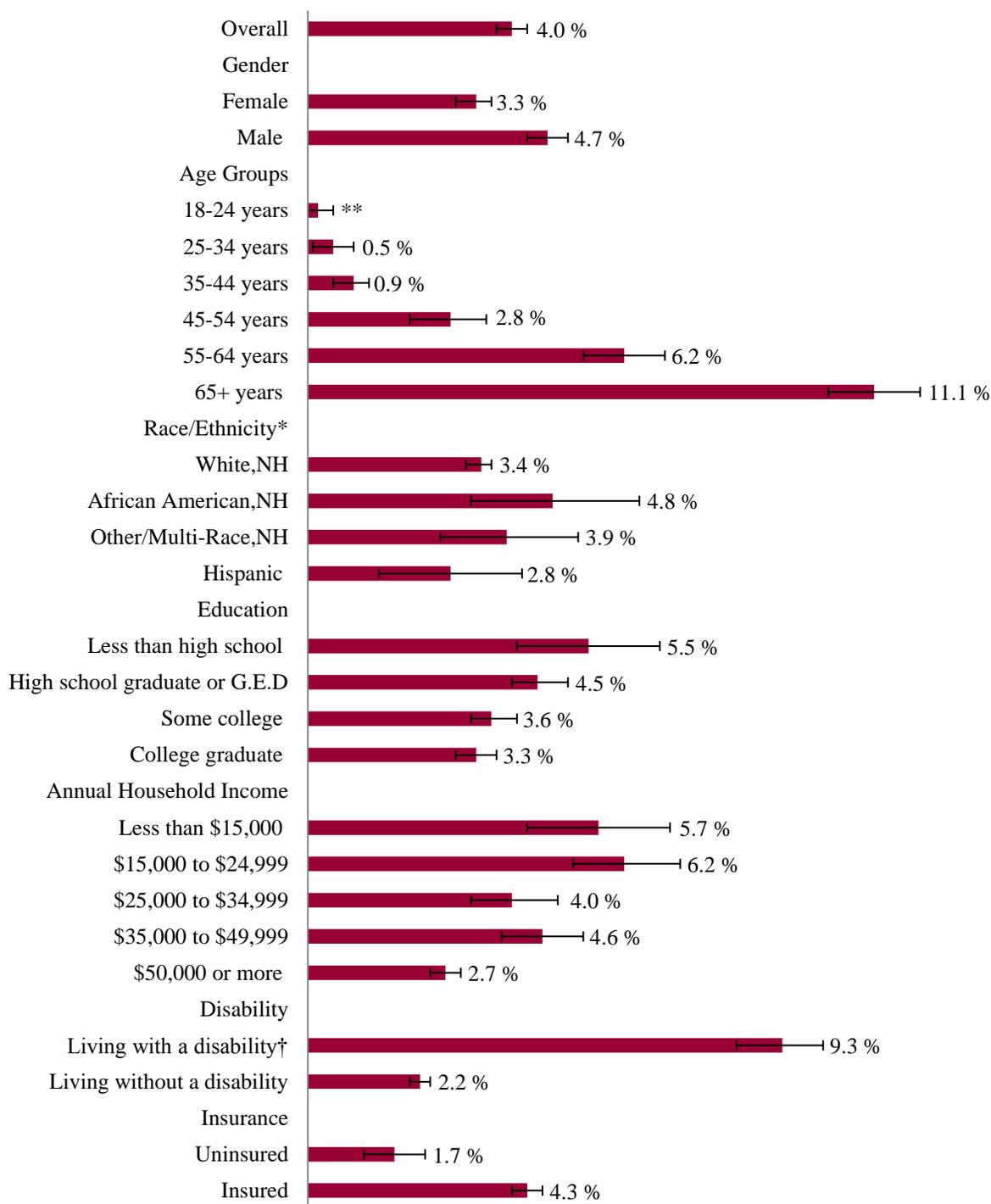
** Insufficient sample and/or statistically unreliable estimate.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Heart Disease, KS BRFSS 2017



** Insufficient sample and/or statistically unreliable estimate

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

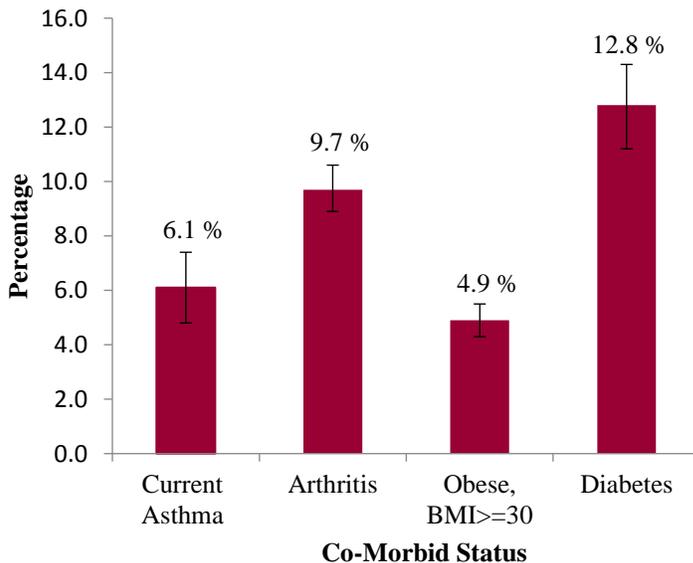
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

**Percentage of Adults Ages 18 Years and Older
With Diagnosed Heart Disease by
Co-Morbid Conditions, KS BRFSS 2017**

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma	Yes	6.1	4.8-7.4
	No	3.8	3.5-4.1
Arthritis	Yes	9.7	8.9-10.6
	No	2.1	1.9-2.4
Weight	Normal or Underweight, BMI<25	2.9	2.5-3.4
	Overweight, 25<= BMI<30	4.5	4.0-5.0
	Obese, BMI>=30	4.9	4.3-5.5
Diabetes	Yes	12.8	11.2-14.3
	No	3.0	2.7-3.2

Percentage of Adults Ages 18 Years and Older With Diagnosed Heart Disease, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who were ever diagnosed with heart disease was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were overweight compared with those who were normal weight or underweight
- Adults who were obese compared with those who were normal weight/underweight
- Adults with diabetes compared with those without diabetes

SUMMARY

About 4.0 percent of Kansas adults ages 18 years and older have ever been diagnosed with heart disease. In addition, higher percentages of adults who have ever been diagnosed with heart disease were seen among: males, older adults, those who had lower education and income, those with co-morbid conditions (current asthma, arthritis, diabetes or obesity) or those living with a disability.

One Healthy People 2020 goal for heart disease is to increase overall cardiovascular health in the U.S. To address this, Kansas needs to reduce prevalence and risk factors of heart disease among adults ages 18 years and older as well as address associated disparities.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Stroke

Stroke, also called cerebrovascular disease, occurs when the blood supply to the brain is abruptly interrupted. It is the fifth leading cause of death in the United States and in Kansas.^{38,34} Stroke is a medical emergency and can lead to permanent disability and death. The Healthy People 2020 goal for stroke is to reduce the stroke deaths.

In 2017, approximately 1 in 34 Kansas adults ages 18 years and older had a stroke. The percentage of Kansas adults ages 18 years and older who had a stroke was significantly **higher** among:

- Older adults compared with younger adults
- Non-Hispanic other/multi-race adults compared with non-Hispanic whites (age-adjusted prevalence)
- Non-Hispanic African-Americans compared with non-Hispanic whites and Hispanics (age-adjusted prevalence)
- Adults with lower education compared with adults in higher education groups
- Adults with annual household income less than \$50,000 compared with adults with an annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability

The percentage of Kansas adults ages 18 years and older who had a stroke did not differ significantly by gender or insurance status.

Percentage of Adults Ages 18 Years and Older Who Had a Stroke, KS BRFSS 2017

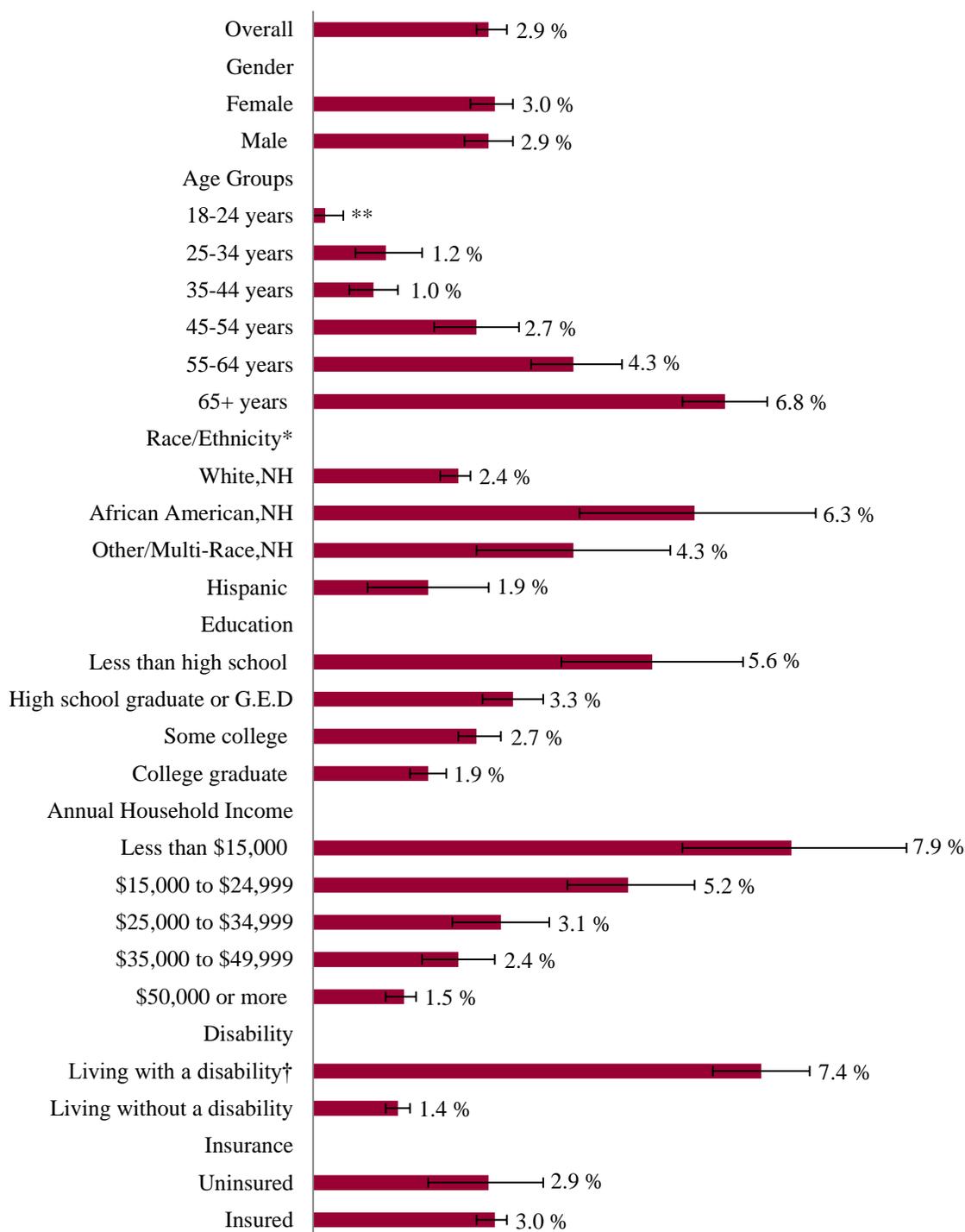
Demographic Characteristics	Weighted Percentage	95% CI
Overall	2.9	2.7-3.2
Gender		
Female	3.0	2.6-3.3
Male	2.9	2.5-3.3
Age Groups		
18-24 years	**	**
25-34 years	1.2	0.7-1.8
35-44 years	1.0	0.6-1.4
45-54 years	2.7	2.0-3.4
55-64 years	4.3	3.6-5.1
65+ years	6.8	6.1-7.5
Race/Ethnicity*		
White, NH	2.4	2.1-2.6
African-American, NH	6.3	4.4-8.3
Other/Multi-Race, NH	4.3	2.7-5.9
Hispanic	1.9	0.9-2.9
Education		
Less than high school	5.6	4.1-7.1
High school graduate or G.E.D	3.3	2.8-3.8
Some college	2.7	2.4-3.1
College graduate	1.9	1.6-2.2
Annual Household Income		
Less than \$15,000	7.9	6.1-9.8
\$15,000 to \$24,999	5.2	4.2-6.3
\$25,000 to \$34,999	3.1	2.3-3.9
\$35,000 to \$49,999	2.4	1.8-3.0
\$50,000 or more	1.5	1.2-1.7
Disability		
Living with a disability†	7.4	6.6-8.2
Living without a disability	1.4	1.2-1.6
Insurance		
Uninsured	2.9	1.9-3.8
Insured	3.0	2.7-3.2

** Insufficient sample and/or statistically unreliable estimate.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Percentage of Adults Ages 18 Years and Older Who Had a Stroke, KS BRFSS 2017



** Insufficient sample and/or statistically unreliable estimate.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older Who Had a Stroke by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	5.4	4.3-6.6
	No	2.7	2.4-2.9
Arthritis			
	Yes	6.5	5.8-7.3
	No	1.8	1.5-2.0
Weight			
	Normal or Underweight, BMI<25	2.6	2.1-3.0
	Overweight, 25<= BMI<30	2.9	2.4-3.3
	Obese, BMI>=30	3.7	3.1-4.2
Diabetes			
	Yes	9.2	7.8-10.6
	No	2.2	2.0-2.4

The percentage of Kansas adults ages 18 years and older who had a stroke was significantly **higher** among:

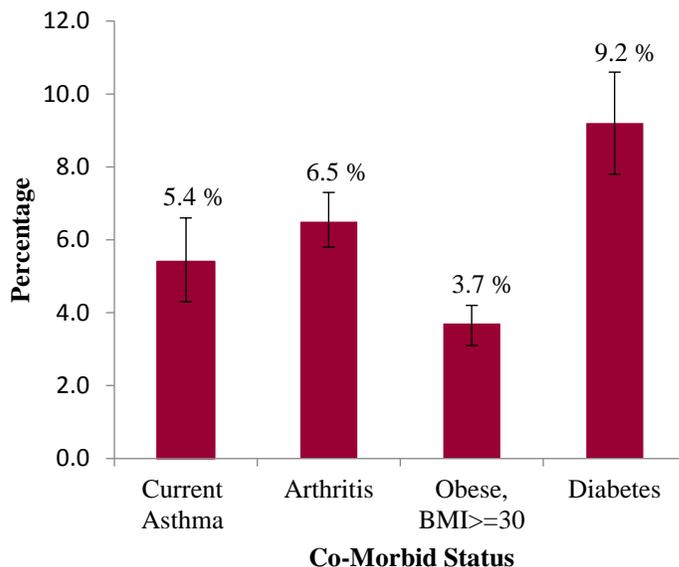
- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults who were obese compared with those who were normal weight or under weight
- Adults with diabetes compared with those without diabetes

SUMMARY

Approximately 2.9 percent of Kansas adults ages 18 years and older had a stroke. In addition, higher percentages of adults who had a stroke were seen among: older adults, non-Hispanic African-Americans, other/multi-racial adults, those with lower education and income, those with co-morbid conditions (current asthma, arthritis, diabetes or obesity) and those living with a disability.

The Healthy People 2020 goal for stroke is to reduce deaths due to stroke. Therefore, to reduce prevalence of stroke among adults ages 18 years and older and to address associated disparities, further public health efforts are needed in Kansas.

Percentage of Adults Ages 18 Years and Older Who Had a Stroke, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Cancer

In 2017, the second leading cause of death among Kansans was cancer.³⁴ Yet, many cancers are preventable by reducing risk factors such as tobacco use, physical inactivity, poor nutrition and obesity.³⁹ It is important to continue to monitor cancer prevalence in Kansas. Healthy People 2020 has several objectives related to reducing the death rate of specific types of cancers, such as lung, uterine cervical, female breast, colorectal and prostate cancer.

In 2017, approximately 1 in 14 Kansas adults ages 18 years and older had ever been diagnosed with cancer (excluding skin cancer). The percentage of Kansas adults ages 18 years and older who were ever diagnosed with cancer (excluding skin cancer) was significantly **higher** among:

- Females compared with males
- Older adults compared with younger adults
- Adults with an annual household income of less than \$25,000 compared with adults with an annual household income of \$50,000 or more
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with cancer (excluding skin cancer) did not differ significantly by race/ethnicity groups (age-adjusted) or education groups.

Percentage of Adults Ages 18 Years and Older With Diagnosed Cancer, KS BRFSS 2017

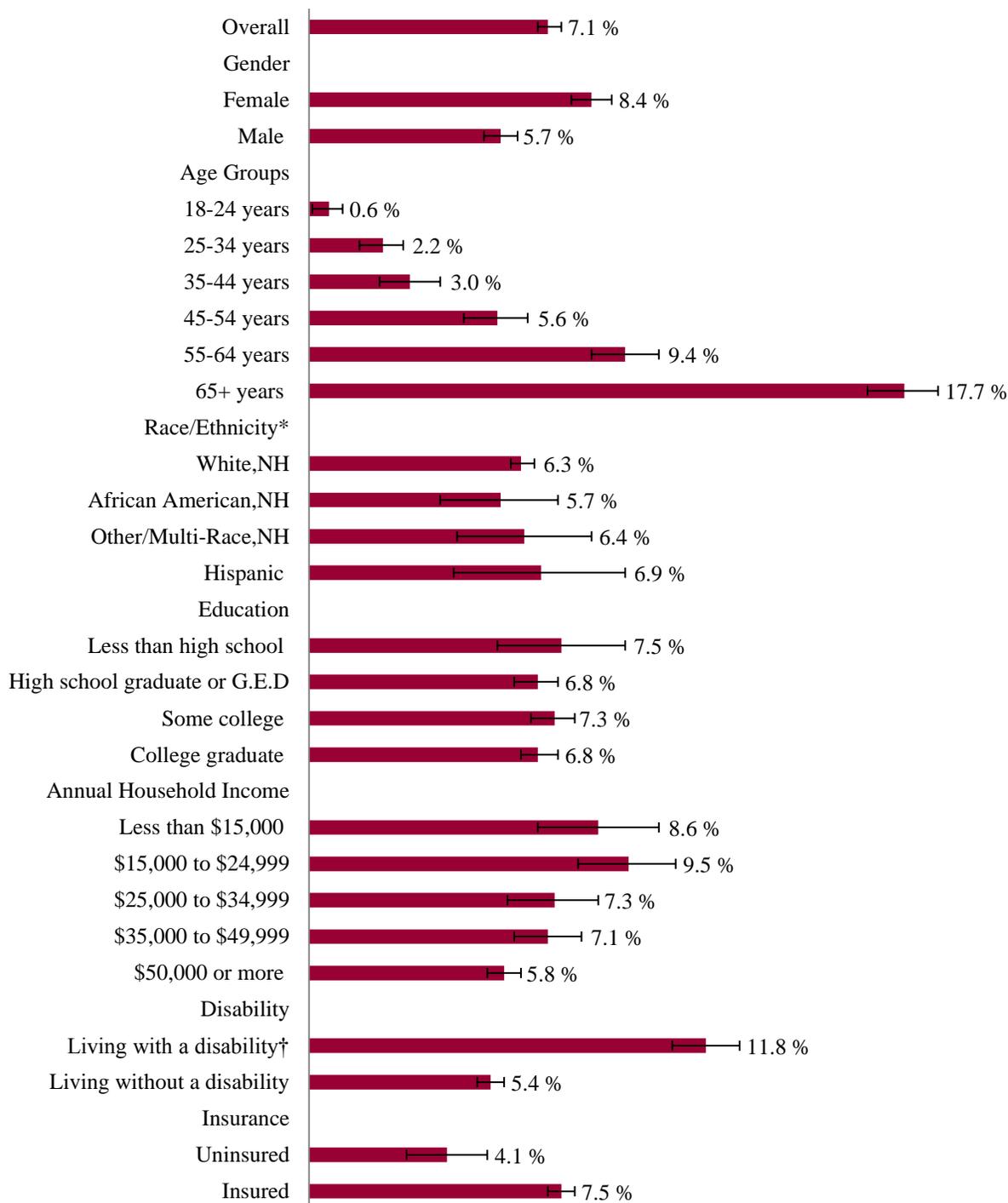
Demographic Characteristics	Weighted Percentage	95% CI
Overall	7.1	6.7-7.4
Gender		
Female	8.4	7.8-9.0
Male	5.7	5.2-6.2
Age Groups		
18-24 years	0.6	0.2-1.1
25-34 years	2.2	1.6-2.9
35-44 years	3.0	2.1-3.9
45-54 years	5.6	4.7-6.6
55-64 years	9.4	8.4-10.4
65+ years	17.7	16.7-18.8
Race/Ethnicity*		
White, NH	6.3	5.9-6.6
African-American, NH	5.7	4.0-7.5
Other/Multi-Race, NH	6.4	4.4-8.4
Hispanic	6.9	4.4-9.5
Education		
Less than high school	7.5	5.6-9.4
High school graduate or G.E.D	6.8	6.2-7.5
Some college	7.3	6.7-8.0
College graduate	6.8	6.2-7.3
Annual Household Income		
Less than \$15,000	8.6	6.8-10.4
\$15,000 to \$24,999	9.5	8.1-11.0
\$25,000 to \$34,999	7.3	6.0-8.7
\$35,000 to \$49,999	7.1	6.1-8.1
\$50,000 or more	5.8	5.3-6.3
Disability		
Living with a disability†	11.8	10.8-12.8
Living without a disability	5.4	5.0-5.8
Insurance		
Uninsured	4.1	2.9-5.3
Insured	7.5	7.1-7.9

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Cancer, KS BRFSS 2017



*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

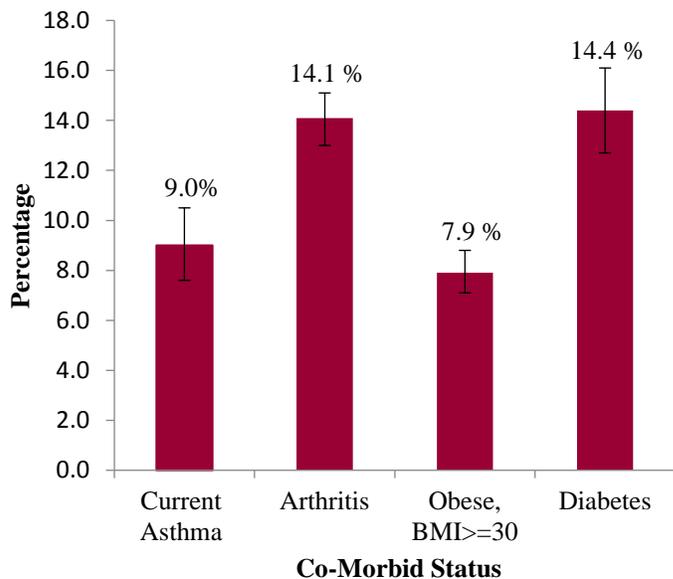
†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Cancer by Co-Morbid Conditions, KS BRFSS 2017

Co-Morbid Conditions	Weighted Percentage	95% CI
Current Asthma		
Yes	9.0	7.6-10.5
No	6.8	6.5-7.2
Arthritis		
Yes	14.1	13.0-15.1
No	4.8	4.5-5.2
Weight		
Normal or Underweight, BMI<25	6.5	5.9-7.2
Overweight, 25<= BMI<30	7.2	6.6-7.8
Obese, BMI>=30	7.9	7.1-8.8
Diabetes		
Yes	14.4	12.7-16.1
No	6.2	5.8-6.6

Percentage of Adults Ages 18 Years and Older With Diagnosed Cancer, by Co-Morbid Conditions, KS BRFSS 2017



The percentage of Kansas adults ages 18 years and older who were ever diagnosed with cancer (excluding skin cancer) was significantly **higher** among:

- Adults with current asthma compared with those without current asthma
- Adults with arthritis compared with those without arthritis
- Adults with diabetes compared with those without diabetes

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with cancer (excluding skin cancer) did not differ significantly by weight category.

SUMMARY

Approximately 7.1 percent of Kansas adults ages 18 years and older have ever been diagnosed with cancer (excluding skin cancer). In addition, higher percentages of adults who have ever been diagnosed with cancer (excluding skin cancer) were seen among: females, older adults, adults with lower income, those with insurance, adults with co-morbid conditions (current asthma, arthritis or diabetes) and those living with a disability.

To reduce prevalence of cancer among adults ages 18 years and older and to address associated disparities, further public health efforts are needed in Kansas.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Chronic Health Conditions: Skin Cancer

In the U.S., the most common type of cancer is skin cancer.⁴⁰ The deadliest kind of skin cancer is melanoma and is caused by exposure to ultraviolet (UV) light.⁴¹ Therefore, it is important to reduce UV exposure and track the prevalence of skin cancer. The Healthy People 2020 goals for skin cancer are to reduce the melanoma cancer death rate and to increase the proportions of people who participate in behaviors that reduce their exposure to harmful UV irradiation and avoid sunburn.

In 2017, approximately 1 in 16 Kansas adults ages 18 years and older had ever been diagnosed with skin cancer. The percentage of Kansas adults ages 18 years and older who were ever diagnosed with skin cancer was significantly **higher** among:

- Older adults compared with younger adults
- Non-Hispanic whites compared with non-Hispanic other/multi-race adults (age-adjusted prevalence)
- Adults who are college graduates compared with adults with less education than college graduate
- Adults with an annual household income of \$35,000 or more compared with adults with an annual household income less than \$15,000
- Adults living with a disability compared with adults living without a disability
- Adults with insurance compared with adults with no insurance

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with skin cancer did not differ significantly by gender.

Percentage of Adults Ages 18 Years and Older With Diagnosed Skin Cancer, KS BRFSS 2017

Demographic Characteristics	Weighted Percentage	95% CI
Overall	6.3	5.9-6.6
Gender		
Female	5.9	5.4-6.3
Male	6.7	6.2-7.2
Age Groups		
18-24 years	**	**
25-34 years	0.7	0.4-1.1
35-44 years	1.5	1.0-2.0
45-54 years	3.9	3.2-4.7
55-64 years	9.2	8.3-10.2
65+ years	18.0	17.0-19.0
Race/Ethnicity*		
White, NH	6.0	5.7-6.3
African-American, NH	**	**
Other/Multi-Race, NH	2.6	1.5-3.7
Hispanic	**	**
Education		
Less than high school	4.6	3.4-5.9
High school graduate or G.E.D	5.8	5.2-6.3
Some college	5.9	5.4-6.4
College graduate	7.8	7.2-8.4
Annual Household Income		
Less than \$15,000	4.4	3.3-5.5
\$15,000 to \$24,999	5.9	5.0-6.9
\$25,000 to \$34,999	5.6	4.6-6.5
\$35,000 to \$49,999	6.5	5.6-7.4
\$50,000 or more	6.7	6.2-7.2
Disability		
Living with a disability†	10.0	9.2-10.8
Living without a disability	5.1	4.8-5.5
Insurance		
Uninsured	1.9	1.3-2.4
Insured	6.9	6.6-7.3

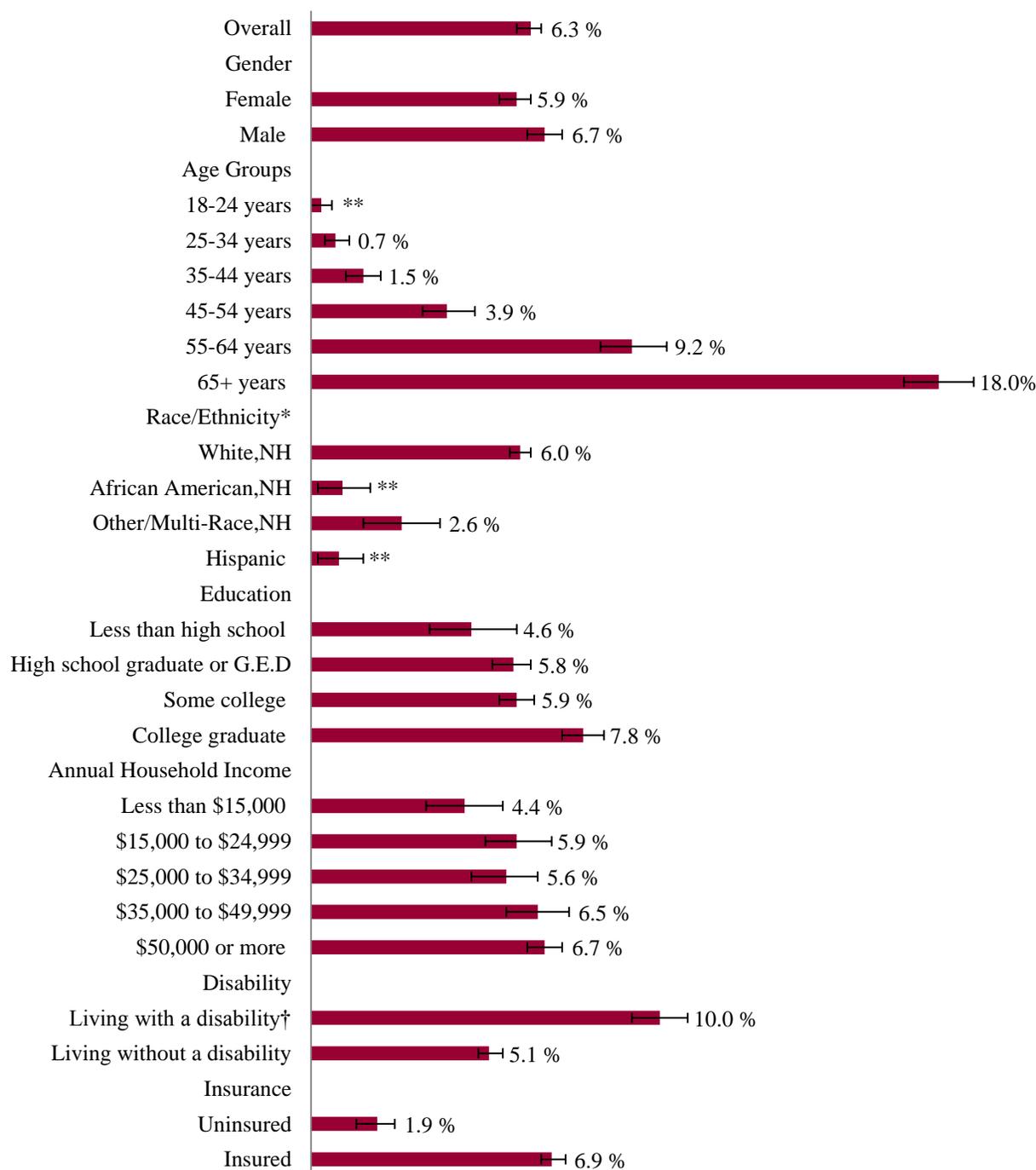
** Insufficient sample and/or statistically unreliable estimate.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Percentage of Adults Ages 18 Years and Older With Diagnosed Skin Cancer, KS BRFSS 2017



** Insufficient sample and/or statistically unreliable estimate.

*Prevalence estimates for race and ethnicity were age-adjusted to the U.S. 2000 standard population.

†Living with a disability: Respondents who have at least one of the six disability types (hearing, vision, cognition, mobility, self-care, and/or independent living).

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

**Percentage of Adults Ages 18 Years and Older
With Diagnosed Skin Cancer
by Co-Morbid Conditions, KS BRFSS 2017**

Co-Morbid Conditions		Weighted Percentage	95% CI
Current Asthma			
	Yes	6.6	5.4-7.8
	No	6.2	5.9-6.6
Arthritis			
	Yes	12.4	11.5-13.3
	No	4.3	4.0-4.6
Weight			
	Normal or Underweight, BMI<25	6.2	5.7-6.8
	Overweight, 25<= BMI<30	7.3	6.7-7.9
	Obese, BMI>=30	5.8	5.2-6.3
Diabetes			
	Yes	11.2	9.9-12.4
	No	5.7	5.4-6.0

The percentage of Kansas adults ages 18 years and older who were ever diagnosed with skin cancer was significantly **higher** among:

- Adults with arthritis compared with those without arthritis
- Adults who were overweight compared with those who were obese
- Adults with diabetes compared with those without diabetes

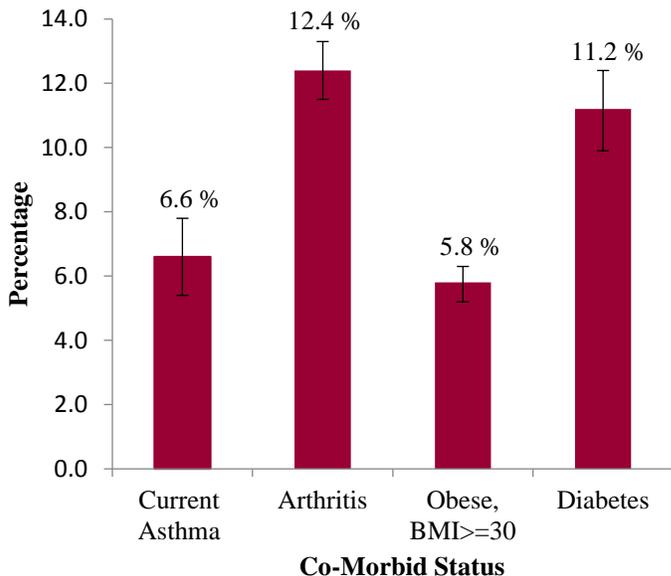
The percentage of Kansas adults ages 18 years and older who were ever diagnosed with skin cancer did not differ significantly by current asthma status.

SUMMARY

Approximately 6.3 percent of Kansas adults ages 18 years and older have ever been diagnosed with skin cancer. In addition, higher percentages of adults who have ever been diagnosed with skin cancer were seen among: older adults, non-Hispanic whites, college graduates, adults with higher incomes, those with insurance, adults with co-morbid conditions (arthritis, diabetes or overweight adults) and adults living with a disability.

To reduce prevalence of skin cancer among adults ages 18 years and older and to address associated disparities, further public health efforts are needed in Kansas.

Percentage of Adults Ages 18 Years and Older With Diagnosed Skin Cancer, by Co-Morbid Conditions, KS BRFSS 2017



Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

Technical Notes

Behavioral Risk Factor Surveillance System (BRFSS)

BRFSS is the world's largest annual population-based survey system tracking health conditions and risk behaviors in the United States since 1984. It is coordinated by the Centers for Disease Control and Prevention (CDC) and is conducted in every state and several U.S. territories. The Kansas Department of Health and Environment (KDHE), Bureau of Health Promotion (BHP) conducted the first BRFSS survey in Kansas in 1990 as a point-in-time survey. Since 1992, BHP has conducted the Kansas BRFSS survey annually, thus providing the ability to examine the burden and monitor the trends of various diseases and risk factors/behaviors. BRFSS is the only source of population-based data for several public health indicators in Kansas. The 2017 Kansas BRFSS was conducted among non-institutionalized adults ages 18 years and older living in private residences and college housings with landline and/or cell phone service.

For the 2017 Kansas BRFSS survey, the target total (combined landline and cell phone sample) sample size was 20,000 complete interviews with a target of 7,000 complete interviews for the landline telephone survey component (35% of total sample) and 13,000 complete interviews for the cellular telephone survey component (65% of total sample).

The weighted data analysis was conducted to estimate overall prevalence of the specific indicators in relation to Healthy People 2020 i.e. risk factors, diseases and behaviors among adults ages 18 years and older in Kansas. In addition, when comparing within subgroups to overall prevalence estimates, stratified analyses was done to examine burden of the Healthy People 2020 indicators within different population subgroups based on socio-demographic factors, risk behaviors and co-morbid conditions.

Several considerations should be taken into account when interpreting BRFSS estimates:

- The prevalence estimates from 2017 Kansas BRFSS are representative of non-institutionalized adults ages 18 years and older living in private residences and college housings with landline and/or cell phone service.
- BRFSS estimates do not apply to individuals residing in residences without telephone service and those who reside on military bases, prisons or nursing homes.
- Due to changes in survey design and weighting methodology in 2011, comparisons cannot be made between the prevalence estimates generated for previous years and those generated for 2011, 2012, 2013, 2014, 2015, 2016 and 2017.

For more information on BRFSS methodology, visit www.kdheks.gov/brfss/technotes.html.

In 2017, cholesterol questions and fruits and vegetables were modified for all states. Due to the changes in methodology, we do not advise comparing 2017 findings to the previous modules.

For more information on new fruits and vegetables module: please visit <https://www.cdc.gov/nutrition/data-statistics/using-the-new-BRFSS-modules.html>

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

In 2017 and 2016, a six-item set of questions identify disability in hearing, vision, cognition, mobility, self-care, and independent living for all states. Respondents who responded “yes” to at least one of the six functional disability questions were identified as adults living with a disability.

For more information on disability questions: please visit

https://www.cdc.gov/brfss/data_documentation/pdf/BRFSS_Data_Users_Guide_on_Disability_Questions_2018-508.pdf

Please visit the BRFSS questionnaires below to see the questions on specific topics:

- 2017 Kansas BRFSS: <http://www.kdheks.gov/brfss/PDF/ks2017svy.pdf>
- 2016 Kansas BRFSS: <http://www.kdheks.gov/brfss/PDF/ks2016svy.pdf>
- 2015 Kansas BRFSS: <http://www.kdheks.gov/brfss/PDF/ks2015svy.pdf>

Age-adjustment:

Age-adjustment is a statistical method for standardizing prevalence estimates for groups that have different underlying age distributions thus making them more comparable. Age-adjusted prevalence estimates should be used to compare groups if the underlying population distribution is different or changes over time (for example, comparing estimates for veterans and civilians). Age-adjusted prevalence estimates should be understood as relative indices, not as actual measures of burden, and should not be compared with unadjusted prevalence estimates.

All age-adjusted prevalence estimates in this report are computed using the direct method. Briefly, prevalence estimates are first computed within each age group stratum. The products of each age-specific rate multiplied by the proportion of the 2000 U.S. Standard Population in that age category are summed across the age group strata.

References

1. U.S. Department of Health and Human Services. Access to Health Services. Healthy People 2020 website. 2018. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services> Accessed November 27, 2018.
2. Hoffman C, Paradise J. 2008. Health Insurance and Care in the United States. *Ann N Y Acad Sci.* 1136:149-160.
3. Starfield B, Leiyu S, Macinko J. 2005. Contribution of Primary Care to Health Systems and Health. *The Milbank Quarterly.* 83(3):457-502.
4. Centers for Disease Control and Prevention. Seat Belts: Get the Facts. CDC website. 2018. Available at: <https://www.cdc.gov/motorvehiclesafety/seatbelts/facts.html>. Accessed December 14, 2018.
5. U.S. Department of Health and Human Services. Injury and Violence Prevention. Healthy People 2020 website. 2018. Available at: www.healthypeople.gov/2020/topics-objectives/topic/injury-and-violence-prevention. Accessed December 14, 2018.
6. U.S. Department of Health and Human Services. Immunization and Infectious Diseases. Healthy People 2020 website. 2018. Available at www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases. Accessed December 19, 2018.
7. Centers for Disease Control and Prevention. Key Facts About Seasonal Flu Vaccine. CDC website. 2018. Available at: www.cdc.gov/flu/protect/keyfacts.htm. Accessed December 19, 2018.
8. Centers for Disease Control and Prevention. People at High Risk of Developing Serious Flu-Related Complications. CDC website. 2019. Available at: https://www.cdc.gov/flu/about/disease/high_risk.htm. Accessed January 28, 2019.
9. National Foundation for Infectious Diseases. Pneumococcal Disease. Adult Vaccination website. 2018. Available at: www.adultvaccination.org/vpd/pneumococcal. Accessed December 20, 2018.
10. Centers for Disease Control and Prevention. Overweight & Obesity. CDC website. 2018. Available at: <https://www.cdc.gov/obesity/adult/causes.html>. Accessed December 26, 2018.
11. Office of Disease Promotion and Health Promotion. Physical Activity. Health.gov website. 2018. Available at: <https://health.gov/paguidelines/second-edition/10things/>. Accessed December 27, 2018.
12. Healthy People 2020. Physical Activity-Objectives. 2018. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity/objectives#5072>. Accessed December 27, 2018.
13. Health.gov. Dietary Guidelines 2015-2020:Chapter 1- Key Elements of Healthy Eating Patterns: A Closer Look Inside Healthy Eating Patterns. Health.gov website. 2018. Available at: <https://health.gov/dietaryguidelines/2015/guidelines/chapter-1/a-closer-look-inside-healthy-eating-patterns/>. Accessed December 31, 2018.
14. Health.gov. Dietary Guidelines 2015-2020:Chapter 1- Key Elements of Healthy Eating Patterns: The science Behind Healthy Eating Patterns. Health.gov website. 2018. Available at: <https://health.gov/dietaryguidelines/2015/guidelines/chapter-1/the-science-behind-healthy-eating-patterns/> .Accessed December 31, 2018.
15. Costas A Christophi et al. Prevalence and social environment of cigarette smoking in Cyprus youth. *BMC Public Health.* 2008; 8:190
16. Centers for Disease Control and Prevention. Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004. *Morbidity and Mortality Weekly Report.* 2008; 57(45):1226–1228.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

17. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual Causes of Death in the United States. *JAMA: Journal of the American Medical Association*. 2004; 291(10):1238–1245
18. Centers for Disease Control and Prevention. Smoking & Tobacco Use. CDC website. 2019. Available at: www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/health_effects/index.htm. Accessed January 10, 2019.
19. Centers for Disease Control and Prevention. About Electronic Cigarettes (E-Cigarettes). CDC website. 2018. Available at: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html. Accessed February 04, 2019.
20. Centers for Disease Control and Prevention. Oral Health Conditions. CDC website. 2019. Available at: <https://www.cdc.gov/oralhealth/conditions/index.html>. Accessed March 11, 2019.
21. Centers for Disease Control and Prevention. Oral Health Basics. CDC website. 2019. Available at: <https://www.cdc.gov/oralhealth/basics/index.html>. Accessed March 11, 2019.
22. Courtney KE and Polich J. Binge Drinking in Young Adults: Data, Definitions, and Determinants. *Psychological Bulletin*. 2009 January; 135(1): 142–156.
23. Naimi T, Brewer RD, Mokdad A, et al. Binge Drinking Among U.S. Adults. *JAMA*. 2003; 289(1):70–75.
24. Office of Disease Prevention and Health Promotion. Mental Health. HealthyPeople.gov website. 2019. Available at: <https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Mental-Health>. Accessed February 10, 2019.
25. Centers for Disease Control and Prevention. *National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011.
26. National Institutes of Health, National Heart, Lung, and Blood Institute (NHLBI). *Morbidity and mortality: 2009 chart book on cardiovascular, lung and blood diseases*. Bethesda, MD: NHLBI; 2009 Oct. Available at: https://ecopmc.files.wordpress.com/2012/04/2009_chartbook.pdf. Accessed February 21, 2019.
27. Brault MW, Hootman J, Helmick CG, et al. Prevalence and most common causes of disability among adults, United States, 2005. *MMWR*. 2009;58(16):421-26.
28. Murphy LB, Cisternas MG, Pasta DJ, Helmick CG, Yelin EH. Medical expenditures and earnings losses among US adults with arthritis in 2013. *Arthritis Care Res (Hoboken)*. 2017 September 26. [Epub ahead of print] doi:10.1002/acr.23425
29. Kansas Department of Health and Environment. Risk Factors of Heart Disease and Stroke. KDHE website. 2019. Available at: <http://www.kdheks.gov/cardio/risk.htm>. Accessed March 11, 2019.
30. Mozaffarian D, Benjamin EJ, Go AS, et al. Heart Disease and Stroke Statistics-2015 Update: a report from the American Heart Association. *Circulation*. 2015;e29-322.
31. Centers for Disease Control and Prevention. About Cholesterol. CDC website. 2019. Available at: <https://www.cdc.gov/cholesterol/about.htm>. Accessed March 11, 2019.
32. Centers for Disease Control and Prevention. Cholesterol. CDC website. 2019. Available at: <https://www.cdc.gov/cholesterol/>. Accessed March 11, 2019.
33. Centers for Disease Control and Prevention. Cholesterol Fact Sheet. CDC website. 2019. Available at: https://www.cdc.gov/dhdsp/data_statistics/fact_sheets/fs_cholesterol.htm. Accessed March 11, 2019.
34. Kansas Department of Health and Environment. Kansas Annual Summary of Vital Statistics, 2017. KDHE website. 2019. Available at http://www.kdheks.gov/phi/as/2017/Annual_Summary_2017.pdf. Accessed February 25, 2019.

Due to changes in BRFSS survey methodology 2011- 2017 BRFSS estimates cannot be compared with estimates from previous years. Please refer to Technical Notes for more information about BRFSS survey methodology.

35. Centers for Disease Control and Prevention. About heart disease. CDC website. 2019. Available at www.cdc.gov/heartdisease/about.htm. Accessed February 25, 2019.
36. Centers for Disease Control and Prevention. About heart disease. Coronary Artery Disease (CAD). CDC website. 2019. Available at https://www.cdc.gov/heartdisease/coronary_ad.htm. Accessed February 25, 2019.
37. Heidenreich PA, Trogon JG, Khavjou OA, et al. Forecasting the future of cardiovascular disease in the United States: a policy statement from the American Heart Association. *Circulation*. 2011;123(8):933–44.
38. U.S. Department of Health and Human Services. Heart Disease and Stroke. Healthy People 2020 website. 2019. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke>. Accessed February 26, 2019.
39. U.S. Department of Health and Human Services. Cancer. Healthy People 2020 website. 2019. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/cancer>. Accessed on February 26, 2019.
40. Centers for Disease Control and Prevention. Skin Cancer. CDC website. 2019. Available at: www.cdc.gov/cancer/skin/. Accessed February 26, 2019.
41. Centers for Disease Control and Prevention. Skin Cancer: What Are the Risk Factors for Skin Cancer? CDC website. 2019. Available at: https://www.cdc.gov/cancer/skin/basic_info/risk_factors.htm. Accessed February 26, 2019.

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