Health Outcomes

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For Everyone

WHAT TO KNOW

The PLACES Health Outcomes data capture estimated prevalence for various chronic disease conditions, from asthma to diabetes, heart disease, cancer, and depression (among many others). Below, we describe each measure, by condition. Data sources used include the Behavioral Risk Factor Surveillance System (BRFSS) and the American Community Survey (ACS).



Arthritis among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability of having arthritis (reporting 'yes' to the question: "Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia?") The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	During 2016–2018, an estimated 58.5 million U.S. adults aged ≥18 years had arthritis, 25.7 million of whom reported an arthritis-attributable activity limitation. [1] Projections suggest that by 2040, an estimated 78 million adults will have arthritis. [2] Arthritis has a profound economic, personal, and societal impact in the United States. In 2013, the total national arthritis-attributable medical care costs and earnings losses among adults with arthritis were $303.5 billion. [3] Monitoring the burden of arthritis is important for estimating the state-specific need for interventions that reduce symptoms, improve physical function, and improve the quality of life for people with arthritis.
Notes	Doctor-diagnosed arthritis is self-reported and is not confirmed by a health care provider or objective monitoring.

Related Objectives or Recommendations	None

Current asthma among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability of having current asthma (reporting 'yes' to both of the questions, "Have you ever been told by a doctor, nurse, or other health professional that you have asthma?" and the question, "Do you still have asthma?"). The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Calendar year
Summary	Overall, the number of U.S. adults who currently have asthma increased from 14.0 million (6.9%) in 2001 to 20.3 million (8.0%) in 2021.[4] In 2023, the prevalence of current asthma was highest among adults below 100% of the poverty threshold (12.5%).[5] In 2022, the prevalence of current asthma was highest among non-Hispanic multiracial adults (16.1%) followed by non-Hispanic American Indian or Alaska Native persons (12.6%).[6] Among states and territories, estimates of adult current asthma prevalence in 2022 ranged from 6.8% in Guam to 13.7% in Maine.[6] Compared to persons without asthma, persons with asthma are more likely to report depression,[7] [8] [9] [10] be unemployed, spend more days sick in bed, and have limitations or inability to conduct normal work.[11] There is no cure for asthma, and it requires ongoing medical management.[12] [13]
Notes	Physician-diagnosed asthma is self-reported and was not confirmed by a healthcare provider or objective monitoring.
Related Objectives or Recommendations	None

High blood pressure among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report ever having been told by a doctor, nurse, or other health professional that they have high blood pressure. Women who were told they had high blood pressure only during pregnancy and those who were told they had borderline hypertension are not included. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)

Time Period of Case Definition	Past 12 months
Summary	According to the American College of Cardiology/American Heart Association (ACC/AHA) 2017 hypertension guideline, hypertension is defined as a blood pressure ≥130/≥80 mmHg.[14] An estimated 120 million American adults (48.1%) have hypertension—nearly 1 in 2 adults 18 years of age and older.[15] Of those with hypertension, an estimated 59.2% are aware they have hypertension.[16] The financial costs are significant with an estimated $79 billion dollars in 2016.[17] High blood pressure is the number one modifiable risk factor for stroke. In addition to stroke, high blood pressure also contributes to heart attacks, heart failure, kidney failure, and atherosclerosis. Evidence-based interventions can be implemented, adapted, and expanded in diverse settings across the United States to avert the negative health effects of high blood pressure.[18]
Notes	Indicator does not measure the proportion of adults who currently have undiagnosed high blood pressure and thus likely results in an underestimate of the prevalence of high blood pressure. Indicator is based on having been told that one has high blood pressure and is subject to recall and actually having been told. Additionally, reports are not validated against actual blood pressure measurements or medical records. Survey questions are part of the BRFSS Rotating Core (odd years).
Related Objectives or Recommendations	Healthy People 2030 objective: HDS-04. Reduce the proportion of adults with high blood pressure.

Cancer (non-skin) or melanoma among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability of having cancer (reporting 'yes' to the question: "Have you ever been told by a doctor, nurse, or other health professional that you had melanoma or any other types of cancer?" and "no" to the question, "Have you ever been told by a doctor, nurse, or other health professional that you had skin cancer that is not melanoma?"). The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Past year
Summary	Malignant neoplasms (ICD-10: C00-C97) accounted for 608,371 deaths (18.5 % of total deaths) among U.S. adults in 2022.[19] Overall cancer death rates continued to decline among men, women, children, and adolescents and young adults in every major racial and ethnic group in the United States from 2015 to 2019.[20] Among people who develop cancer, more than 69% will be alive in 5 years.[21] Yet, cancer remains a leading cause of death in the United States, second only to heart disease.[19]
Notes	Doctor-diagnosed cancer is self-reported and is not confirmed by a healthcare provider or objective monitoring. This measure is not

	specific to cancer type.
Related Objectives or Recommendations	Healthy People 2030 objectives C-01, C-02, C-04, C-06, and C-08. [22]

High cholesterol among adults who have ever been screened

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report having ever been screened for high cholesterol and told by a doctor, nurse, or other health professional that they had high cholesterol. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	In 2017–2020, about 10% of adults ages 20 and older had total cholesterol above 240 mg/dL, and about 17% had high-density lipoprotein (HDL, or “good”) cholesterol levels below 40 mg/dL. [23] Slightly more than half of U.S. adults (54.5%, or 47 million people) who could benefit from cholesterol medicine are currently taking it. [24] High cholesterol commonly has no symptoms, so many people don’t know that their cholesterol is too high. Having high blood cholesterol raises the risk for heart disease, the leading cause of death, and for stroke, the fifth leading cause of death in 2022. [19] Lifestyle changes and medications can reduce cholesterol and prevent heart disease among people with elevated serum cholesterol. [25]
Notes	This measure does not include people with high cholesterol who have not had their blood cholesterol checked. Survey questions are part of the BRFSS Rotating Core (odd years).
Related Objectives or Recommendations	Healthy People 2030 objective: HDS-06. Reduce cholesterol in adults.

Chronic kidney disease among adults

Discontinued in the 2024 release.	
Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults aged 18 years and older who report ever having been told by a doctor, nurse, or other health professional that they have kidney disease. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was

	derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime (before 2022)
Summary	Chronic kidney disease (CKD) is a condition in which the kidneys are damaged and can't filter blood as well as they should. Because of this, excess fluid and waste remain in the body and may cause health problems such as heart disease.[26] Kidney diseases are a leading cause of death in the U.S.[26] In 2019, treating Medicare beneficiaries with CKD cost $87.2 billion, and treating people with end-stage kidney disease cost an additional $37.3 billion.[26] More than 1 in 7 U.S. adults—about 35.5 million people—are estimated to have CKD.[27] As many as 9 in 10 adults with CKD do not know they have it, and about 1 in 3 adults with severe CKD do not know they have CKD.[27] CKD is more common in people aged 65 years or older (34%) than in people aged 45–64 years (12%) or 18–44 years (6%), and slightly more common in women (14%) than men (12%).[27]
Notes	The estimated prevalence of CKD in the U.S. population is likely to be an underestimate because BRFSS is a telephone survey that excludes the institutionalized population, in whom the prevalence is likely to be higher,[28] and because the prevalence is based on self-report. Most persons with CKD are unaware of their condition.[27] In addition, one data point is available. The following question was asked for the first time in the 2011 BRFSS core questionnaire: "Has a doctor, nurse, or other health professional EVER told you have kidney disease? Do NOT include kidney stones, bladder infection, or incontinence."[29]
Related Objectives or Recommendations	*Healthy People 2030* objective CKD-1: Reduce the proportion of adults with chronic kidney disease.

Chronic obstructive pulmonary disease among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report having ever been told by a doctor, nurse, or other health professional they had chronic obstructive pulmonary disease (COPD), emphysema, or chronic bronchitis. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	In 2022, more than 17 million Americans (6.8%) reported that they have been diagnosed with COPD.[30] Major risk factors include tobacco smoking, occupational and environmental exposures, respiratory infections, and genetics.[31] Although there is no cure for COPD, it can be treated and managed to slow declining lung

	function, improve exercise tolerance, and prevent and treat exacerbations. [31]
Notes	The measure is based on being diagnosed by a physician and respondent recall of the diagnosis and may underestimate the true prevalence.
Related Objectives or Recommendations	None

Coronary heart disease among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report ever having been told by a doctor, nurse, or other health professional that they had angina or coronary heart disease. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	Coronary heart disease (also called ischemic heart disease) is caused by plaque buildup on the arteries. These blockages can limit the amount blood and oxygen the heart receives causing cause chest pain or angina. Coronary heart disease may present as an acute myocardial infarction which happens when the blood flow to a part of the heart is blocked by plaque. Approximately 20.5 million adults aged ≥20 years have CHD (about 7.1%) (NHANES 2017–2020) with men (8.7%) more commonly affected than women (5.8%). [23] CHD is the largest category of heart disease mortality with 371,506 people killed in 2022. [19] The estimated direct and indirect cost of heart disease in 2018 to 2019 (average annual) was $239.9 billion. [23] Timely, effective treatment for heart attacks can reduce the risk for long-term disability and death. [32]
Notes	The measure is based on being diagnosed by a physician and respondent recall of the diagnosis and might underestimate the true prevalence.
Related Objectives or Recommendations	Healthy People 2030 objective HDS-2: Reduce coronary heart disease deaths.

Depression among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who responded yes to having ever been told by a doctor, nurse, or other health professional they had a depressive disorder, including depression, major depression, dysthymia, or minor depression. The probability was then applied to the detailed population estimates at the appropriate geographic level to

	generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	Depression is a common and serious mood disorder. It causes severe symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working.[33] In 2022, an estimated 54 million U.S. adults (21%) reported they had been told by a doctor they had a depressive disorder, including depression, major depression, dysthymia, or minor depression in their lifetime.[30] In 2019, 7% of all U.S. adults experienced moderate or severe symptoms of depression within the past 2 weeks with women more likely than men and adults ages 18–29 more likely than adults 30 years and older to experience any level of severity of symptoms.[34] Depression, even the most severe cases, can be treated. The earlier treatment begins, the more effective it is.[33]
Notes	The question only assesses lifetime, not necessarily current, depression, and does not assess the severity or duration of depression.
Related Objectives or Recommendations	Healthy People 2030 objective MHMD-05: Increase the proportion of adults with depression who get treatment. Healthy People 2030 objective MHMD-08: Increase the proportion of primary care visits where adolescents and adults are screened for depression.

Diagnosed diabetes among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report being told by a doctor or other health professional that they have diabetes (other than diabetes during pregnancy for female respondents). The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Lifetime
Summary	In 2022 in the U.S., 8.4% of the U.S. adult population aged ≥18 years had diagnosed diabetes.[35] Substantial differences in diabetes prevalence exist by age, race, and ethnicity.[35] [36] [37] The burden of diabetes in the U.S. has increased with the growing prevalence of obesity.[37] Multiple long-term complications of diabetes can be prevented by managing blood glucose, blood lipids, and blood pressure regularly, eating healthy foods, being physically active, and screening and early treatment for eye, foot, and kidney abnormalities.[38]
Notes	Nearly one-fourth of U.S. adults with diabetes are undiagnosed.[39] As self-awareness of having diabetes is low, the prevalence of

	diabetes may be underestimated.
Related Objectives or Recommendations	Healthy People 2030 objective: D-01. Reduce the number of diabetes cases diagnosed yearly.

Obesity among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among respondents aged ≥18 years who have a body mass index (BMI) ≥30.0 kg/m² calculated from self-reported weight and height. Exclude the following: • Height: data from respondents measuring <3 ft or ≥8 ft • Weight: data from respondents weighing <50 lbs or ≥650 lbs • BMI: data from respondents with BMI <12 kg/m2 or ≥100 kg/m2 The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Current
Summary	Many adults in the United States have obesity.[40] Adults with obesity have higher risks for stroke, many types of cancer, premature death, and mental illness such as clinical depression and anxiety.[41] [42] [43] [44] Obesity-related stigma and discrimination can also lead to health problems. Evidence suggests that intensive behavioral interventions that use more than one strategy — like group sessions and changes in both diet and physical activity — are an effective way to address obesity.[45]
Notes	Self-reports of height and weight lead to lower BMI estimates compared to estimates obtained when height and weight are measured.[46]
Related Objectives or Recommendations	Healthy People 2030 objective: NWS-03. Reduce the proportion of adults with obesity.

All teeth lost among adults aged ≥65 years

Population	Adults aged 65 years and older
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults aged 65 years and older who report having lost all of their natural teeth due to tooth decay or gum disease. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.

Measure Type	Prevalence (crude and age-adjusted)
Time Period of Case Definition	Current
Summary	Estimates from the Behavioral Risk Factor Surveillance System (BRFSS) indicated the prevalence of edentulism (i.e., having lost all natural teeth or complete tooth loss) among U.S. adults aged ≥ 65 years decreased from 16.2% in 2012 to 12.1% in 2022. [30] Despite improvement in tooth retention over the past decades, disparities remain across some populations, such as a higher prevalence of edentulism in adults with lower income and lower educational levels, and current smokers. [47] Dental caries (tooth decay or cavities) and periodontal (gum) disease are leading causes of tooth loss. Complete tooth loss substantially limits food choices and eating and chewing ability and affects the quality of life. [48] Older adults with chronic conditions (e.g., diabetes and heart disease) had a significantly higher prevalence of severe and complete tooth loss than those without the condition. [49] Personal, professional, and population-based strategies to prevent and control gum disease and tooth decay can help ensure tooth retention. [50] [51]
Notes	Questions are part of the rotating core, currently collected in even years.
Related Objectives or Recommendations	Healthy People 2030 objective: OH-05. Reduce the proportion of adults aged 45 years and over who have lost all their teeth.

Stroke among adults

Population	All Adults
Model-based measure	A multi-level regression and post-stratification approach was applied to BRFSS and ACS data to compute a detailed probability among adults who report ever having been told by a doctor, nurse, or other health professional that they have had a stroke. The probability was then applied to the detailed population estimates at the appropriate geographic level to generate the prevalence. The 95% confidence interval was derived using Monte Carlo simulation. Detailed methods are available here.
Measure Type	Prevalence (crude and age-adjusted).
Time Period of Case Definition	Lifetime
Summary	Ischemic stroke occurs when a blood vessel leading to the brain is blocked by a clot. Hemorrhagic stroke occurs when a blood vessel within the brain ruptures. Approximately 9.4 million American adults have had a stroke (3.3%) (NHANES 2017–2020). [23] Approximately 795,000 people or 1 person on average every 40 seconds has a stroke each year in the United States. [23] On average, 1 American dies from a stroke every 3 minutes 15 seconds. [19] Stroke was the fifth leading cause of death in the United States in 2022. [19] Timely, effective treatment for strokes can reduce the risk for long-term disability and death. [52]
Notes	The measure is based on being diagnosed by a physician and respondent recall of the diagnosis and might underestimate the true prevalence.

Related Objectives or Recommendations	Healthy People 2030 Objective HDS-3: Reduce stroke deaths.

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