

SLEEP

Sleep and Health Among Adults in NORTH CAROLINA

7 HOURS
OR MORE

Sufficient sleep is essential for a healthy lifestyle

How much sleep do adults need?

Adults should sleep 7 or more hours each night for optimal health.¹ Insufficient sleep (or short sleep) is defined as less than 7 hours of sleep daily. More than a third of U.S. adults report insufficient sleep.²

What are the consequences of not getting enough sleep?

Not getting enough sleep is associated with an increased risk for a number of chronic diseases and conditions³:

- Diabetes
- Cardiovascular disease
- Stroke
- Obesity
- Depression

Not getting enough sleep also contributes to motor vehicle crashes and machinery-related injuries, causing substantial injury and disability each year.³

What are 5 health behaviors for preventing chronic disease?

Five health behaviors have been identified as being key for preventing chronic disease⁴:

- Not smoking
- Regular physical activity
- Moderate* or no alcohol consumption
- Maintaining a healthy weight
- **Daily sufficient sleep (7 or more hours)**

Why don't adults get the sleep they need?

Causes of insufficient sleep include lifestyle (like inconsistent bedtimes and using technology late at night) and occupational factors (like shift work or long work hours).³ In addition, some medical conditions, medications, and sleep disorders like sleep apnea affect how long and how well you sleep.³

1 Watson NF, Badr MS, Belenky G, et al. Recommended amount of sleep for a healthy adult: a joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep* 2015;38:843–4.

2 Liu Y, Wheaton AG, Chapman DP, et al. Prevalence of healthy sleep duration among adults — United States, 2014. *MMWR Morb Mortal Wkly Rep* 2016;65:137–141.

3 Institute of Medicine. *Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem*. Washington, DC: The National Academies Press; 2006.

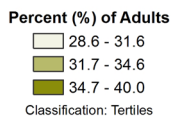
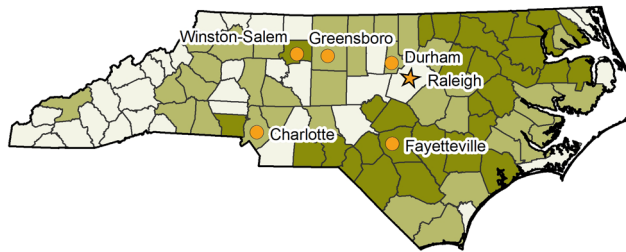
4 Liu Y, Croft JB, Wheaton AG, et al. Clustering of five health-related behaviors for chronic disease prevention among adults, United States, 2013. *Prev Chronic Dis* 2016;13:160054.

* Up to one drink per day for women and two drinks per day for men — only by adults of legal drinking age. Individuals who do not drink alcohol should not start drinking for any reason. *2015–2020 Dietary Guidelines for Americans*.

Use the information on the following pages to prioritize your education and outreach efforts to improve the health of residents in your state.

The prevalence of short sleep (<7 hours per day) varies geographically

Model-based* Estimated Age-adjusted Prevalence of Short Sleep# by County, 2014 — North Carolina



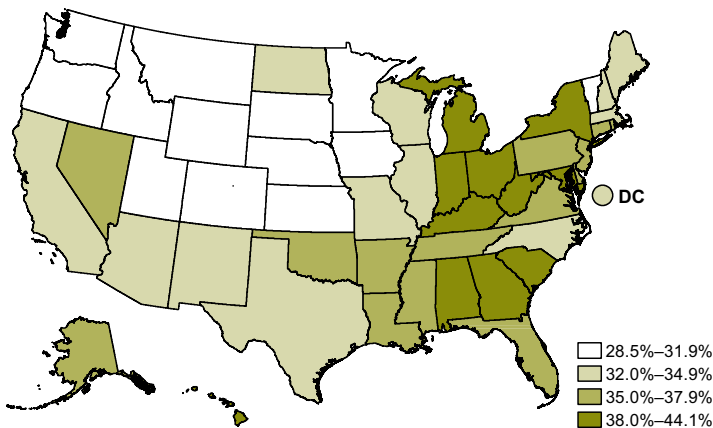
In 2014, 32.3% (age-adjusted = 32.5%) of North Carolina adults reported usually sleeping <7 hours in a 24-hour period.

The state map (left) presents the estimated age-adjusted county-level prevalence of short sleep among North Carolina adults.

For comparison, the national map (below) shows state-by-state adult prevalence of short sleep.

* Method from Zhang X et al. Am J Epidemiol 2014;179 (8):1025-1033. Data sources: Behavioral Risk Factor Surveillance System 2014, Census 2010, American Community Survey 2010-2014.
 # Percentage of adult population that reported usually sleeping <7 hours in a 24-hour period. Age-adjusted to the 2000 U.S. standard population.

Age-adjusted Prevalence of Short Sleep* by State, 2014



Short sleep is more common in the southeastern United States and the Appalachian Mountains and less common in the Great Plains states.

* Percentage of adult population that reported usually sleeping <7 hours in a 24-hour period. Age-adjusted to the 2000 U.S. standard population.

Data source: Behavioral Risk Factor Surveillance Survey (BRFSS) for 2014. As part of the phone survey, respondents were asked, "On average, how many hours of sleep do you get in a 24-hour period?" For information about BRFSS methodology, go to <http://www.cdc.gov/BRFSS>.

The prevalence of short sleep duration may vary by sex, age, and race/ethnicity

Short sleep duration (<7 hours) by sex, age, and race/ethnicity — North Carolina, 2014 (N=7,034)		
All Adults*	%	95% CI
	32.5	(31.1–33.9)
Sex*		
Men	32.5	(30.5–34.6)
Women	32.3	(30.5–34.2)
Age (Years)		
18–24	31.4	(26.9–36.4)
25–34	33.7	(30.2–37.5)
35–44	33.4	(30.0–36.9)
45–54	36.6	(33.5–39.9)
55–64	35.2	(32.5–38.0)
≥65	24.4	(22.4–26.5)
Race/Ethnicity*		
White	30.9	(29.1–32.8)
Hispanic	27.4	(22.5–33.0)
Black	39.6	(36.5–42.8)
Asian	24.7	(16.8–34.9)
American Indian/Alaska Native	42.5	(32.1–53.6)
Native Hawaiian/Pacific Islander	**	—
Other/Multiracial	44.1	(34.8–53.9)

* Age-adjusted to the 2000 U.S. standard population.

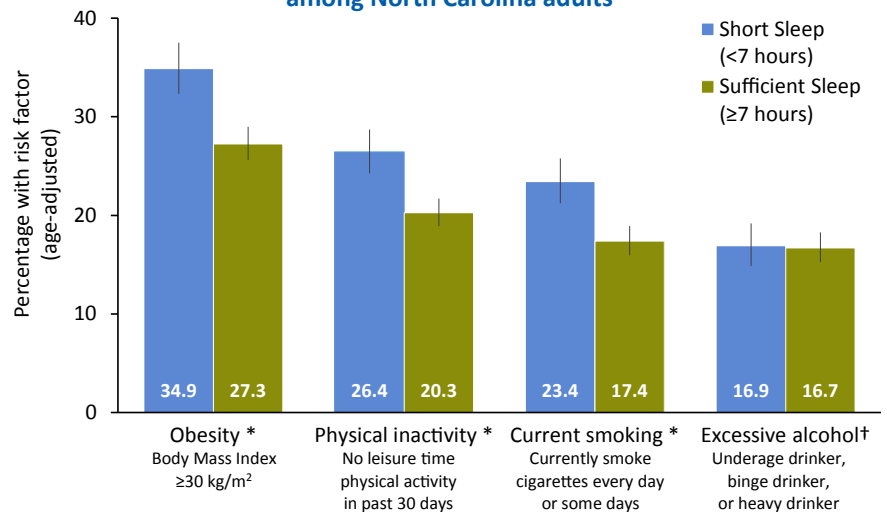
** Indicates a cell size <50.

Prevalence of health risk factors by sleep duration

Many risk factors are more common among adults who sleep <7 hours compared to those who sleep ≥7 hours.

An asterisk (*) by a risk factor on this chart indicates that the prevalence of that risk factor is significantly higher for adults who reported short sleep compared with adults who reported sufficient sleep.

Sleep duration and the other health risk factors among North Carolina adults

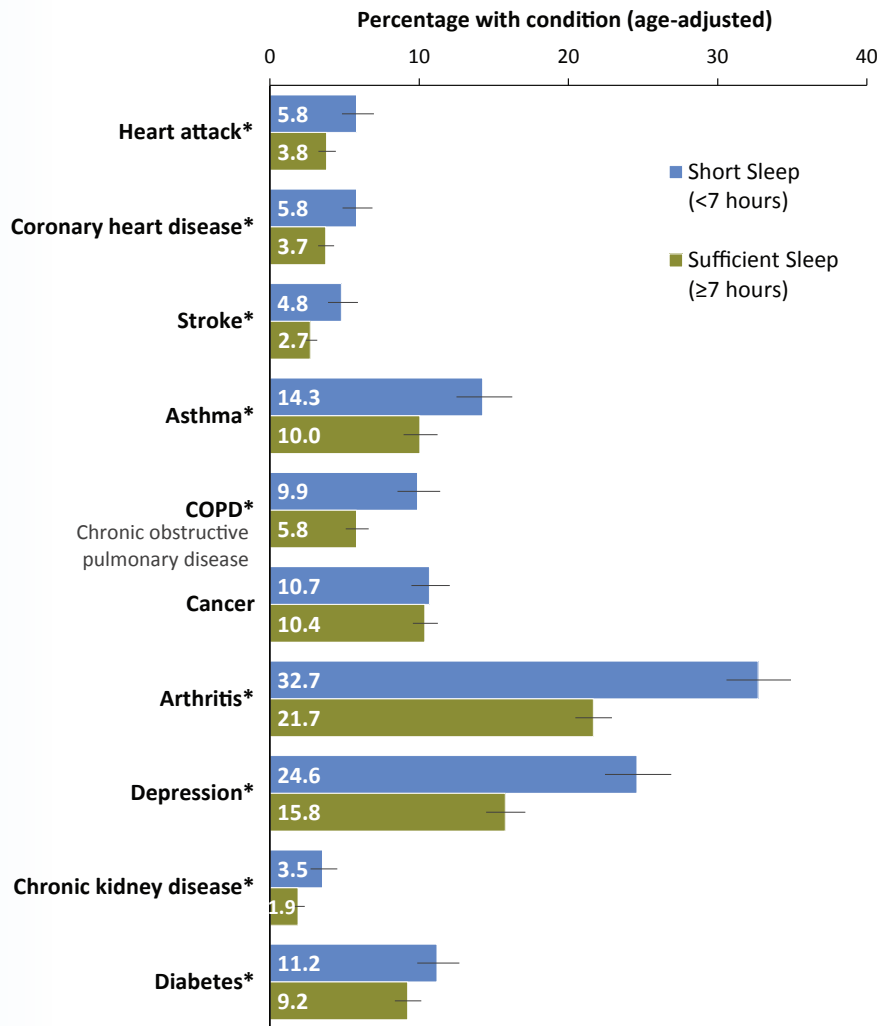


Age-adjusted to the 2000 U.S. standard population.

†Underage drinker: any alcohol use among those aged 18–20 yr. Binge drinker: ≥4 drinks for women, ≥5 drinks for men during a single occasion. Heavy drinker: ≥8 drinks for women, ≥15 drinks for men per week.

Data source: Behavioral Risk Factor Surveillance Survey (BRFSS) for 2014. As part of the phone survey, respondents were asked, “On average, how many hours of sleep do you get in a 24-hour period?” For information about BRFSS methodology, go to <http://www.cdc.gov/BRFSS>.

Sleep duration and chronic conditions among North Carolina adults



Age-adjusted to the 2000 U.S. standard population.

Data source: Behavioral Risk Factor Surveillance Survey (BRFSS) for 2014. As part of the phone survey, respondents were asked, “On average, how many hours of sleep do you get in a 24-hour period?” For information about BRFSS methodology, go to <http://www.cdc.gov/BRFSS>.



For more information, visit the Centers for Disease Control and Prevention website at www.cdc.gov/sleep