



# New York State Behavioral Risk Factor Surveillance System Brief

The Behavioral Risk Factor Surveillance System is an annual telephone survey of adults developed by the Centers for Disease Control and Prevention conducted in all 50 States, the District of Columbia, and several United States Territories. The New York Behavioral Risk Factor Surveillance System is administered by the New York State Department of Health to provide statewide and regional information on behaviors, risk factors, and use of preventive health services related to the leading causes of chronic and infectious diseases, disability, injury, and death.

## Cardiovascular Disease

New York State Adults, 2022



### Introduction

**Cardiovascular disease** is a group of diseases involving the circulatory system and includes heart disease and stroke. **Coronary heart disease**, the most common type of cardiovascular disease, occurs when plaque builds up and narrows the arteries that supply blood to the heart.

**Heart attack** (also called acute myocardial infarction) occurs when an artery becomes completely blocked, resulting in lack of blood flow to the heart.

**Angina** refers to pain or discomfort in the chest that occurs when some part of the heart does not receive enough blood and is a common symptom of coronary heart disease. A **stroke** (cerebrovascular disease) occurs when a clot blocks the blood supply to the brain or when a blood vessel bursts causing internal bleeding in the brain.

Cardiovascular disease is the leading cause of death in New York State, accounting for 29 percent of all deaths statewide.<sup>1</sup> Heart disease and stroke are major causes of disability.<sup>2</sup> Lifestyle modifications and interventions could prevent as much as 80% of heart disease and stroke<sup>3-7</sup>; these include [never starting to smoke or quitting](#), reducing [weight](#) to a normal level, being [physically active](#), [eating well](#), including consuming less [sugar-sweetened beverages](#) and reducing [excessive alcohol consumption](#), and being checked and treated for [high blood pressure \(HBP\)](#), [elevated cholesterol](#) and [diabetes](#).

### Health Equity

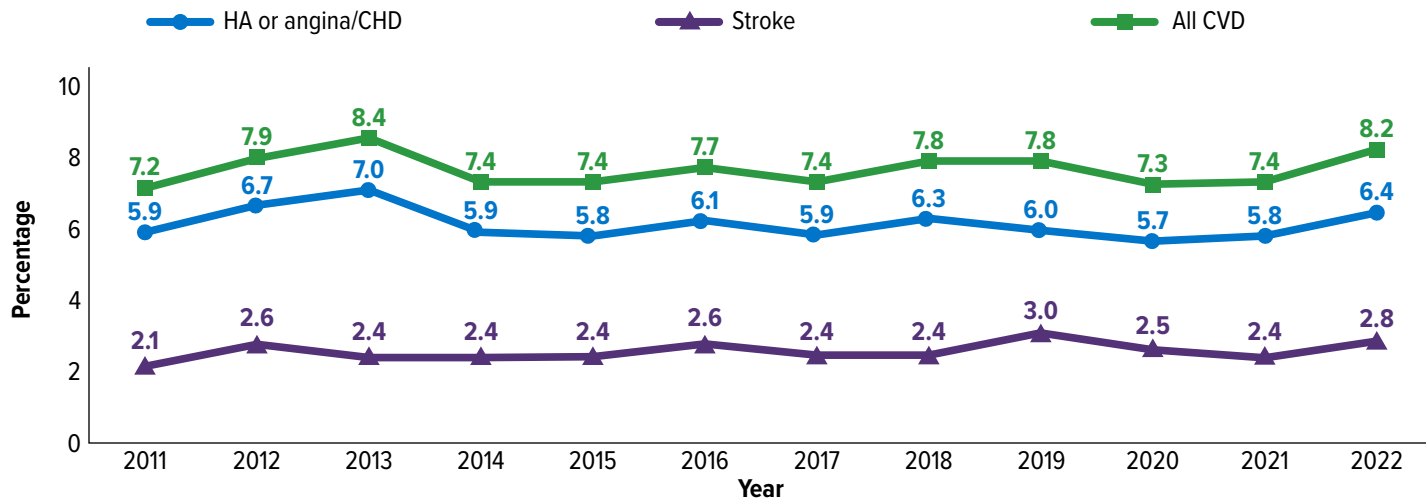
Socioeconomic inequalities are strong predictors of cardiovascular risk.<sup>8</sup> Many of these inequities are caused and perpetuated by factors of structural racism: laws, policies, institutional practices, and entrenched norms that lead to the inequitable treatment of certain people, most notably persons who are Black, Hispanic/Latino, and American Indian/Alaska Native, and promote risk factors for cardiovascular disease, including obesity, high blood pressure, and diabetes.<sup>9</sup> Recommendations to reduce health care disparities for patients with cardiovascular disease include evaluating and addressing social determinants of health such as language literacy and proficiency, affordability of medication, food security, housing, and transportation.<sup>10</sup> In addition, identifying and removing barriers to healthcare access is important to ensure quality of care for those at greatest risk of poor health.

### Key Findings

- An estimated 1,298,000 adults (8.2%) in New York State report they have cardiovascular disease, meaning they report having had a heart attack, angina/coronary heart disease, or stroke. The proportion of adults reporting a heart attack, angina/coronary heart disease or stroke increases for each decade of life and is significantly higher for: adults aged 65 and older (19.4%); adults with Medicare coverage (18.5%); adults in households with annual income less than \$50,000 (11.9%); and men (9.7%).
- Cardiovascular disease prevalence is higher among adults who live in rural regions of New York (9.9%), adults with food insecurity (9.7%), and adults who could not afford to see a doctor in the past year (9.5%), and is significantly higher among adults with a lack of reliable transportation (15.9%), adults diagnosed with a depressive disorder (12.1%), and adults who completed high school (9.2%) or less than high school (12.6%).
- The prevalence of cardiovascular disease in New York State is over three times greater among adults diagnosed with diabetes (21.7%), adults who report having fair or poor health (20.4%), and adults living with disability (16.7%), and over four times greater among adults diagnosed with high blood pressure (17.6%) than among adults without those health conditions.

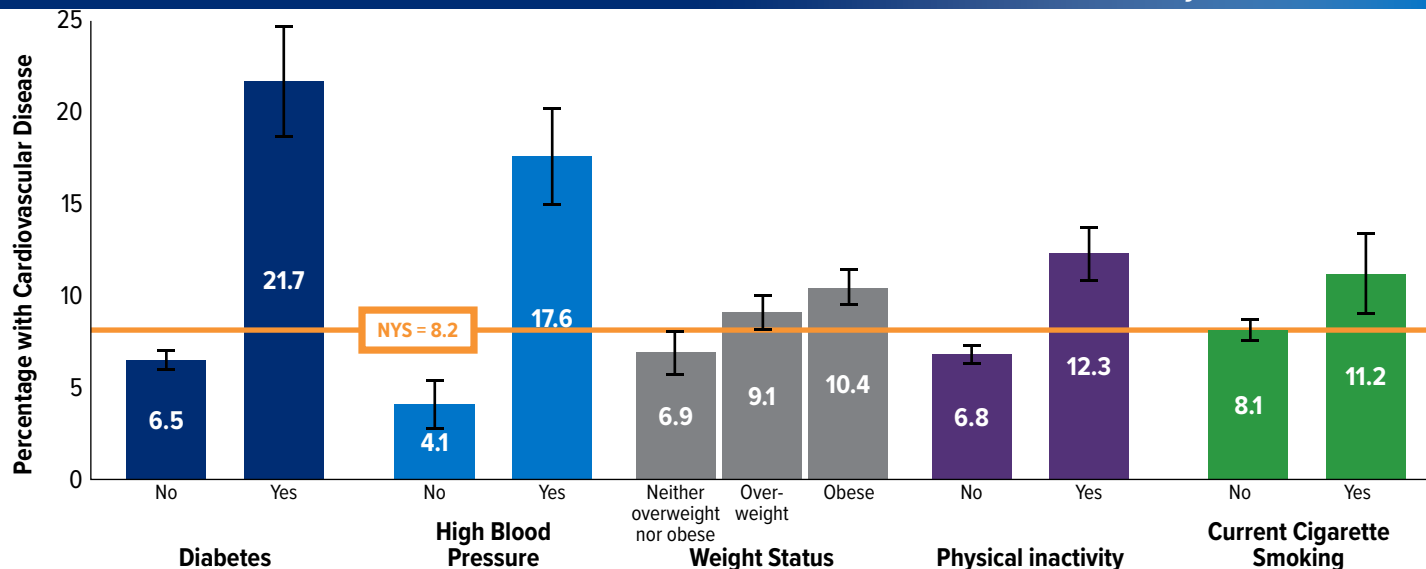


**Figure 1. Prevalence of cardiovascular disease (CVD)\* among New York State adults, Behavioral Risk Factor Surveillance System, 2011-2022**



\*Includes heart attack (HA) or angina/coronary heart disease (CHD) or stroke.

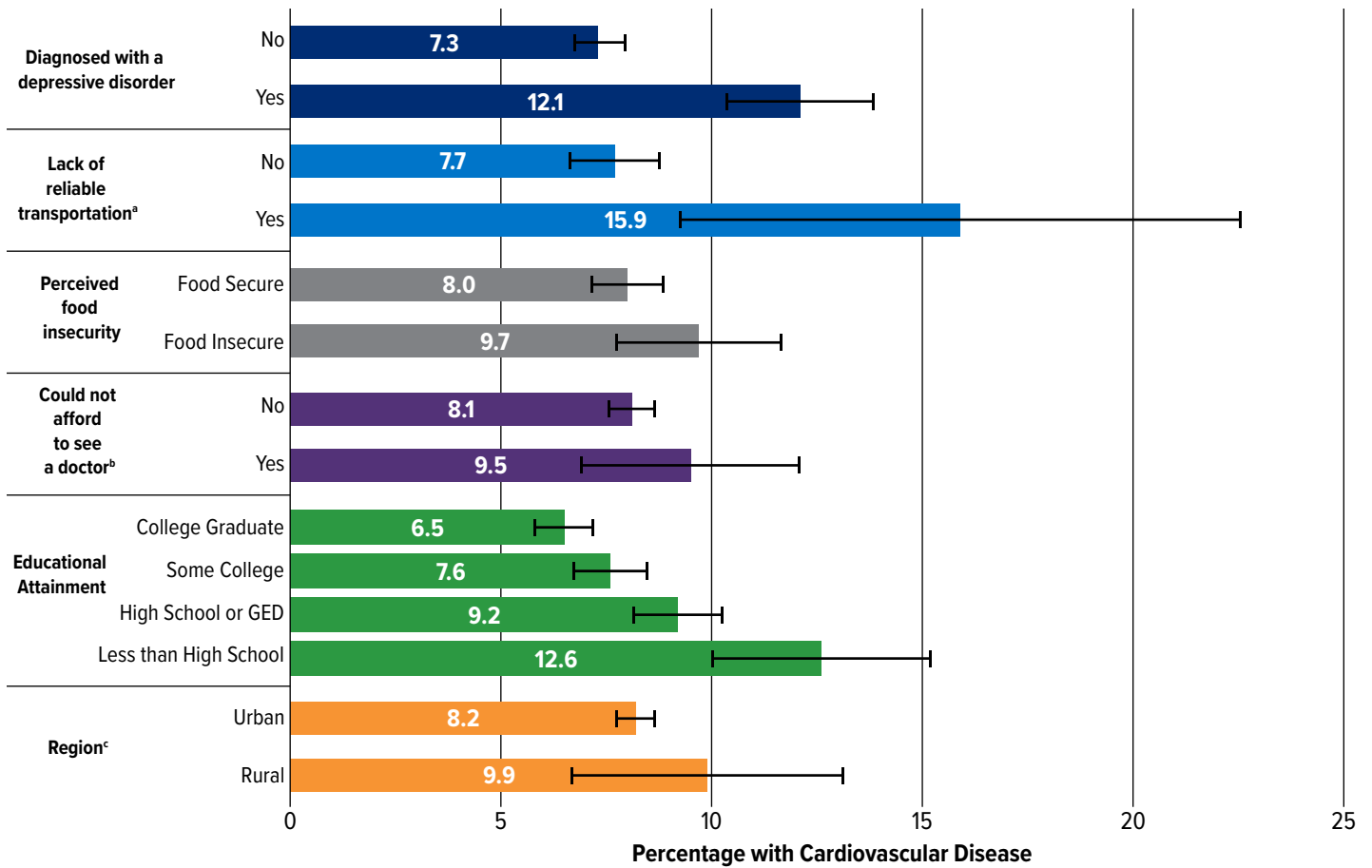
**Figure 2. Prevalence of cardiovascular disease (CVD)\* among New York State adults with known cardiovascular disease risk factors, Behavioral Risk Factor Surveillance Survey, 2022**



\*Includes heart attack (HA) or angina/coronary heart disease (CHD) or stroke.

Note: Error bars represent 95% confidence intervals.

**Figure 3. Disparities in cardiovascular disease (CVD)\* prevalence among New York State adults, Behavioral Risk Factor Surveillance Survey, 2022**



\*Includes heart attack, angina/coronary heart disease (CHD), and stroke

<sup>a</sup>During the past 12 months, has a lack of reliable transportation kept you from medical appointments, work, or from getting things needed for daily living?

<sup>b</sup>Was there a time in the past 12 months when you needed to see a doctor but could not because you could not afford it?

<sup>c</sup>Based on county of residence and the 2013 National Center for Health Statistics' Urban-Rural Classification Scheme for Counties.

Note: Error bars represent 95% confidence intervals.

**Table 1. History of cardiovascular disease (self-reported heart attack, angina/coronary heart disease [CHD], or stroke)<sup>a</sup> Among New York State adults, Behavioral Risk Factor Surveillance System, 2022**

	Heart Attack		Angina/CHD		Heart Attack or Angina/CHD		Stroke		Heart Attack, Angina/CHD, or Stroke	
	% <sup>b</sup>	95% CI <sup>b</sup>	%	95% CI	%	95% CI	%	95% CI	%	95% CI
<b>New York State [n 17,800]</b>	<b>4.0</b>	<b>3.6 - 4.5</b>	<b>4.3</b>	<b>3.9 - 4.7</b>	<b>6.4</b>	<b>5.9 - 6.9</b>	<b>2.8</b>	<b>2.5 - 3.1</b>	<b>8.2</b>	<b>7.7 - 8.8</b>
<b>Sex<sup>c</sup></b>										
Female	2.9	2.4 - 3.5	3.1	2.6 - 3.5	4.8	4.1 - 5.4	2.7	2.3 - 3.2	6.8	6.1 - 7.6
Male	5.2	4.6 - 5.9	5.6	4.9 - 6.2	8.1	7.3 - 8.9	2.8	2.4 - 3.3	9.7	8.9 - 10.6
<b>Age (Years)</b>										
18-24	—	—	0.3 <sup>d</sup>	0.0 - 0.7	0.4 <sup>d</sup>	0.0 - 0.7	—	—	0.7 <sup>d</sup>	0.2 - 1.2
25-34	1.0	0.5 - 1.6	0.5	0.2 - 0.9	1.3	0.7 - 1.9	0.5 <sup>d</sup>	0.2 - 0.9	1.8	1.1 - 2.5
35-44	1.5	0.7 - 2.2	1.0	0.4 - 1.5	2.0	1.2 - 2.8	1.3	0.6 - 1.9	2.8	1.8 - 3.7
45-54	3.5	2.5 - 4.5	3.6	2.6 - 4.7	5.5	4.3 - 6.8	2.2	1.6 - 2.9	7.2	5.8 - 8.6
55-64	5.2	4.1 - 6.2	5.6	4.4 - 6.8	8.2	6.9 - 9.6	4.1	3.1 - 5.0	10.7	9.3 - 12.2
65+	9.7	8.3 - 11.0	10.8	9.6 - 12.0	15.4	13.9 - 17.0	6.2	5.3 - 7.2	19.4	17.8 - 21.1
<b>Race/ethnicity</b>										
Asian/Pacific Islander, non-Hispanic	2.2 <sup>d</sup>	0.8 - 3.7	2.6	1.1 - 4.0	3.8	2.1 - 5.6	1.0 <sup>d</sup>	0.1 - 2.0	4.5	2.6 - 6.4
Black, non-Hispanic	3.3	2.3 - 4.4	2.9	1.9 - 3.8	4.6	3.4 - 5.8	3.2	2.3 - 4.1	7.0	5.6 - 8.4
Hispanic	3.9	2.9 - 4.9	3.7	2.6 - 4.7	5.6	4.4 - 6.8	3.1	2.1 - 4.0	7.2	5.9 - 8.5
White, non-Hispanic	4.5	4.0 - 5.1	5.2	4.7 - 5.7	7.5	6.8 - 8.2	3.0	2.5 - 3.4	9.6	8.8 - 10.3
Other, non-Hispanic <sup>e</sup>	5.9 <sup>d</sup>	2.1 - 9.8	3.4 <sup>d</sup>	1.2 - 5.6	7.7	3.6 - 11.7	2.5 <sup>d</sup>	1.0 - 3.9	8.8	4.7 - 13.0
<b>Annual household income</b>										
Less than \$25,000	6.8	5.4 - 8.2	6.4	5.0 - 7.8	9.7	8.0 - 11.3	5.8	4.6 - 7.1	13.0	11.1 - 14.8
\$25,000-\$49,999	6.2	4.6 - 7.8	5.4	4.2 - 6.6	8.6	6.9 - 10.2	3.9	3.0 - 4.9	11.0	9.3 - 12.8
\$50,000 and greater	3.0	2.5 - 3.5	3.8	3.2 - 4.3	5.4	4.7 - 6.0	1.5	1.1 - 1.8	6.4	5.7 - 7.1
Missing <sup>f</sup>	2.9	2.3 - 3.5	3.3	2.6 - 3.9	5.0	4.2 - 5.8	2.6	2.0 - 3.2	6.9	5.9 - 7.8
<b>Education attainment</b>										
Less than high school (HS)	7.7	5.5 - 9.9	6.0	4.4 - 7.7	9.9	7.5 - 12.3	5.3	3.7 - 6.8	12.6	10.1 - 15.1
High school or GED	4.7	3.8 - 5.5	4.2	3.4 - 5.0	7.0	6.0 - 8.0	3.3	2.6 - 4.0	9.2	8.0 - 10.3
Some college	3.5	2.9 - 4.2	3.8	3.1 - 4.5	5.5	4.7 - 6.3	2.8	2.3 - 3.4	7.6	6.6 - 8.5
College graduate	2.7	2.2 - 3.2	4.1	3.5 - 4.6	5.4	4.8 - 6.1	1.5	1.2 - 1.9	6.5	5.8 - 7.2
<b>Health care coverage type<sup>g</sup></b>										
Private	2.3	1.8 - 2.8	2.5	2.0 - 3.0	3.9	3.3 - 4.5	1.3	1.0 - 1.6	4.9	4.2 - 5.5
Medicare	9.4	7.8 - 11.0	10.3	8.9 - 11.6	14.7	13.0 - 16.4	5.8	4.8 - 6.8	18.5	16.7 - 20.3
Medicaid	3.4	2.5 - 4.3	3.3	2.4 - 4.3	5.2	4.0 - 6.3	3.8	2.7 - 4.9	7.3	5.9 - 8.6
Other insurance	4.2	3.1 - 5.3	4.1	3.0 - 5.3	6.5	5.1 - 7.9	3.1	2.0 - 4.1	8.1	6.5 - 9.7
No coverage	1.3	0.5 - 2.1	1.1 <sup>d</sup>	0.3 - 1.9	2.0	1.0 - 3.0	1.6	0.7 - 2.6	3.1	1.8 - 4.3
<b>Diagnosed diabetes</b>										
Yes	12.4	10.2 - 14.5	12.3	10.3 - 14.4	17.8	15.3 - 20.2	7.0	5.5 - 8.4	21.7	19.1 - 24.2
No	3.0	2.6 - 3.4	3.3	2.9 - 3.6	5.0	4.5 - 5.4	2.3	1.9 - 2.6	6.5	6.0 - 7.0
<b>Diagnosed high blood pressure</b>										
Yes	8.3	6.4 - 10.2	11.0	8.9 - 13.1	14.2	11.8 - 16.5	6.0	4.5 - 7.5	17.6	15.1 - 20.1
No	1.9	0.8 - 3.1	1.4	1.0 - 1.8	3.0	1.8 - 4.1	1.3	0.8 - 1.7	4.1	2.9 - 5.4
<b>Weight Status</b>										
Neither overweight nor obese	3.9	2.9 - 4.9	3.0	2.4 - 3.6	5.3	4.3 - 6.4	2.4	1.8 - 3.0	6.9	5.8 - 8.0
Overweight	4.3	3.5 - 5.1	5.3	4.5 - 6.1	7.3	6.3 - 8.2	2.7	2.1 - 3.2	9.1	8.1 - 10.1
Obese	4.6	3.9 - 5.4	5.5	4.6 - 6.4	7.9	6.9 - 8.9	3.6	2.9 - 4.4	10.4	9.2 - 11.5
<b>Disability<sup>h</sup></b>										
Yes	8.2	6.9 - 9.5	8.3	7.2 - 9.4	12.3	10.9 - 13.8	6.8	5.8 - 7.7	16.7	15.1 - 18.3
No	2.6	2.2 - 3.0	2.9	2.5 - 3.3	4.3	3.8 - 4.8	1.3	1.0 - 1.6	5.2	4.7 - 5.8
<b>Depressive disorder<sup>i</sup></b>										
Yes	5.8	4.6 - 6.9	6.0	4.9 - 7.1	9.0	7.6 - 10.5	5.0	4.0 - 6.0	12.1	10.6 - 13.7
No	3.6	3.2 - 4.0	3.9	3.5 - 4.4	5.8	5.2 - 6.3	2.3	2.0 - 2.6	7.3	6.7 - 7.9

**Table 1. History of cardiovascular disease (self-reported heart attack, angina/coronary heart disease [CHD], or stroke)<sup>a</sup> Among New York State adults, Behavioral Risk Factor Surveillance System, 2022**

	Heart Attack		Angina/CHD		Heart Attack or Angina/CHD		Stroke		Heart Attack, Angina/CHD, or Stroke	
	% <sup>b</sup>	95% CI <sup>b</sup>	%	95% CI	%	95% CI	%	95% CI	%	95% CI
<b>New York State [n 17,800]</b>	<b>4.0</b>	<b>3.6 - 4.5</b>	<b>4.3</b>	<b>3.9 - 4.7</b>	<b>6.4</b>	<b>5.9 - 6.9</b>	<b>2.8</b>	<b>2.5 - 3.1</b>	<b>8.2</b>	<b>7.7 - 8.8</b>
<b>Self assessed health</b>										
Fair or Poor Health	10.3	8.7 - 11.9	11.2	9.6 - 12.8	15.5	13.7 - 17.4	7.9	6.5 - 9.2	20.4	18.3 - 22.4
Good or Better Health	2.8	2.4 - 3.2	2.9	2.5 - 3.2	4.5	4.1 - 5.0	1.8	1.5 - 2.0	5.8	5.2 - 6.3
<b>Region</b>										
New York City (NYC)	3.9	3.2 - 4.6	4.0	3.3 - 4.7	6.1	5.3 - 6.9	2.7	2.2 - 3.2	7.8	6.9 - 8.6
New York State exclusive of NYC	4.1	3.6 - 4.7	4.5	4.0 - 4.9	6.6	6.0 - 7.3	2.9	2.5 - 3.3	8.6	7.9 - 9.3

Notes: <sup>a</sup>Estimates are suppressed when there are less than 50 observations in the denominator or less than six observation in the numerator. <sup>b</sup>% = weighted percentage; CI = confidence interval; when comparing estimates, the 95% confidence interval provides the statistical range containing the true population percentage with a 95% probability. The width of the confidence interval is influenced by the number of residents surveyed. Although a 95% confidence interval is not a test of statistical significance, estimates whose 95% confidence intervals do not overlap can be considered significantly different. <sup>c</sup>Based on respondent's sex at birth or current gender identity at time of interview if sex at birth is missing. <sup>d</sup>Estimates that have a confidence interval with a half-width of greater than 10 or when the relative standard error (RSE) is greater than 0.30 are unstable and should be used with caution. <sup>e</sup>includes American Indian/Alaskan Native and multi-racial, non-Hispanic respondents. <sup>f</sup>"Missing" category included because more than 10% of the sample did not report income. <sup>g</sup>Medicare includes Medigap; Other includes Children's Health Insurance Program (CHIP), TRICARE, VA/Military, and Indian Health Services, State sponsored health plan, and other government programs. <sup>h</sup>All respondents who report having at least one type of disability (cognitive, mobility, vision, self-care, independent living, or hearing). <sup>i</sup>All respondents ever diagnosed with a depressive disorder, including major depression, dysthymia, or minor depression.



## References

1. Vital Statistics of New York State, Table 33a: Deaths and Death Rates by Selected Causes and Race, New York State, 2019. Available at: [Table 33a: Deaths and Death Rates\\* by Selected Causes and Race, New York State - 2021 \(ny.gov\)](#). Accessed June 28, 2024.
2. Tsao C, et al.; on behalf of the American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2023 Update: a report from the American Heart Association. *Circulation*. 2023;147(8):e93-e621.
3. Stampfer MJ, Hu FB, Manson JE, Rimm EB, Willett WC. Primary prevention of coronary heart disease in women through diet and lifestyle. *N Engl J Med*. 2000;343:16-22.
4. Chiuve SE, McCullough ML, Sacks FM, Rimm EB. Healthy lifestyle factors in the primary prevention of coronary heart disease among men: benefits among users and nonusers of lipid-lowering and antihypertensive medications. *Circulation*. 2006;114:160-7
5. Chiuve SE, Rexrode KM, D. S, Logroscino G, Manson JE, Rimm EB. Primary prevention of stroke by healthy lifestyle. *Circulation*. 2008;118:947-54.
6. Chiuve SE, Fung TT, Rexrode KM, et al. Adherence to a low-risk, healthy lifestyle and risk of sudden cardiac death among women. *JAMA*. 2011;306:62-9.
7. van Dam RM, Li T, Spiegelman D, Franco OH, Hu FB. Combined impact of lifestyle factors on mortality: prospective cohort study in US women. *BMJ*. 2008;337:a1440.
8. Schultz WM, Kelli HM, Lisko JC, Varghese T, Shen J, Sandesara P, Quyyumi AA, Taylor HA, Gulati M, Harold JG, et al. Socioeconomic status and cardiovascular outcomes: challenges and interventions. *Circulation*. 2018;137:2166–2178.
9. Churchwell K, Elkind MSV, Benjamin RM, Carson AP, Chang EK, et al. Call to Action: Structural Racism as a Fundamental Driver of Health Disparities; A Presidential Advisory From the American Heart Association. *Circulation*. 2020;142(24):e454-e468.
10. Kleindorfer DO, et al. 2021 Guideline for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline from the American Heart Association/American Stroke Association. *Stroke*. 2021;52:e364-e467.



## Behavioral Risk Factor Surveillance System Questions

Has a doctor, nurse, or other health professional ever told you that you had any of the following?

1. [Ever told] you had a heart attack, also called a myocardial infarction?
2. [Ever told] you had angina or coronary heart disease?
3. [Ever told] you had a stroke?

## Suggested Citation



Wales, KR, Austin, R, Parrigan-Oades, K and Brissette, I. Cardiovascular Disease, New York State BRFSS Brief., No. 2024-27. Albany, NY: New York State Department of Health, Division of Chronic Disease Prevention, Bureau of Chronic Disease Evaluation and Research, November 2024.

## Program Contributions



New York State Department of Health  
Bureau of Chronic Disease Evaluation and Research

Bureau of Community Chronic Disease Prevention



## Contact Information

Contact us by

Phone: (518) 473-0673

Email: [BRFSS@health.ny.gov](mailto:BRFSS@health.ny.gov)

Visit: [health.ny.gov](http://health.ny.gov)



Department of Health