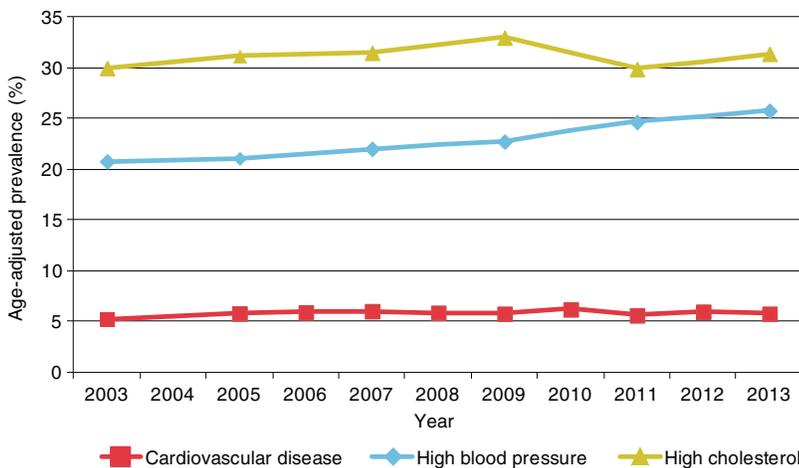


Cardiovascular Disease Burden and Disparities in Colorado

Facts for Action: Chronic Diseases and Related Risk Factors in Colorado

Percent of adult Coloradans with cardiovascular disease, high blood pressure and high cholesterol.*



Among adult Coloradans in 2013:*

6% were aware of having cardiovascular disease.

6%

26% were aware of having high blood pressure.

26%

35% of those who had their blood cholesterol checked were aware of having high cholesterol.

35%

*Prevalence estimates represent survey respondents' report that a health care provider ever told them that they had the condition. Cardiovascular disease includes: heart attack, angina, coronary heart disease and/or stroke.

About Cardiovascular Disease

"Cardiovascular disease" refers to a group of conditions affecting the heart (heart disease: coronary heart disease and congestive heart failure) and blood vessels (stroke).

Modifiable risk factors to reduce your risk of cardiovascular disease:

- high blood pressure
- high cholesterol
- diabetes
- obesity
- physical inactivity
- diets high in saturated fats, cholesterol, and sodium
- low fruit and vegetable consumption
- tobacco use
- exposure to secondhand smoke
- excessive alcohol use



The prevalence of **high blood pressure** significantly increased from 21% to 26% during 2003-2013.



The prevalence of **cardiovascular disease and high cholesterol** has not changed significantly during 2003-2013.

Since 2013, the adult prevalence of **other risk factors** for cardiovascular disease:

↑ increased for diabetes and obesity

- In 2013, 6.5% had diabetes and 21% were obese.

↓ decreased for tobacco use

- In 2013, 18% were current smokers.

↔ remained unchanged for physical inactivity, fruit and vegetable consumption and binge drinking†

- In 2013, 18% were physically inactive during the past 30 days, 36% ate fruit less than daily, 19% ate vegetables less than daily and 18.5% were binge drinkers.

†Binge drinking is defined as 5+ drinks for males and 4+ drinks for females on an occasion.

Data source: Colorado Behavioral Risk Factor Surveillance System.



COLORADO
Department of Public Health & Environment

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“ABCS” of heart disease and stroke preventionⁱ

Aspirin: Increase low-dose aspirin therapy according to recognized prevention guidelines.

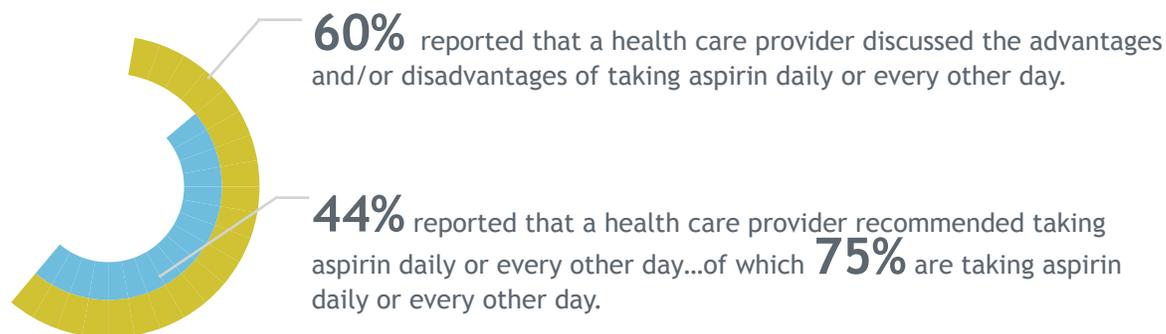
Blood pressure: Prevent and control high blood pressure; reduce sodium intake.

Cholesterol: Prevent and control high blood cholesterol.

Smoking: Increase the number of smokers counseled to quit and referred to state quit lines; increase availability of no- or low-cost cessation products.

Aspirin

Among men aged 45-79 years and women aged 55-79 years in Colorado in 2013:

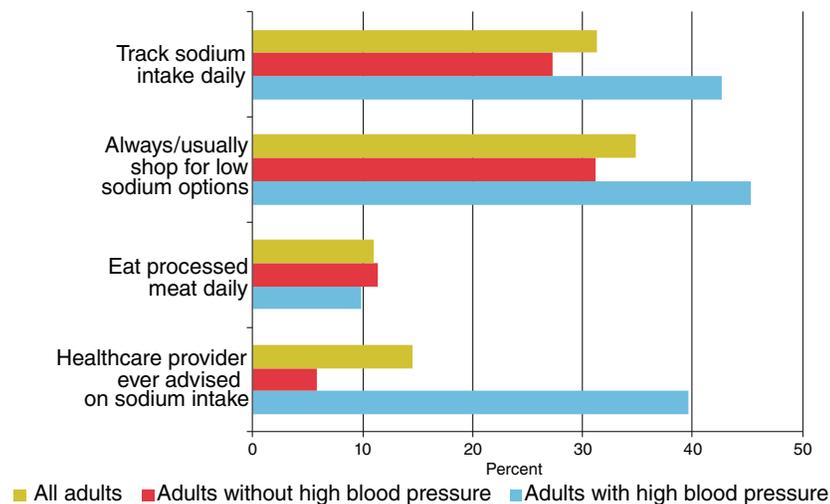


Blood pressure and sodium

69% of adults who reported ever being told they had high blood pressure were taking medication for high blood pressure in 2013.

Eating too much sodium (salt) is **strongly linked** to the development of high blood pressure.

Percent of adult Coloradans reporting sodium consumption-related behaviors and provider advice, 2011.



When adult Coloradans were asked about their sodium consumption in 2011:

31% said that they try to keep track of their sodium intake daily.

35% said that they always or usually shop for low sodium items when such an option is available.

15% said that a doctor or other health professional has ever advised them to reduce sodium intake.

These above percentages, in general, increased with age and were higher for people aware of having high blood pressure.

11% of adult Coloradans said that they eat processed meats at least once per day; younger age groups were more likely to be in this category.



9 in 10 Americans aged 2 years and older eat more sodium than is recommended for a healthy diet.ⁱⁱ

Reducing the sodium Americans eat by 1,200 mg per day on average could save up to \$20 billion a year in medical costs.ⁱⁱ

Data source: Behavioral Risk Factor Surveillance System.



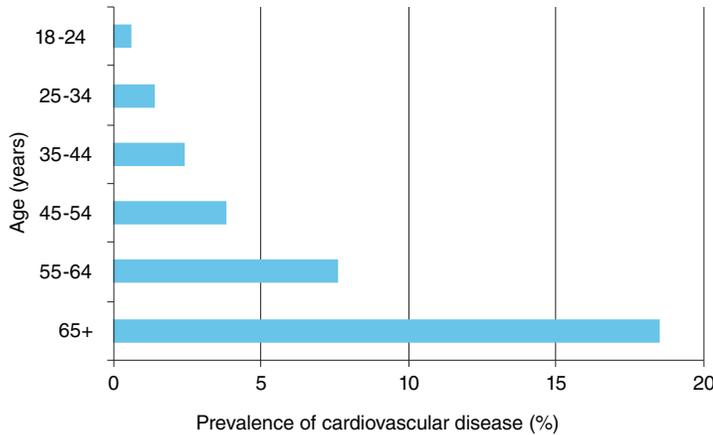
Cardiovascular disease disparities exist.

In 2013, the prevalence of cardiovascular disease was significantly higher among:

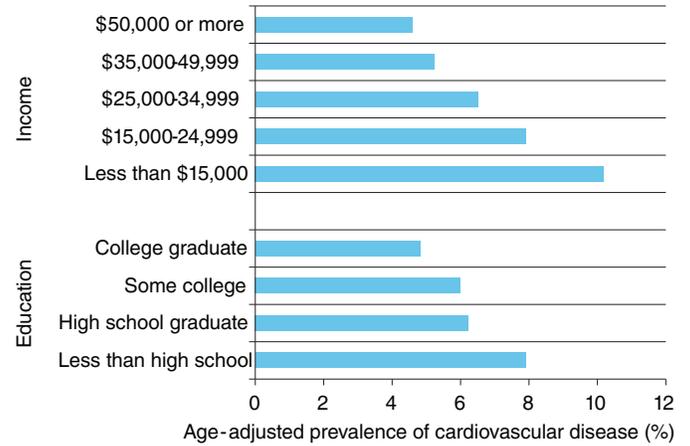
- males
- older adults
- adults with lower annual household income
- adults with lower education level
- adults who identify as gay, lesbian, bisexual, or other nonheterosexual sexual orientation

The prevalence of cardiovascular disease did not differ for adults based on race/ethnicity.

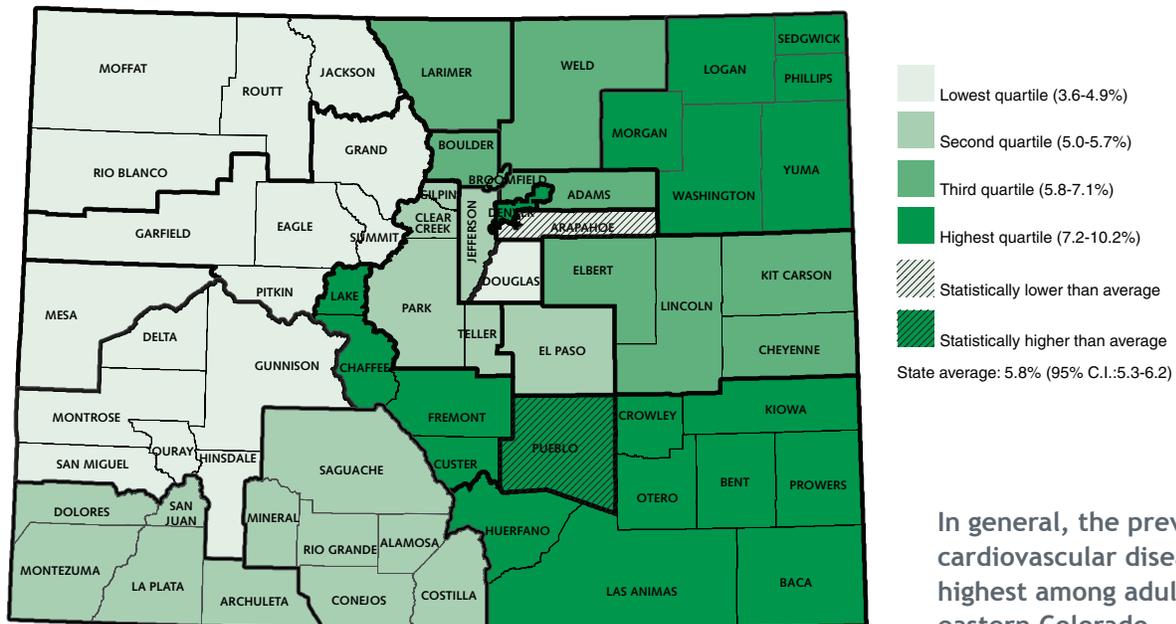
Percent of adult Coloradans with cardiovascular disease by age, 2013.



Percent of adult Coloradans with cardiovascular disease by income and education, 2013.



Age-adjusted cardiovascular disease prevalence by region, Colorado, 2013.



In general, the prevalence of cardiovascular disease was highest among adults living in eastern Colorado.

Disparities also exist in high blood pressure and high cholesterol prevalence in Colorado.

- **By gender:** Males had a higher prevalence of both high blood pressure and high cholesterol.
- **By race/ethnicity:** Black Coloradans had the highest prevalence of high blood pressure, and Hispanic Coloradans had the highest prevalence of high cholesterol.
- **By sexual orientation:** Adults who identify as heterosexual had higher prevalence of high blood pressure and high cholesterol.

Data source: Colorado Behavioral Risk Factor Surveillance System.



Cardiovascular disease-related hospitalizations have decreased.

In 2013, hospital discharge rates were:

2,134 per 100,000 population for heart disease.

2,134

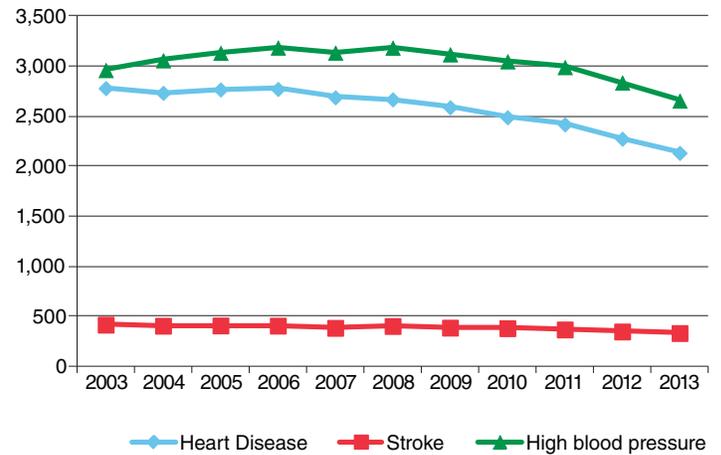
333 per 100,000 population for stroke.

333

2,709 per 100,000 population for high blood pressure.

2,709

Age-adjusted hospital discharge rates per 100,000 population, Colorado residents, 2003-2013.



Hospital discharge rates for heart disease, stroke and high blood pressure decreased significantly from 2003-2013.

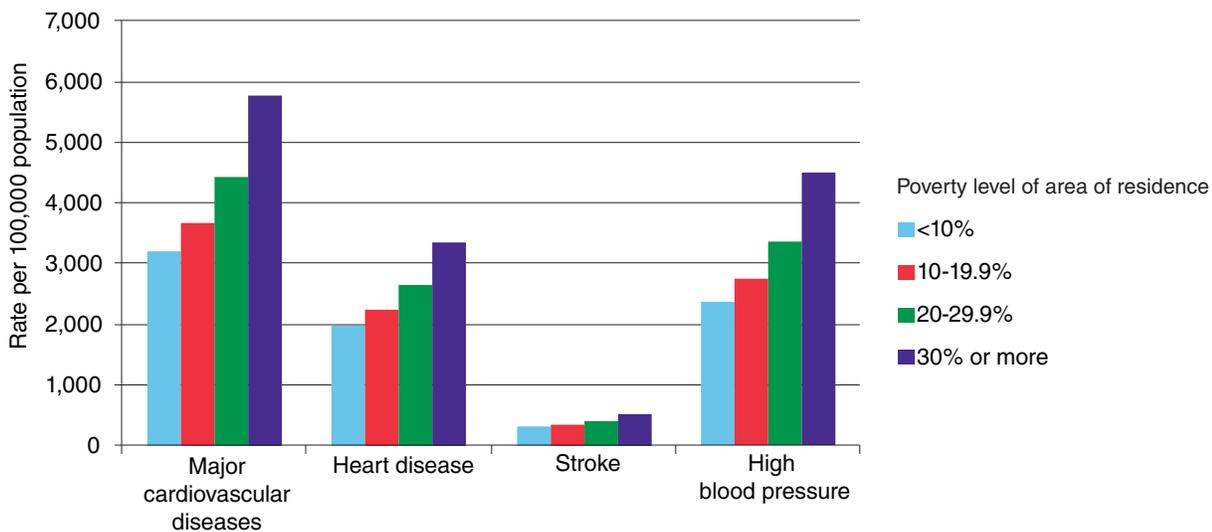
In Colorado, rates decreased among both males and females over this period. After adjusting for age differences, males had higher hospital discharge rates for heart disease, stroke and high blood pressure.

U.S. hospitalization and death rates for heart disease and stroke also dropped significantly in the last decade.ⁱⁱⁱ

Across Colorado's counties in 2010-2012, hospital discharge rates varied greatly:

571 - 4,712 per 100,000 population for heart disease;
 106 - 720 per 100,000 population for stroke; and
 704 - 5,315 per 100,000 population for high blood pressure.

Age-adjusted hospital discharge rates per 100,000 population by poverty level of area of residence, Colorado residents, 2008-2012.



Hospital discharge rates for cardiovascular diseases increased significantly with each level of increase in poverty of area of residence.

Data source: Colorado Hospital Discharge Data; American Community Survey (U.S. Census Bureau).

ICD-9 codes: major CVD 390-434,436-448; heart disease 390-398,402,404,410-429; stroke 440; high blood pressure 401,403



Deaths due to cardiovascular disease.

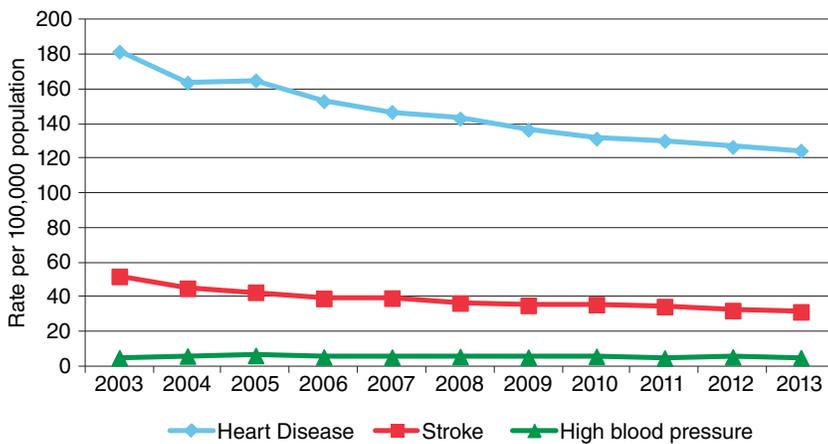
Of 33,717 deaths among Colorado residents in 2013, the leading causes of death (number of deaths) were:

1. Cancer (7,364)
2. **Heart Disease (6,454)**
3. Unintentional Injuries (2,423)
4. Chronic Lower Respiratory Diseases (2,294)
5. **Stroke (1,576)**
6. Alzheimer's disease (1,318)
7. Suicide (1,004)
8. Diabetes (786)
9. Chronic liver disease and cirrhosis (713)
10. Influenza and pneumonia (608)
- ...17. **High blood pressure (260)**

Combined, heart disease and stroke was the leading cause of death in Colorado in 2013, accounting for **24% of all deaths.**

Approximately 1 person dies from cardiovascular disease every hour in Colorado.

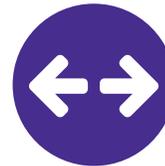
Age-adjusted death rates per 100,000 population, Colorado residents, 2003-2013.



In 2013, death rates were: **123** per 100,000 population for heart disease; **30** per 100,000 population for stroke; and **5** per 100,000 population for high blood pressure.

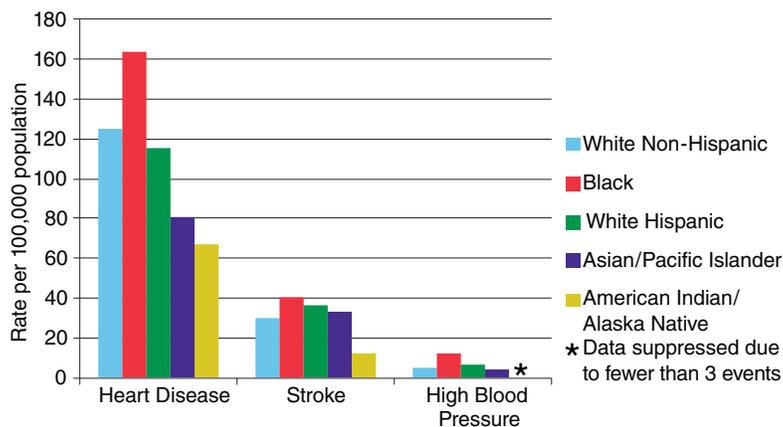


During 2003-2013, death rates from heart disease and stroke decreased.



Death rates from high blood pressure remained unchanged over the same period.

Age-adjusted death rates per 100,000 population by race/ethnicity, Colorado residents, 2013.



Black Coloradans had significantly higher death rates from heart disease compared with other race/ethnicities.

Black Coloradans had significantly higher death rates from high blood pressure compared with White non-Hispanics.

American Indian/Alaska Native Coloradans had significantly lower death rates from high blood pressure compared with other race/ethnicities.

Across Colorado's counties in 2010-2012, death rates varied greatly: **30-486** per 100,000 population for heart disease; **2-40** per 100,000 population for stroke; and **6-99** per 100,000 population for high blood pressure.

Data source: Vital Statistics, Colorado Department of Public Health and Environment.

ICD-10 codes: heart disease I00-I09,I11,I13, I20-I51; stroke I60-I69; high blood pressure I10,I12



Cardiovascular disease is preventable.

Cardiovascular disease can be prevented through changes in health habits, community changes, and managing high blood pressure, high cholesterol, and diabetes

200,000

At least 200,000 deaths from heart disease and stroke in the U.S. each year are preventable.^{iv}

6 in 10

More than half of preventable* heart disease and stroke deaths happen to people under age 65.

2x

Nationally, Blacks are nearly twice as likely as Whites to die from preventable heart disease and stroke.

Contribution of individual risk factors to cardiovascular disease deaths:^v

41% for high blood pressure;
14% for smoking;
13% for poor diet;
12% for insufficient physical activity; and
9% for abnormal glucose levels.

*Preventable (avoidable) deaths are defined as those from ischemic heart disease, stroke, chronic rheumatic heart disease, and hypertensive disease in people under age 75.^{iv}



Cardiovascular disease is costly.

\$4.4 billion Annual cost associated with cardiovascular disease in Colorado in 2010
= Direct costs \$4.2 billion + Absenteeism \$198 million
\$549 million of the direct costs is attributed to Medicaid

\$8.2 billion Projected annual cost associated with cardiovascular disease in Colorado in 2020

↑ This represents an 82% increase from 2010 to 2020.

Data source: Centers for Disease Control and Prevention. Chronic Disease Cost Calculator. <http://www.cdc.gov/chronicdisease/resources/calculator/index.htm>.

Direct costs include expenditures for office based visits, hospital outpatient visits, ER visits, inpatient hospital stays, dental visits, home health care, vision aids, other medical supplies and equipment, prescription medications, and nursing homes.

Cardiovascular disease defined as congestive heart failure, coronary heart disease, hypertension, stroke, and other heart disease (non-specific).

i Centers for Disease Control and Prevention. Strategies for States to Address the “ABCS” of Heart Disease and Stroke Prevention [internet]. Atlanta, GA: Centers for Disease Control and Prevention; 2010 [cited 2014 August 19]. Available from: http://www.cdc.gov/dhdsp/programs/nhdsp_program/docs/ABCS_Guide.pdf

ii Centers for Disease Control and Prevention. Vital Signs: Food Categories Contributing the Most to Sodium Consumption – United States, 2007-2008 [internet]. Atlanta, GA: Centers for Disease Control and Prevention; 2012 [cited 2014 August 19]. Available from: <http://www.cdc.gov/vitalsigns/sodium/index.html>

iii American Heart Association. Hospitalizations, deaths from heart disease, stroke drop in last decade [Internet]. Dallas, TX: American Heart Association; 2014 [cited 2014 August 27]. Available from: <http://newsroom.heart.org/news/hospitalizations-deaths-from-heart-disease-stroke-drop-in-last-decade>

iv Centers for Disease Control and Prevention. Vital Signs: Preventable Deaths from Heart Disease and Stroke [internet]. Atlanta, GA: Centers for Disease Control and Prevention; 2013 [cited 2014 August 27]. Available from: <http://www.cdc.gov/vitalsigns/heartdisease-stroke/index.html>

v Yang Q, Cogswell ME, Flanders WD, Hong Y, Zhang Z, Loustalot F, Gillespie C, Merritt R, Hu FB. Trends in cardiovascular health metrics and associations with all-cause and CVD mortality among US adults. *JAMA*. 2012;307:1273-1283.]

Data source: Vital Statistics, Colorado Department of Public Health and Environment.

Terminology for racial/ethnic groups matches that used during data collection.