



Cardiovascular Diseases Prevalent in African Americans

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What is Cardiovascular Disease (CVD)?

The many disorders that involve the abnormal function of the heart or blood vessels.

Most Common Types of CVD's

1. **Coronary Heart Disease** – (CHD) is the narrowing of the coronary arteries that supply blood and oxygen to the heart. CHD can lead to heart attack. This is when blood supply to the heart is severely reduced or completely blocked. The heart muscle cells may not receive the appropriate amount of oxygen and begin to die. The more time that passes without treatment to restore the blood flow, the greater the damage to the heart.

Cause	Risk Factors	Prevention	Symptoms	Treatment	Prognosis
Atherosclerosis	<ul style="list-style-type: none"> •Heredity •Diabetes •High blood pressure •Abnormal cholesterol levels •Smoking 	<ul style="list-style-type: none"> •Avoid/reduced stress •Don't smoke •Eat well balanced meals •Regular exercise •Keep blood pressure below 130/80. 	Angina	Medication	Everyone recovers differently. Take medication as prescribed. A change in diet and quit smoking can improve lifestyle.

2. **Congestive Heart Failure** - Life threatening condition in which the heart cannot pump blood to the rest of the body.

Cause	Risk Factors	Prevention	Symptoms	Treatment	Prognosis
Almost always a chronic, long-term condition. It can sometimes develop suddenly.	<ul style="list-style-type: none"> •Aged •Overweight •Diabetes •Smoke •Drink alcohol 	<ul style="list-style-type: none"> •Do not smoke •Do not drink alcohol •Reduce salt intake •Exercise 	<ul style="list-style-type: none"> •Cough •Difficulty sleeping •Fatigue, weakness, faintness •Palpitations •Shortness of breath •Swelling of the abdomen and/or feet 	<ul style="list-style-type: none"> •Closely monitor by the doctor. •Follow up appointments •Keep track of weight. 	It is a serious disorder. Many forms of heart failure can be controlled with medication and lifestyle changes.

3. **Cardiogenic Embolism** – Loss of brain function caused by blood clots that develop in the heart and travel to the brain.

Cause	Risk Factors	Prevention	Symptoms	Treatment	Prognosis
Moving blood clots that develop in the heart and travel through the bloodstream. They become stuck in small arteries of the brain.	<ul style="list-style-type: none"> •History of heart valve replacement •Arrhythmias •Heart attack •Blood clots in the body 	<ul style="list-style-type: none"> •Avoid/reduce stress •No smoking •Eat well balanced meals •Regular exercise •Keep cholesterol and blood sugar under control 	<ul style="list-style-type: none"> •Occur suddenly and include numbness/weakness of the face, arm, or leg •Confusion, trouble speaking, or understanding speech •Dizziness 	<ul style="list-style-type: none"> •Serious condition •Depends on severity of symptoms. Require hospitalization 	Stroke is the leading cause of disability among adults in the US and the country's third leading cause of death. How well a person does depends on the severity of the stroke and how quickly treatment is received.

Risk Factors You Can't Change

Increasing age: over 83% who die of CHD are 65+. Women are somewhat protected from heart attack until menopause.

Gender: men have greater risks because they can get heart attacks at an earlier age.

Heredity: children of parents with heart disease and stroke are more likely to develop it themselves.

Prior stroke or heart attack: if you've already had a stroke or heart attack, you're at much higher risk of having another one.

BUT:

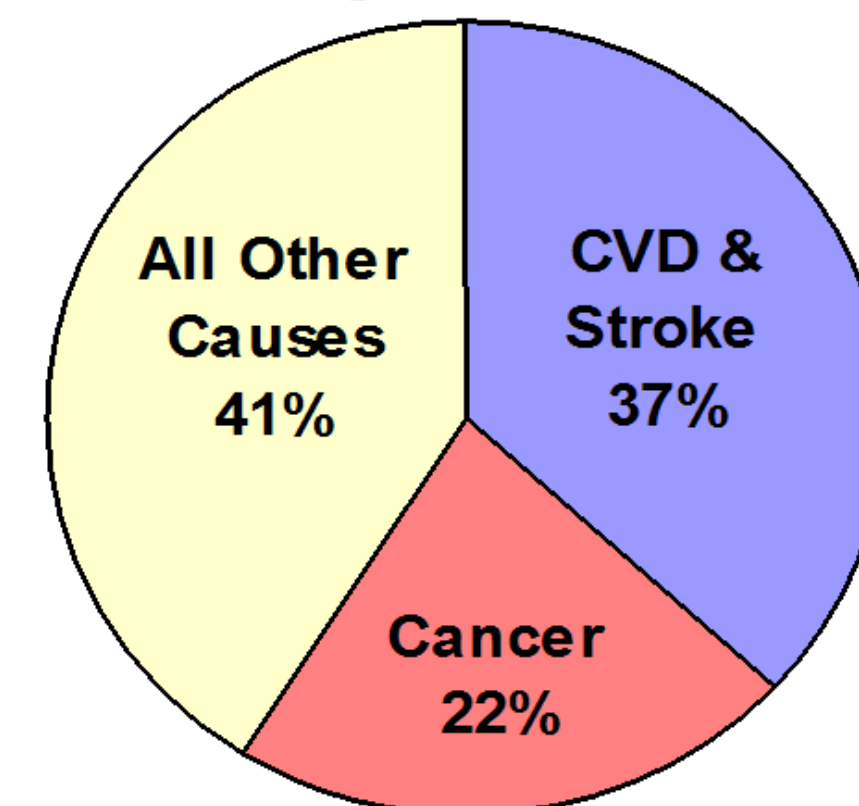
Risk Factors You Can Change

Cigarette smoking
High blood pressure
High cholesterol
Physical inactivity
Obesity and overweight
Diabetes

Heart Disease in the United States

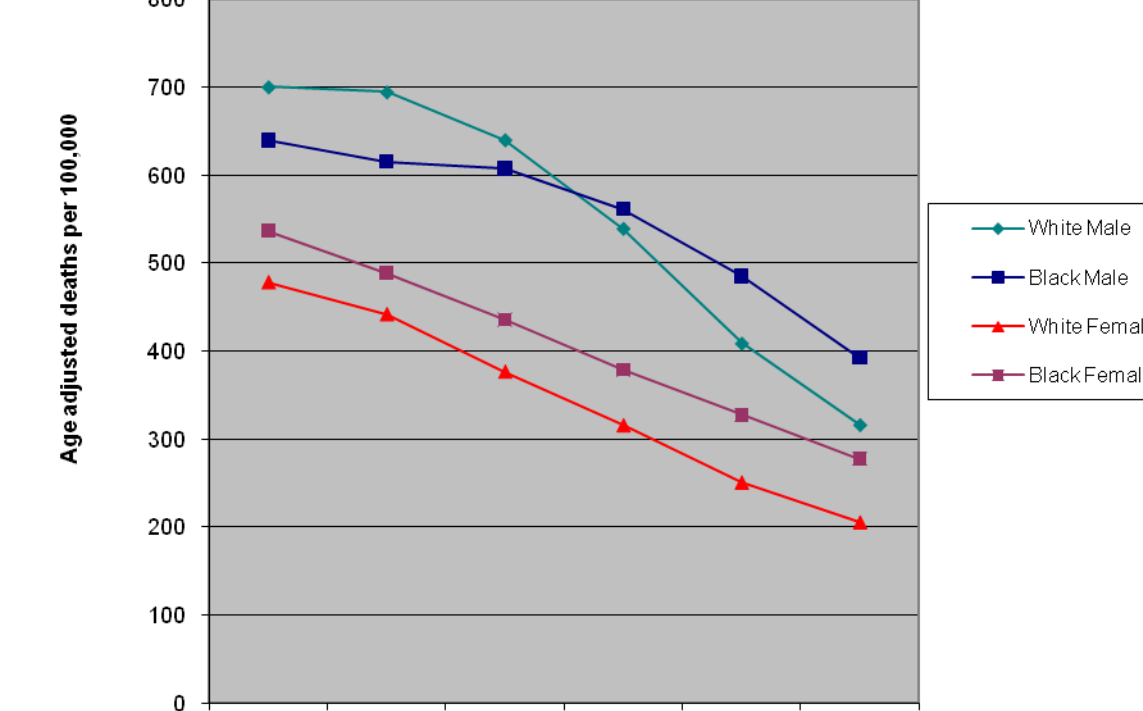
- In 2005, African American men were 30% more likely to die from heart disease compared to non-Hispanic white men
- African Americans were 1.4 times as likely as non-Hispanic whites to have high blood pressure
- African American women are 1.7 times as likely as non-Hispanic white women to be obese
- Cardiovascular disease is the number 1 killer of African Americans

Causes of Death Among U.S. African Americans, 2001



Source: AHA, Heart Facts 2004: African Americans

U.S. Heart Disease Death Rates 1950-2001

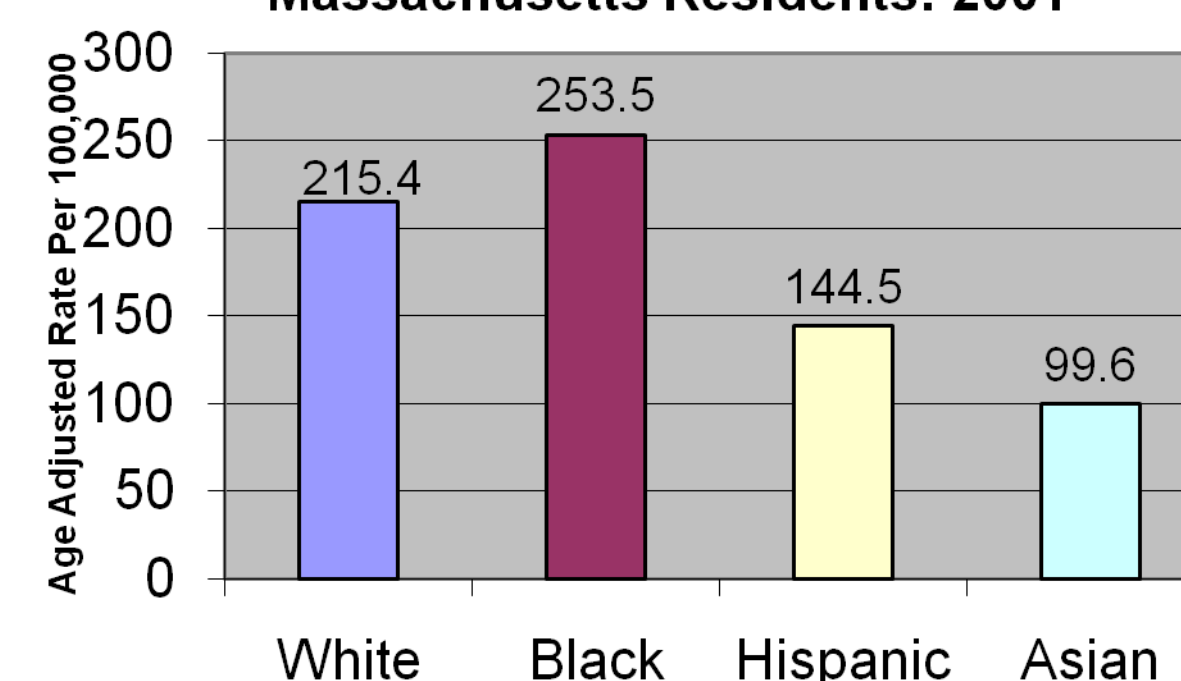


Source: CDC/NCHS Health, United States, 2003

Health Disparities in Massachusetts

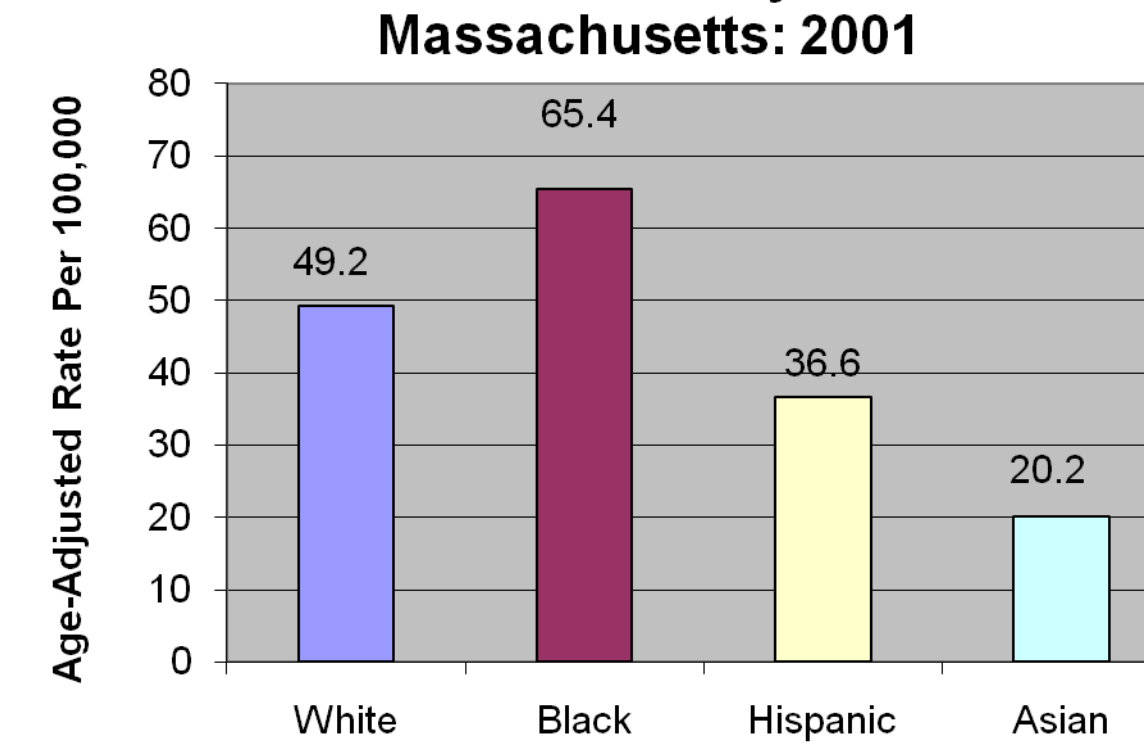
- Heart disease, stroke, and other diseases of the heart kill more people in Massachusetts and the nation than any other disease
- Coronary heart disease (CHD), is the leading cause of death for African Americans
- In 2001, rates for CVD deaths in MA were 18% higher for blacks than whites
- Black women tend to develop heart disease at an earlier age and have the highest mortality rate from heart disease of all women
- The National Heart Lung and Blood Institute estimates that CVD will cost the US \$368.4 billion in direct and indirect costs

Heart Disease Death Rates Among Massachusetts Residents: 2001



Source: MDPH, 2001 Mortality Records

Stroke Deaths by Race Massachusetts: 2001



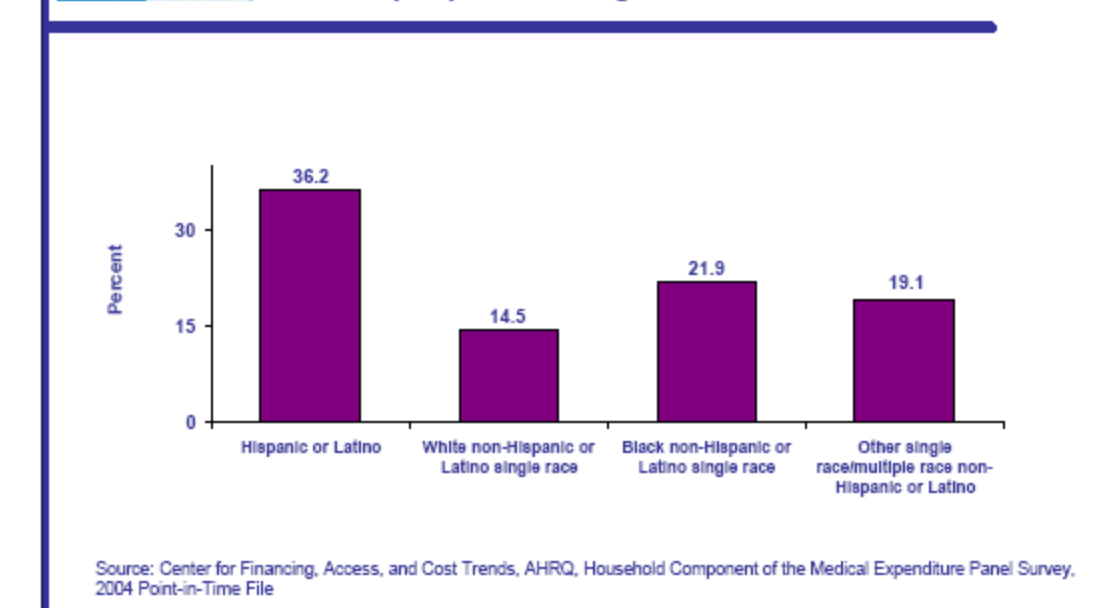
Source: MDPH, Massachusetts Deaths, 2001

Reasons

Cardiovascular disease is more prevalent in African Americans than any other race because they have more of the standard cardiovascular risk factors and are more likely to experience the risks that are associated with CDV.

The clustering of risk factors such as: diabetes, hypertension, obesity and physical inactivity has a higher incidence in African Americans due to the large number of African Americans who live in lower socioeconomic settings. Discrimination and economic inequality are responsible for disparity also.

Figure 2. Percentage uninsured, by race/ethnicity, people under age 65, first half of 2004



Source: Census Bureau, Census of Health, Education, Income, and Other Characteristics of the United States, 2004

African Americans (%), Asians (%), Hispanics (%), Non-Hispanic Whites (%)

	African Americans (%)	Asians (%)	Hispanics (%)	Non-Hispanic Whites (%)
Educational Attainment 2003 (Age 25)				
Less than high-school education	20.0	12.4	43.0	10.6
High-school graduate or more	80.0	87.6	57.0	89.4
Some college or more	44.7	67.4	29.6	52.9
Bachelor's degree or more	17.3	49.8	11.4	27.6
Income				
Median household income in 2003	\$30,442	\$57,196	\$33,184	\$49,061
Median household income in 2004	\$30,134	\$57,518	\$34,241	\$48,977
Percent change in median household income (2004-2003)	-1.0	0.6	1.1	-0.2
Average Earnings in 2002 by Educational Attainment				
Not a high-school graduate	\$16,516	\$16,746	\$18,981	\$19,264
High-school graduate	\$22,823	\$24,900	\$24,163	\$26,148
Some college or associate's degree	\$27,426	\$27,340	\$27,737	\$31,878
Bachelor's degree	\$42,255	\$46,628	\$43,949	\$52,479
Advanced degree	\$59,944	\$72,832	\$67,479	\$73,870

Source: Stokes N. Educational Attainment in the United States, 2003. Population Characteristics, Current Population Reports, U.S. Census Bureau, June 2004. U.S. Census Bureau, Income, Poverty, and Health Insurance Coverage in the United States, 2004. U.S. Census Bureau, Occupation, 2003.

Common Risk Factors Prevalent in African Americans

Diabetes

- Among Americans age 20 and older, the following are diagnosed with diabetes:
- For non-Hispanic whites, 5.8 percent of men and 6.1 percent of women.
- For non-Hispanic blacks, 14.9 percent of men and 13.1 percent of women.

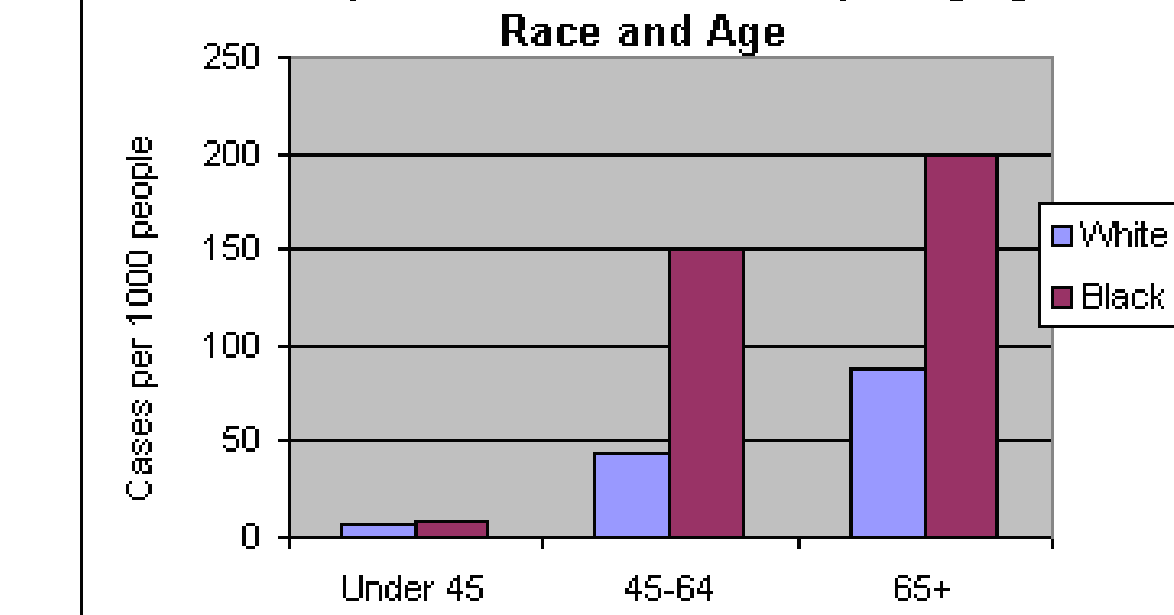
There are no definite answers as to why so many more African Americans have diabetes than Caucasians. However, being overweight is a known cause of Type 2 diabetes.

Obesity

Among Americans age 20 and older, the following are overweight or obese (BMI of 30.0 and higher):

- For non-Hispanic whites, 32.3 percent of men and 32.7 percent of women.
- For non-Hispanic blacks, 36.8 percent of men and 52.9 percent of women.

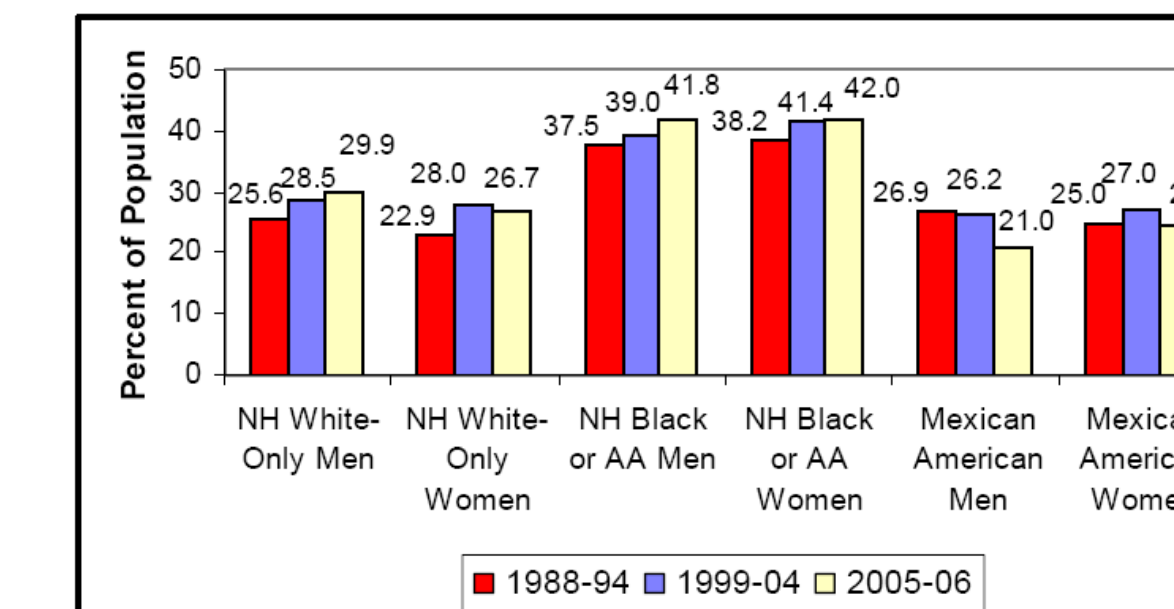
Comparison of Diabetes Frequency by Race and Age



Hypertension

41 percent of African Americans have hypertension, as compared to 27 percent of whites. Some experts hypothesize that social and economic factors are responsible for this difference.

Age-Adjusted Prevalence Trends for High Blood Pressure in America Age 20 and Older by Race/Ethnicity, Sex and Survey



Physical Inactivity

- Non-Hispanic black and Hispanic adults were more likely to report inactivity.
- 16.7 percent and 10.7 percent, respectively, compared to non-Hispanic white adults (10.7 percent).

In Conclusion:

Historically, racial categorization has been rooted in racism. Within the U.S. context, whites have always been at the top, blacks at the bottom, and other groups in between. Racism has restricted socioeconomic attainment for minority groups. Residential segregation in the early 20th century has led to racial differences in the quality of education. Funding education is at the local level; therefore, community resources are important in determining the quality of the neighborhood school.

Residential segregation has led to the concentration of poverty in residential areas. It can create pathogenic housing and poor quality living conditions. Residents of highly segregated neighborhoods are likely to have less access to services. Black and white neighborhoods differ in the availability of jobs, family structure, marriage, education quality, and exposure to exceptional role models.

Residential segregation also adversely affects SES by having a negative impact on employment. Studies of white employers reveal that they consciously and deliberately use negative stereotypes to deny employment opportunities to black applicants. Research has also shown racism and discrimination can also affect health. Discrimination can affect access to medical care.

References:

- American Heart Association. African Americans and Cardiovascular Diseases-Statistics
- American Heart Association. Diabetes Mellitus-Statistics
- American Heart Association. Heart Disease, Stroke, and African Americans
- American Heart Association. Overweight and Obesity-Statistics
- American Heart Association. Physical Inactivity
- American Heart Association. What is Cardiovascular Disease?
- Centers for Disease Control and Prevention. Heart Disease
- Johnson A. Paula. Women's Health & Gender Biology. Brigham and Women's Hospital
- Massachusetts Department of Public Health. April 2009.
- Medline Plus. Coronary Heart Disease
- Medline Plus. Heart Failure.
- Medline Plus. Stroke secondary to cardiogenic embolism
- WebMd. Hypertension in African Americans
- Williams, David. Race, Socioeconomic Status, and Health The Added Effects of Racism and Discrimination

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