

Prevalence of Coronary Heart Disease among African Americans in the U.S.

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The Problem: Cardiovascular Disease Among African American

One of the leading causes of death globally is cardiovascular disease (CVD). The most common issues related to cardiovascular disease are high blood pressure, stroke, coronary artery disease, cardiac arrest, and many more. Coronary heart disease (CHD) is the most common heart disease, also known as coronary artery disease (CAD). The report will focus on African Americans, who, compared to other ethnic groups, have the highest rank of suffering cardiovascular-related illnesses, specifically coronary heart disease.

Extend of the Problem

Mortality. According to a report conducted by the U.S. Department of Health and Human Services 'Office of Minority Health (2022) in 2018, African Americans showed a 30 percent incline in mortality rates compared to other ethnic groups such as; non-Hispanic whites due to heart failure. [Appendix A](#) demonstrates the mortality rate calculated by age-adjusted heart disease rates per 100,000, reporting a high death toll. Data indicates that black men are more at risk of suffering CAD in comparison to women. The mortality rate among non-Hispanic black men was 270.6, whereas non-Hispanic white was only 213.1. Moreover, African American women reported a rate of 168.6 compared to white women, who only had a rate of 130.7 (USDHHS, 2022). Understanding the mortality rates allows us to comprehend that gender is not an issue yet; the culture and customs of different ethnic groups certainly are.

Morbidity. In the United States, about 18.2 million adults aged 20 or older reported being diagnosed with CAD (CDC, 2022). According to a report conducted in 2018, the diagnosed cases of CHD calculated by the age-adjusted percentage of coronary heart disease among

individuals of 18 years or older was higher among African Americans than whites. Blacks reported 5.4 cases of CHD compared to whites, who only reported 5.8 cases (USDHHS, 2022).

Economic Impact. Coronary heart disease is a common disease in the U.S. Over time, extensive research, health professionals have developed treatments and prescriptions, and operations for coronary heart disease, thus helping lower death counts. According to the American Heart Association (2017), “CDC data in the US show that Americans suffer 1.5 million heart attacks and strokes each year, which contributes more than \$320 billion in annual healthcare costs and lost productivity. By 2030, this cost is projected to rise to \$818 billion, while lost productivity costs to \$275 billion”. Increased surges of CHD have resulted in a heavily negative impact not only on the population but also on the country's economy.

Agent of Disease

As previously mentioned, coronary heart disease is also known as coronary artery disease. According to Cleveland Clinic (2021), coronary artery disease (CAD) is known for “the buildup of plaque in the arteries that supply oxygen-rich blood to the heart. Plaque causes a narrowing or blockage that could result in a heart attack”. This disease occurs when arteries struggle to supply the heart with enough blood to flow. More specifically, the blockage plaque is made up of cholesterol deposits. [Appendix B](#) illustrates in steps how the disease evolves. First, it shows a cleaned artery. Secondly, it demonstrates how the artery begins to get damaged by forming plaque or cholesterol. Lastly, it illustrates how the plaque ruptures and how the blood clots start to form, limiting the blood to flow in a healthy way. The process of blood blockage is called atherosclerosis.

Condition and Clinical Symptoms

Symptoms of coronary heart disease vary from person to person. As mentioned by the Centers for Disease Control and Prevention (2021), most people have reported that the first clue indicating having coronary artery disease is by their first heart attack (CDC, 2021). Appendix C shows that other symptoms that indicate coronary artery disease are chest pain/discomfort, also known as angina. Additionally, people may also experience cold sweat, nausea, light-headedness, and shortness of breath. As reported by the National Institute of Health (2019), other complications related to CHD that are important to mention are acute coronary syndrome, arrhythmia, heart failure, and sudden cardiac arrest (NIH, 2019). Lack of action to seek medical attention can result in life-threatening complications and risk the chances of physical disabilities.

Modes of Transmission

Acknowledging the principles and causative agent of coronary heart disease, it is concluded that CHD does not have any existing transmission mode by an infectious agent. The condition forms independently according to each lifestyle decision related to health.

Mechanisms of Prevention

Primary Prevention. Many behavioral changes can be done to reduce the chances of CAD. A primary change that can be done to prevent CAD is to become more involved in physical activity. Regmi & Siccardi (2021) discussed how physical activity is a great way to reduce the risk of the disease. They stated that at least 150 minutes per week of moderate-intensity and greater than 75 minutes a week of vigorous-intensity physical activity are highly beneficial. Some activities to consider are brisk walking, biking, active yoga, and recreational swimming. The formation of cholesterol begins from an unhealthy diet and a lack of physical activity. Maintaining a healthy balance of proper nutrition and an active lifestyle will aid in achieving an

ideal body weight. Having a lower body fat percentage in one's body will ultimately decrease the chances of any type of artery blockage and heart failure.

Secondary Prevention. This type of prevention is designed to reduce the progression of the disease after it has been diagnosed. As stated by the Centers for Disease Control and Prevention (2021), Coronary artery disease can be diagnosed in multiple ways by using an electrocardiogram (EKG), echocardiogram, exercise stress test, chest X-ray, cardiac catheterization, and others.

Tertiary Prevention. A diagnosed individual can be referred to counseling and/or cardiac rehabilitation programs for a supervised recovery. Seeking help will help understand any future complications, receive education about healthy eating, and join drug therapy or general counseling on how to take medication (CDC, 2021). This prevention will help patients reduce any symptoms and recover from the disease to avoid further progress that could lead to mortality.

Factors of Vulnerability

Race/Ethnicity. No particular race/or ethnicity group is immune to coronary heart disease. African Americans have lived through a devastating history of slavery that has out-turned in inequality. They continue to be haunted because they are unprivileged in society today. Actions of discrimination and racism are held against them in public, and this is a possible reason for African Americans to be more prone to CAD. Akinseye (2021) stated, “Other risk factors that have directly and indirectly contributed to the higher burden of heart disease among African Americans include cost barriers to quality health care, higher uninsured rate, low level of education, higher poverty rate, poor diet quality, low level of exercise, and other environmental barriers to physical activity”. African Americans receive low-quality health care due to

discrimination from physicians. Moreover, low levels of education prevent them from understanding the importance of physical activity and cooperating nutritional food for a healthy diet. [Appendix D](#) presented by the Centers for Disease Control and Prevention (2017) helps understand social factors and health risks compared to African Americans to white. Some of the risk factors include unemployment, living in poverty, no homeownership, not seeking medical attention, and being not physically active. Additionally, it demonstrates how heart disease is one of the highest causes of mortality for African Americans.

Environmental and Socioeconomic Factors

African Americans may live in low middle-income neighborhoods that limit access to food stores that provide affordable organic food rather than fat, high-calorie, and sodium content. [Appendix E](#) helps understand the ratio of proportion in poverty relative to total population by race and age conducted by the U.S. Census Bureau in 2019. The graph demonstrates the black population is the highest in poverty of all ages compared to other races. The U.S. Census Bureau (2020) stated, “In 2019, the share of Blacks in poverty was 1.8 times greater than their share among the general population. Blacks represented 13.2% of the total population in the United States, but 23.8% of the poverty population”. Lower-income neighborhoods are oftentimes referred to as the "ghetto" where violence, drugs, and social inequality exist mentally close off many doors to young children, teenagers, and adults limiting the opportunity to strive for positive changes in their lifestyle for healthier habits, and routines.

Temporal Variation of Coronary Heart Disease

The cases of CAD along with mortality rates have been increasing over the years in the U.S. The upwards toll of diagnosed CAD cases can be considered a secular trend because it is a consistent pattern that has been growing over time.

Additional Epidemiologic Variables

Recent epidemiologic research has discovered warning signs that can possibly indicate heart disease. According to Edith Cown University (2021) new research has concluded that the build-up of calcium in a artery outside of the heart can help predict any future strokes or heart attacks. Doctors have stated that this new research can help identify people at risk before actual symptoms of CAD arise.

Conclusion

To conclude, one of the main determinants that explain the reasons for higher numbers of CAD can be due to limited access to quality care by not receiving treatment equally. African Americans may not have an appropriate level of education that will help them understand the importance of eating healthy. Lastly, a high number of African Americans live in poverty meaning that they do not have access to resources to help them join programs or gyms to stay active to reduce any high cholesterol.

Gaps in Knowledge about coronary artery disease

There is plenty of research regarding the etiology of coronary artery disease, the symptoms. Therefore, not enough information exists that helps understand the thoughts and feelings of African Americans. It is essential to gain information from African Americans regarding the reasons why African Americans are not becoming involved in interventions to help lower morbidity and mortality rates.

Areas for Further Research

Researchers must focus on helping the diagnosed black population by educating and developing interventions by community health programs to help the underrepresented and unwilling to seek help themselves. Epidemiologists need to gather further research to determine why African Americans are being affected by this disease besides living in poverty or lacking basic health literacy and understanding.

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<https://www.cdc.gov/heartdisease/facts.htm>

Death Rate:

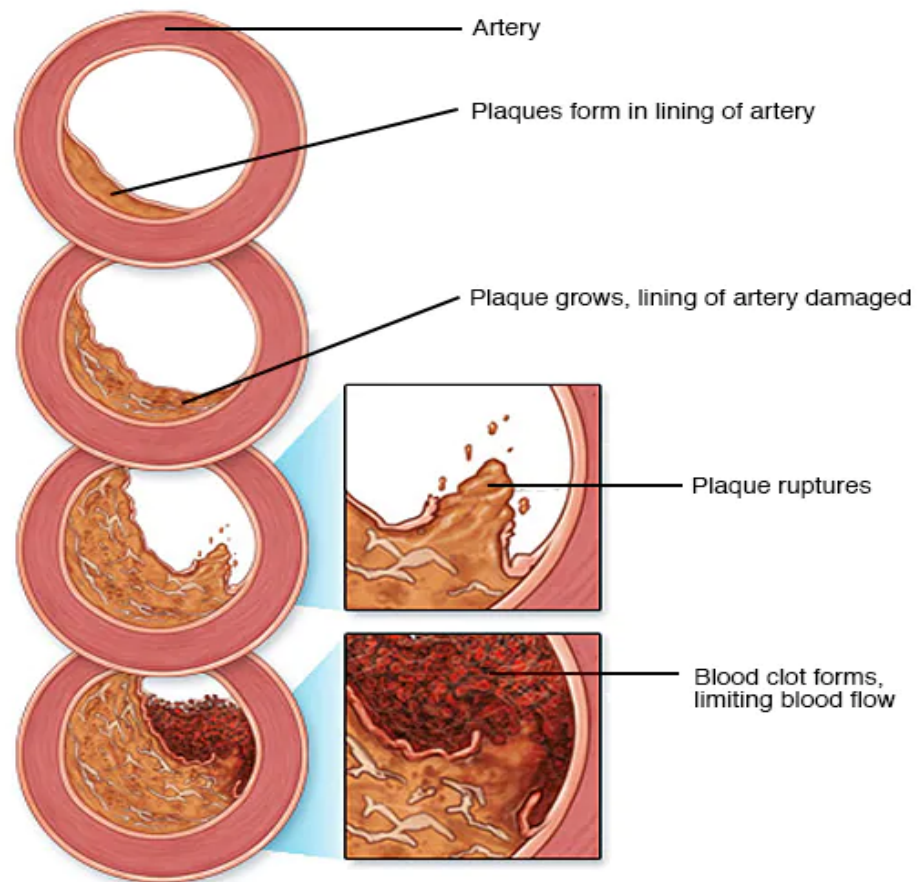
| Age-adjusted heart disease death rates per 100,000 (2018) | | | |
|--|---------------------------|---------------------------|--|
| | Non-Hispanic Black | Non-Hispanic White | Non-Hispanic Black / Non-Hispanic White Ratio |
| Men | 270.6 | 213.1 | 1.3 |
| Women | 168.6 | 130.7 | 1.3 |
| Total | 212.0 | 168.1 | 1.3 |

Appendix A

United States Department of Health and Human Services (2022): “Heart Disease and African Americans”

(United States Department of Health and Human Services, 2022)

<https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=19>



Appendix B

Mayo Clinic (2020): “Coronary Artery Disease”

(Mayo Clinic, 2020)

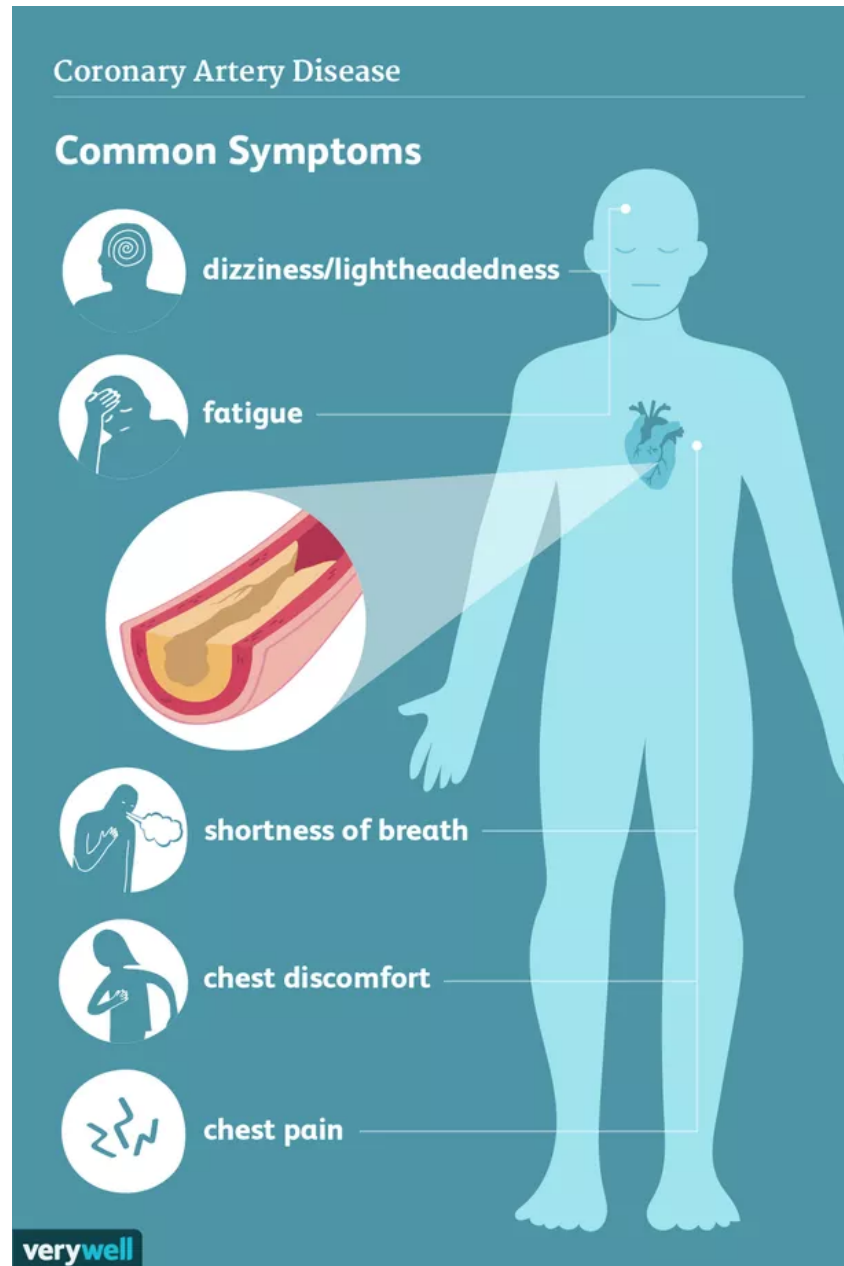
<https://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/symptoms-causes/syc-20350613>

Appendix C

Richard N. Fogoros (2021): “Symptoms of Coronary Artery Disease”

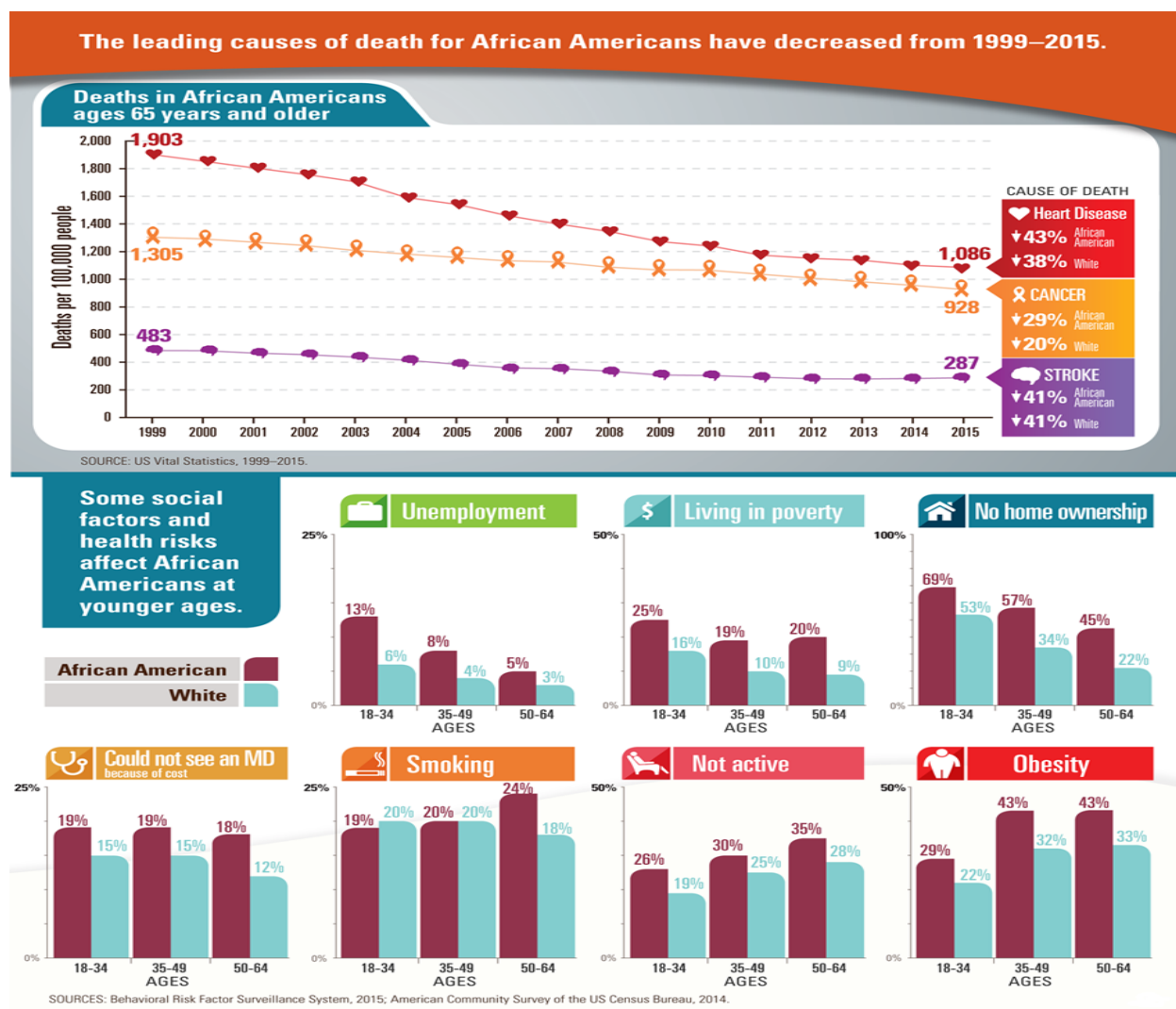
(Fogoros, 2021)

<https://www.verywellhealth.com/coronary-artery-disease-symptoms-1745924>



Appendix D

United States Department of Health and Human Services (2017): “African American Health”

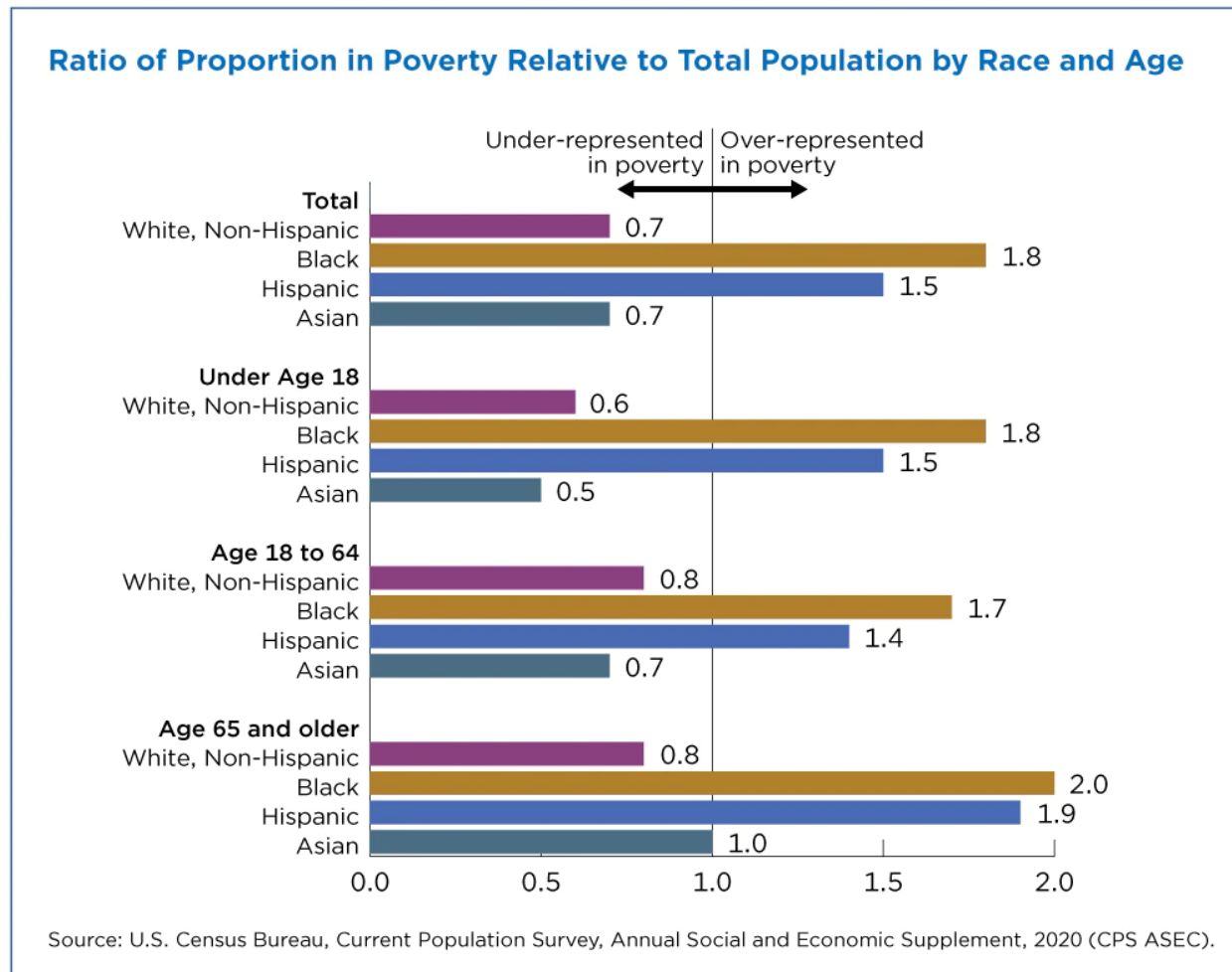


(United States Department of Health and Human Services, 2017)

<https://www.cdc.gov/vitalsigns/aahealth/index.html>

Appendix E

John Creamer (2020): “Inequalities Persist Despite Decline in Poverty For All Major Race and Hispanic Origin Groups”



(Creamer, 2020)

<https://www.census.gov/library/stories/2020/09/poverty-rates-for-blacks-and-hispanics-reached-historic-lows-in-2019.html>