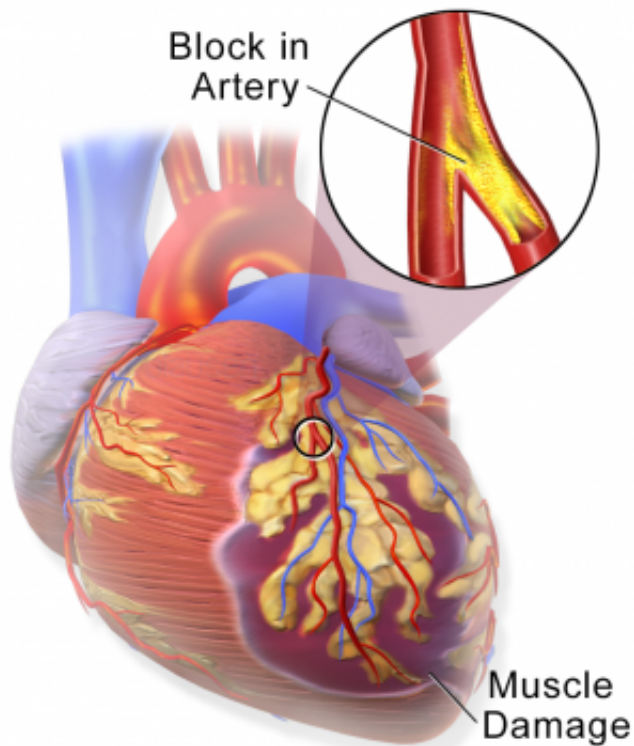


Black people more likely to die of sudden cardiac arrest, but why?

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Heart Attack

Myocardial Infarction or Heart Attack. Credit: Blausen Medical Communications/Wikipedia/CC-A 3.0

Physicians have known for years that black people in the United States are at higher risk than whites of dying from sudden cardiac arrest, but the reasons have been unclear.

A large new study identifies what is not causing this racial disparity, for the most part: differences in income, education, diet, smoking, stress and other traditional markers of heart health.

That suggests underlying [biological differences](#) are a likely culprit, said lead author Rajat Deo, an associate professor at the University of Pennsylvania's Perelman School of Medicine.

The findings, published Monday in the *Journal of the American College of Cardiology*, came from a six-year analysis of 22,500 people with no history of [cardiovascular disease](#). Black participants in the study were more than twice as likely as whites to die of [sudden cardiac arrest](#)—at a rate of 18 deaths per 10,000 black people each year, compared with seven sudden cardiac deaths per 10,000 white people.

Though the exact reasons for that gap remain unknown, Deo said the study illustrates the need for action in areas with large black populations—including an increase in CPR training and the availability of automated external defibrillators.

"A combination of awareness, education, and resource allocation may help reduce the burden of sudden cardiac death in a city like Philadelphia," said Deo, a cardiac electrophysiologist.

A 2017 study led by a Duke University physician came to a similar conclusion, finding that people in predominantly black neighborhoods were less likely to receive CPR or defibrillation than people living in predominantly white areas.

Another study, led by Jefferson University physician David Gaieski, found that Philadelphia as a whole has a poor record of bystanders coming to the rescue—with CPR attempted in 10.7 percent of cases, less than half the rate in some areas. Philadelphians used defibrillators even

less often—in just 1 out of 1,000 cases from 2008 to 2012, said Gaieski, a professor of emergency medicine at Jefferson's Sidney Kimmel Medical College.

Each year in the U.S., more than 350,000 people suffer a sudden cardiac [arrest](#), and most of them die from it, according to the American Heart Association. The condition is defined as an abrupt stoppage of the heart, generally due to an electrical abnormality. It is not the same thing as a heart attack, though it can result from one. Sudden cardiac arrest also can result from various kinds of cardiomyopathy, in which the heart muscle is enlarged or abnormally thick.

To look at the issue of racial disparity, Penn's Deo collaborated with researchers at the University of Alabama at Birmingham who already were studying that question for a different health problem: strokes.

At Deo's suggestion, the stroke researchers agreed that anytime someone in their study died suddenly, they would contact next of kin to determine if the person had suffered a [sudden cardiac death](#).

With funds from the National Institutes of Health, the Alabama team had recruited more than 30,000 participants. Deo and his colleagues focused on a subset of 22,500 people who had no history of cardiovascular disease, following them for a median period of six years.

After calculating that black people were more than twice as likely to die of sudden cardiac arrest, the team then analyzed the results to see what might explain the gap. First, they found the disparity existed regardless of education, income, and level of health insurance.

They then analyzed a series of other factors that might explain the difference: blood pressure, diabetes, body weight, levels of exercise, stress, and the use of alcohol or cigarettes. Taking all those factors into

account, black people in the study remained nearly twice as likely to die from sudden cardiac arrest. That suggests some of those factors may explain a small part of the racial disparity, but that underlying biological differences are more to blame.

For example, past studies have found that [black people](#) who die of sudden cardiac arrest are more likely to have suffered from a thickening of the heart muscle, Deo said.

The main lesson is the importance of fast action, said Gaieski, the Jefferson physician. He said that in some cases, bystanders may hesitate to administer CPR due to uncertainty. Bad idea.

"Whenever there's a question, if you think someone's had a cardiac arrest, you should do CPR" and get someone to look for a defibrillator, he said. "Begin chest compressions and call 911."

CPR is far from a guarantee of survival, but it keeps oxygen circulating until the [heart](#) can be shocked into restarting or restarts on its own.

And training seems to make a difference, according to another study presented earlier this month at an American Heart Association meeting. In states where high school students are required to learn CPR, the procedure is more likely to be performed and the rate of patient survival is higher, the authors found.

Most states, including New Jersey, now require that students learn CPR. Such a requirement was passed by the Pennsylvania state senate this year but is not expected to progress further by the end of the session.

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