Health equity is a work in progress—many scientists and scholars are investigating the reasons for cardiovascular health disparities as well as possible solutions to close the gaps.

**Day-to-day Discrimination**

Experiencing discrimination of any type in day-to-day interactions may affect recovery from a heart attack or acute myocardial infarction (AMI), according to research presented at the American Heart Association’s (AHA) 2022 Scientific Sessions event.

This study included 2670 individuals aged 55 years or younger who had heart attacks across the US. All participants completed questionnaires 1 month and 1 year following the AMI incident, and almost 35% reported experiencing discrimination in their everyday lives. Study participants who reported higher levels of discrimination were more likely to report worse mental health, quality of life, and treatment satisfaction; they also had more frequent chest pain and physical limitations.

Discrimination also was linked to worse heart attack recovery, but not general measures of patient-reported health. These findings “suggest that perceived discrimination may be particularly important to consider when treating younger cardiac patients,” the abstract’s lead author Andrew Arakaki, MPH, wrote in an email to JAMA.

Arakaki, a doctoral student in the Department of Chronic Disease Epidemiology at the Yale School of Public Health, pointed out that a unique aspect of the study was its focus on everyday discrimination, which he noted is a chronic stressor.

“Much of the existing literature has focused on the impact of discrimination experienced in the health care setting on health outcomes,” Arakaki said. “Our study demonstrates that discrimination experienced outside of the health care system also [may have] a negative impact on AMI outcomes.”

**Education and Place of Birth**

Another research team set out to understand how social and psychosocial factors contribute to differences in cardiovascular health among various racial and ethnic groups. This study, published in Circulation, included 16,172 US-based adults aged 20 years or older who self-identified as Hispanic, non-Hispanic Asian, non-Hispanic Black, or non-Hispanic White.

“Since race and ethnicity are social identities, not biological categories, we wanted to know what social determinants of health contribute most to racial and ethnic differences in cardiovascular health at the population-level in the US,” lead author Nilay Shah, MD, MPH, explained in an email to JAMA.

Cardiovascular health was measured based on survey answers about diet, smoking, and physical activity; mobile examination clinics also documented cholesterol and glucose levels, blood pressure, and body mass index. Using additional questions from the National Health and Nutrition Examination Surveys answered between 2011 and 2018, the researchers investigated 7 cardiovascular health determinants: depression, education, income, food security, marital status, health insurance, and place of birth.

Differences in both educational attainment and place of birth contributed the most to differences in cardiovascular health between racial and ethnic groups.

Shah said he was particularly surprised that place of birth contributed the most to differences among non-Hispanic Asian and Hispanic women when compared with non-Hispanic White women. If non-Hispanic Asian and Hispanic women had similar rates of US birth as their non-Hispanic White, female peers, their cardiovascular health scores would be lower—by 0.49 points and 0.36 points, respectively. This suggests that the population-level cardiovascular health of Hispanic women and non-Hispanic Asian women is better than that of non-Hispanic White women because a greater proportion of Hispanic and non-Hispanic Asian women are born outside the US.

“Our results tell us there is more to the differences in cardiovascular health between racial and ethnic groups than only the differences in socioeconomic position,” said Shah, an assistant professor of cardiology and preventive medicine in the Bluhm Cardiovascular...
Institute at Northwestern University Feinberg School of Medicine. "It's not yet clear how place of birth influences differences in health in different groups, and this is an area that deserves much more study."

Access to Heart Transplants and VADs
Black patients with heart failure were 55% less likely than their White peers to receive heart transplants or ventricular assist devices (VADs) that mechanically pump blood from the heart, according to research in Circulation: Heart Failure.

In an observational study of adults treated for 2 years at 1 of 21 US-based VAD centers, only 11 of 100 Black patients (11%) received a heart transplant or a VAD, whereas 62 of 277 White patients (22%) received such therapies for end-stage heart failure. The difference in care wasn’t because of treatment hesitancy: patient preferences for heart failure therapy were similar among both cohorts.

Disparities remained even when the researchers controlled for illness severity, patient-reported quality of life, and factors such as age, sex, income, educational level, insurance type, and caregiver support.

Lead author Thomas Cascino, MD, MSc, a cardiologist and clinical instructor in the Division of Cardiovascular Disease at the University of Michigan, said the results weren’t unexpected: several studies including his own previous research had similar findings.

“Our work adds to the robust literature that has shown disparities in access to therapies for Black patients,” Cascino wrote of his latest study in an email to JAMA.

The results are especially concerning in different groups, and this is an area that deserves much more study."

ICU Evaluations
Despite racial disparities related to in-hospital cardiac arrest outcomes, Black and White patients may have similar odds of receiving intensive care unit (ICU) evaluations prior to cardiac arrest. These findings were presented at the AHA’s Resuscitation Science Symposium 2022.

"While we demonstrated there might be no racial differences in who gets evaluated by the ICU prior to cardiac arrest, it was determined that Black patients have better survival after cardiac arrest if the ICU evaluates them prior to sustaining a cardiac arrest,” the abstract’s lead author, Cody-Aaron Gathers, MD, wrote in an email.

In a retrospective study of 28,123 individuals aged 18 years or older who experienced cardiac arrest in a hospital between 2000 and 2021, researchers found that Black and White patients were just as likely to receive ICU evaluations before cardiac arrest. Receiving an ICU evaluation before cardiac arrest was associated with 15% higher odds of return of spontaneous circulation in Black patients compared with White patients.

“This is important as the medical community can continue to prioritize ICU evaluation prior to cardiac arrest and further explore why disparities in survival exist between Black and White patients after cardiac arrest,” explained Gathers, a fellow in pediatric critical care at the Children’s Hospital of Philadelphia and a national clinician scholar at the University of Pennsylvania.

Neighborhood Walkability
A potential way to mitigate cardiovascular risk is by making neighborhoods more walkable, according to research also presented at AHA’s Scientific Sessions meeting. Compared with other areas, walkable neighborhoods allow residents to reach everyday destinations—like pharmacies, stores, school, work locations, and places of worship—more easily and safely by foot, encouraging physical activity.

The researchers examined 70,123 US census tracts with self-reported prevalence data on coronary artery disease (CAD) as well as diabetes, hypertension, obesity, and high cholesterol, all factors that increase the risk of cardiovascular illness. The data were matched with an index that indicated the walkability of census tract neighborhoods.

Overall, high walkability scores were associated with a lower prevalence of CAD and cardiovascular risk factors. CAD prevalence was 5.4% in the most-walkable neighborhoods, compared with 7% in the least-walkable neighborhoods. Risk factors were up to 5.8 percentage points lower in more walkable neighborhoods, with the greatest reduction in hypertension.

The results suggest that neighborhood walkability could improve the risk of heart disease, regardless of social status, according to coauthor Sadeer Al-Kindi, MD, who is a cardiologist at University Hospitals Harrington Heart and Vascular Institute and an assistant professor at Case Western Reserve University.

"The inverse relationship between walkability and cardiovascular risk was independent of social vulnerability, a measure of socioeconomic status," he explained, noting that social vulnerability incorporates measurements of factors such as race and ethnicity, English proficiency, housing type, access to vehicles, poverty, and disabilities.

Additional research presented at the conference reported similar results from a study conducted in Houston. The authors concluded that their findings “support multilevel health system stakeholder engagements and investments in walkable neighborhoods as a viable tool for mitigating growing burden of modifiable [cardiovascular] risk factors.”

Al-Kindi also recently coauthored a study in the Journal of the American College of Cardiology that found people currently living in historically redlined neighborhoods are more likely to have heart disease, kidney disease, or a stroke.  

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Note: Source references are available through embedded hyperlinks in the article text online.