

Cardiovascular disease risk prediction models appear to work well in black adults

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Although cardiovascular disease risk prediction models are developed with predominantly white populations, application of models to a large black population finds that they work well in black individuals and are not easily improved on, suggesting that a unique risk calculator for black adults may not be necessary, according to a study published online by *JAMA Cardiology*.

Compared with non-Hispanic white adults, black adults have a higher risk of heart attack and congestive heart failure, and a 2-fold greater risk of stroke and peripheral arterial disease, making prediction and prevention of cardiovascular disease (CVD) in black adults a public health priority. Using data from the Jackson Heart Study, a community-based study of 5,301 black adults in Jackson, Mississippi, Ervin R. Fox, M.D., M.P.H., of the University of Mississippi Medical Center, Jackson, and colleagues developed and validated risk prediction models for CVD incidence in black adults, incorporating standard risk factors, biomarkers, and subclinical disease. Model performance was compared with the American College of Cardiology/American Heart Association (ACC/AHA) CVD risk algorithm and the Framingham Risk Score (FHS) refitted to the JHS data.

The study cohort included 3,689 participants. Over a median of 9.1 years, 270 participants experienced a first CVD event. A simple combination of standard CVD risk factors, B-type natriuretic peptide, and ankle-brachial index (model 6) yielded modest improvement over a model without B-type natriuretic peptide and ankle-brachial index.

However, the reclassification improvement was not substantially different between model 6 and the ACC/AHA CVD Pooled Cohort risk equations or between model 6 and the FHS.

"Previous risk algorithms were developed in predominantly white populations, and validation in black populations has been limited," the authors write. "Based on our results, these selected models that are readily available in the primary care setting are likely generalizable to other black populations originating from different geographical regions within the United States."

"Because African Americans are a high-risk population, the ability to estimate that risk is an important step forward in efforts to prevent atherosclerotic cardiovascular disease and eliminate health disparities," write David C. Goff Jr, M.D., Ph.D., of the Colorado School of Public Health, Aurora, and Donald M. Lloyd-Jones, M.D., Sc.M., of the Northwestern University Feinberg School of Medicine, Chicago, in an accompanying editorial.

"We believe that future research on risk estimation could usefully focus on several issues, including risk estimation in other racial/ethnic groups, prediction of an expanded outcome to include heart failure, and the role of easily attainable measures of subclinical disease in risk prediction. Given the present results by Fox and colleagues and other recent findings, it is also time to focus on improving our understanding of how to present risk and benefit information optimally to assist in shared decision making and to help patients adopt and adhere to preventive therapies. While efforts to improve risk assessment and communication continue, these results reinforce the usefulness of the Pooled Cohort risk equations and the importance of efforts to implement the current guidelines to prevent atherosclerotic [cardiovascular disease](#) in African Americans."

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