

ACC/AHA release new guideline for assessing cardiovascular risk in adults

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The American College of Cardiology and the American Heart Association today released a new clinical practice guideline to help primary care clinicians better identify adults who may be at high risk for developing atherosclerotic cardiovascular disease, potentially serious cardiovascular conditions caused by atherosclerosis, and who thus may benefit from lifestyle changes or drug therapy to help prevent it.

Atherosclerosis is a buildup of plaque that can eventually harden and narrow the arteries, potentially leading to heart attack and stroke.

The guideline—last updated in 2004—has been broadened to include assessment for [risk](#) of stroke as well as heart attack, and provide new gender- and ethnicity-specific formulas for predicting risk in African-American and white women and men. The recommendations also help clinicians and patients look beyond traditional short-term (10-year) risk estimates to predict an individual's lifetime risk of developing heart disease and having a stroke.

"Cardiovascular disease caused by atherosclerosis remains the number one cause of death, a major cause of disability and a huge source of health care costs," said Donald M. Lloyd-Jones, MD, ScM, Senior Associate Dean, Chair and Professor of Preventive Medicine at Northwestern University Feinberg School of Medicine and co-chair of the work group that developed the new guidelines. "We must do a better job of preventing it. That means being smarter in our approach to determine who should get medications, for example."

Roughly one in three U.S. adults who has not yet been diagnosed with heart disease and has not had a heart attack or stroke are at high enough risk that they could benefit from primary prevention with medications, including cholesterol-lowering statins, to lower their risk, according to authors. A primary goal of the new guideline is to help ensure preventive treatments including lifestyle changes and drug treatment are used in those most likely to benefit without undue risk or harm. To do this, the new guideline developed high-quality [risk assessment](#) methods that use [risk factors](#) known to lead to atherosclerosis—such as age, cholesterol levels, blood pressure, smoking, and diabetes—that primary care providers can easily collect. This information is then integrated into a risk score to guide care and prompt risk discussions with patients.

"The vast majority of heart attacks and strokes could be prevented if people knew their risk and did the things we know are effective in reducing that risk, but patients and doctors alike often underestimate [cardiovascular disease](#) risk, especially when considered over the lifespan," said David C. Goff, Jr., MD, PhD, Dean and Professor, Colorado School of Public Health, and co-chair of the work group. "This document offers clinicians the most up-to-date, comprehensive guidance about assessing that risk, so they can work with their patients to prevent heart attack and stroke."

Inclusion of stroke risk

In the past, cardiovascular risk assessment included only coronary heart disease. Yet, stroke is the fourth leading cause of death in the U.S. Women and African-Americans, in particular, are at much greater risk for stroke.

"We were leaving a lot of risk on the table by focusing on [coronary heart disease](#) alone," said Dr. Lloyd-Jones. "But by including stroke in our new algorithm we can better calculate overall cardiovascular risk, especially

in women and African-Americans." The risk for chronic [heart](#) failure was not included in the current algorithm because existing data were not sufficient to allow development of a high-quality risk equation for this complex condition.

Development of sex- and race-specific formulas to more accurately quantify risk

The report includes new pooled-cohort risk equations to better represent the effect of atherosclerosis risk factors for specific gender and ethnicities. Risk equations recommended in the past were based on data only from non-Hispanic whites. These new formulas are derived from a broad group of existing data sets including the Framingham Heart Study, the Atherosclerosis Risk in Communities Study, the Cardiovascular Health Study, and the Coronary Artery Risk Development in Young Adults study—all National Heart, Lung, and Blood Institute-sponsored community-based cohort studies.

"There is some evidence that the risk factors we know about—age, smoking, high cholesterol, blood pressure and diabetes—have somewhat different effects in women and men, and certainly in whites and African-Americans," said Dr. Lloyd-Jones. "These [equations] also allow us to be selective and smart about whom we identify as being at high enough risk for cardiovascular disease that it would merit starting drug therapy to help prevent it. And we know that the higher someone's risk, the more likely that person is to benefit from being on a medication."

As such, the authors recommend the new equations be used to assess risk in non-Hispanic whites and African-Americans ages 40-79 years old. The hope is that these formulas will be incorporated into electronic health records, helping clinicians to automatically and easily calculate a patient's risk and discuss individualized options for lowering that risk.

Assessing lifetime risk

Because the risk for developing atherosclerosis accrues over time and is a function of lifelong exposure to risk factors, the authors say it is really never too early to focus on determining risk. The guideline provides additional methods for determining a patient's lifetime risk that are intended particularly to help younger adults understand how they can reduce their risk for [heart disease](#) and stroke.

Weighing in on the usefulness of newer risk measures

The work group was also charged with making recommendations about the clinical usefulness of new markers of risk (conditions that can be measured in the urine, blood or by CT scan). Based on extensive review of the literature, the existing evidence did not support using these new risk measures routinely in risk assessment. However, four markers stood out as potentially helpful to use when patients or providers are uncertain about risk-based treatment after—and only after—the quantitative risk has been calculated using the pooled equations.

These measures include family history of premature cardiovascular disease; coronary artery calcium score, which can show the presence of plaque in artery walls; high-sensitivity C-Reactive Protein levels (higher levels have been associated with [heart attack](#) and stroke); and ankle brachial index, the ratio of the blood pressure in the ankle compared to [blood pressure](#) in the arm.

"These showed the greatest promise, and may help inform treatment decision-making when patients or providers are on the fence after quantitative risk assessment," Dr. Goff said.

Authors say more research is needed to better understand the optimal means for using short- and long-term cardiovascular risk assessment in

all race/ethnic groups, across different ages, and between men and women.

The expert panel that wrote the report was convened by the National Heart, Lung, and Blood Institute of the National Institutes of Health. At the invitation of the NHLBI, the American Heart Association and American College of Cardiology assumed the joint governance, management and publication of the guideline in June. Committee members volunteered their time and were required to disclose all healthcare-related relationships, including those existing one year before the initiation of the writing project.

More information: The full report, "2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk" will be published online today on the websites of the [ACC](#) and the [AHA](#), as well as in future print issues of the *Journal of the American College of Cardiology* and the American Heart Association journal, *Circulation*.

Provided by American College of Cardiology

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