

Experts suggest upgrades to current heart disease prevention guideline

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Acknowledging key strengths and "lessons learned," preventive cardiologists from Johns Hopkins and Mayo Clinic have developed a short list of suggested upgrades to the controversial heart disease prevention guidelines issued jointly in 2013 by the American Heart Association and the American College of Cardiology.

The recommendations, published in the Aug. 11 issue of *Mayo Clinic Proceedings*, are designed, the authors say, to improve subsequent [guidelines](#) and clarify key points of confusion related to risk prediction and treatment of heart attacks and strokes.

"Given that heart disease and stroke are top killers worldwide, even small improvements in the way we identify and treat those at risk could yield tremendous benefits both in reducing human suffering and health care costs," says lead author Miguel Cainzos-Achirica, M.D., a post-doctoral research fellow in preventive cardiology at the Johns Hopkins University School of Medicine.

Authors of the new report are careful to point out that the guidelines—already scheduled for revision in the next few years—were an important step forward in the quest to improve heart attacks and stroke prevention. Parts of them, however, remain unpopular among frontline clinicians and public health experts alike. And uncertainty or controversy about what constitutes best practice can reduce clinician adherence and dampen patient trust, the authors say.

The most contentious aspect of the guidelines is the predictive accuracy of a risk "calculator" that forecasts a person's likelihood of suffering a heart attack or stroke over a decade.

The guidelines state that in those with high cholesterol but no overt heart disease, preventive statins should be considered—typically as a lifelong therapy—among those whose 10-year risk for suffering a heart attack or stroke is 7.5 percent or higher. But because the risk-scoring algorithm can overestimate likelihood of [heart attack](#) or stroke in many, experts have voiced concerns over the hazard of overtreatment.

Recent studies have shown that, indeed, most clinical calculators, including the one endorsed in the 2013 guidelines, tend to overrate risk. Overreliance on such algorithms can lead to unnecessary treatment with statins. To ensure greater precision, the researchers say, new formulas should estimate risk based on outcomes from modern rather than historical populations. Current calculators base their risk estimates on people from the 1970s and 1980s who had a worse risk profile than modern-day patients. New formulas, the authors say, should be recalibrated regularly to reflect the latest data.

"Electronic medical records put at our fingertips a wealth of new information, so recalibrating risk calculators periodically is not the pipe dream that it was 10 years ago," says senior author Seth Martin, M.D., M.H.S., an assistant professor of medicine at the Johns Hopkins University School of Medicine.

The Johns Hopkins-Mayo group also suggests further "diversifying" risk scores. While current risk-scoring systems account for well-established differences in risk between white and black patients, they are "insensitive" when it comes to patients of other races and ethnicities. Researchers says recent evidence shows starkly different disease patterns among people of Latin American, South Asian or East Asian origin.

"Subtle and not-so-subtle racial and ethnic differences in [heart disease](#) should be reflected in how we measure risk and tailor treatment," Martin says.

Additionally, they say, closer attention must be paid to patients with borderline risk scores.

"For those at low or high risk for an event, treatment choices are rather straightforward," Martin says. "But in those with borderline scores, that decision can become a knotty clinical dilemma."

To help solve such dilemmas, the authors say the next set of guidelines can offer a list of tests that clarify a patient's risk and move the needle on treatment choice. For example, coronary calcium scans that visualize calcified deposits inside the heart's arteries could be an excellent tie-breaker, they say, because of mounting evidence showing them to be potent predictors of risk.

New guidelines could also clarify the role of non-statin alternatives to lowering cholesterol. While a healthy lifestyle is both the foundation and a first step to minimizing a patient's overall risk, clinicians are often uncertain if and how soon after a lifestyle modification statins should follow. The next set of guidelines ought to provide greater clarity on what constitutes "successful" lifestyle change, how soon after implementing it patients should be re-evaluated, and when and if drug treatment should be considered. Additionally, the authors say, more clarity is needed on the value of several non-statin cholesterol-lowering drugs.

Another much-needed fix, the authors say, is synchronizing treatment goals for reducing cholesterol.

Current U.S. guidelines urge clinicians to gauge treatment success by

calculating the percentage drop in a patient's [cholesterol levels](#). But European and Canadian guidelines call on physicians to aim for a fixed cholesterol number instead. The "percentage" approach is not only discordant with international guidelines, Martin says, but requires confusing and messy arithmetic that often discourages clinicians from using it. Moreover, the authors write, the "percentage" approach has fueled the misconception that cholesterol levels no longer matter. They do, the authors say. Harmonizing the "percentage drop" and "target number" approach to measuring therapeutic success would go a long way to improving clarity in clinical decisions.

One of the landmark strengths of the 2013 guidelines was emphasis on the importance of shared decision-making when choosing preventive treatment, the Johns Hopkins-Mayo team says. But many clinicians still struggle with how to go about it.

The next set of guidelines should include concrete tips on how to communicate risk in concrete rather than abstract terms and how clinicians can strike a balance between being the active problem-solvers patients expect them to be while giving patients autonomy and final say.

"Physicians from across the world come together all the time to produce astonishing new insights in science," Martin says. "We generate all the evidence together, so we should be able to apply it together. We hope our report provides the blueprint for doing it."

Provided by Johns Hopkins University School of Medicine

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