

Statin guidelines miss middle-age patients and over-target seniors

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The newest guidelines for the use of cholesterol-lowering statins in people at risk of heart disease may be too generic, excluding middle-aged adults who could benefit from the drugs, and over-prescribing in older adults, according to a new study from the Duke Clinical Research Institute.

But small adjustments to guidelines could enable doctors to catch more people between the ages of 40 to 55 with premature [heart disease](#), and prevent unnecessary medication for many [adults](#) over age 65, according to the analysis, published this month in the *Journal of the American College of Cardiology*.

"The recommendations appear to be one-size-fits-all for patients in a variety of groups," said Duke biostatistician Michael Pencina, Ph.D., a senior author of the paper. "We were interested in how tailoring the guidelines could get beneficial treatment to those who really need it, and avoid over-treating patients whose risk may only be their sex and age."

The statin guidelines have been debated since the American Heart Association and American College of Cardiology issued them in 2013, resulting in about 13 million new people being recommended for treatment, including most adults over 60.

The guidelines calculate a person's risk of developing heart disease in the next 10 years of their lives based on their age, sex, race, cholesterol and blood pressure, and whether they've been treated for [high blood pressure](#)

or have smoked. According to the AHA/ACC guidelines, doctors should consider treating any patient whose 10-year risk is calculated at 7.5 percent or higher.

But after applying the new guidelines to 3,685 people who participated in a leg of the Framingham Heart Study that began in 1975, researchers found that basing treatment on a risk of 7.5 percent would have missed more than half of participants ages 40 to 55 who ended up with heart disease and may have benefited from statins.

On the other end of the spectrum, current guidelines would have over-recommended statins for adults over 60, a large portion of whom continued to be tracked and didn't develop heart disease in the following 10 years.

Current statin guidelines offer little flexibility. But shifting the treatment targets suggest better outcomes, said Ann Marie Navar-Boggan, M.D., a cardiology fellow at DCRI and the lead author of the paper.

"The guidelines don't perform particularly well in younger people," Navar-Boggan said. Lowering the treatment threshold for patients ages 40 to 55 to those with a 5 percent risk or greater could capture more middle-aged adults who develop heart disease early. But even at a 5 percent threshold, she said, the guidelines' risk-based recommendation is imperfect, failing to consider other factors such as family history when evaluating risk of heart disease.

For [older adults](#), 97 percent of men over 65 would fall into the treatment category, many solely because of their age and sex. In this case, the 7.5 percent threshold may be too low, Navar-Boggan said.

"We found that by raising that threshold to 15 percent, the guidelines could identify the same proportion of men who will go on to have heart

disease, but would reduce treatment for those who will not. This would help eliminate unnecessary drug [treatment](#) for many patients," she said.

The study has its limitations, the authors note, including using a population that lacked geographical and ethnic diversity. But they hope it will prompt further investigation and improvements for the next round of guidelines on statin use.

"To date, the guidelines haven't made variations in recommendations by age and sex," Navar-Boggan said. "The study shows we can potentially do better by tailoring [guidelines](#) to these groups."

Provided by Duke University Medical Center

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