

Study finds one in five patients at high risk of cardiovascular disease refuse statin therapy

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Heart disease is the leading cause of death worldwide, killing someone in the United States every 34 seconds, according to the Centers for Disease

Control and Prevention. A new study by investigators from Brigham and Women's Hospital, a founding member of the Mass General Brigham health care system, conducted the first population-based study on patients' nonacceptance of statin therapy recommendations.

The study found that in patients at high risk of developing [cardiovascular disease](#), more than 20% refused to take statin medications. They were particularly surprised to see that women were about 20% more likely than men to refuse statin therapy when it was first suggested by their physician, and 50% more likely than men to never accept the recommendation. The study also showed that all patients who refused statin therapy developed higher LDL ("bad") [cholesterol levels](#), likely increasing their risk even further. The results are published in *JAMA Network Open*.

"Our study highlights the alarming number of patients who refuse statins and signals that physicians must have discussions with patients about why," says Alex Turchin, MD, MS, an associate professor at Harvard Medical School and director of quality in the Brigham's Division of Endocrinology, Diabetes, and Hypertension. "We need to better understand what our patients' preferences are and to be able to provide more patient-centered care."

After Turchin began noticing that many of his patients with high cholesterol, including those with diabetes, were opting not to take safe and beneficial medications like statins that can lower cholesterol and bring down the risk of heart attack and stroke, he developed a system to more closely study the phenomenon by analyzing the text of provider notes.

The study focused on [high-risk patients](#) who either had [coronary artery](#) or vascular disease, diabetes, very [high cholesterol](#), or had suffered a stroke. All were recommended statin medications by their physicians to

reduce their risk of heart attack and stroke and reduce cholesterol levels. The [retrospective study](#) included more than 24,000 patients who were seen at Mass General Brigham between Jan. 1, 2000, and Dec. 31, 2018.

"Even in this higher-risk patient population, so many people did not accept statin therapy," Turchin said. The study found that while about two-thirds of the patients who were being recommended statin therapy eventually tried it, about one-third never did. And it took three times as long for people in the study who initially said no to taking statin medications to reduce their LDL cholesterol levels to less than 100, compared to people who initially said yes.

The study's biggest surprise, however, was the much higher rate of refusal by women than men. Turchin and his colleagues wonder if this might be due in part to a false misconception that [heart disease](#) impacts men more than women, and plan to further research the reasons underlying these results.

"Ultimately, we need to talk to our patients and find out in more detail why they would prefer not to take statins," Turchin says. He is currently looking at the impacts of nonacceptance of [statin](#) therapy on outcomes that matter most to patients including heart attacks, strokes, and death. "I think people underestimate how much of a difference [modern medicine](#) has made in extending people's lives, and their quality of life, and medications can play a big role in that."

More information: Brown, C. et al. "Association of Sex Disparities in Nonacceptance of Statin Therapy and Low-Density Lipoprotein Cholesterol Levels Among Patients at High Cardiovascular Risk.", *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.1047](#)

Provided by Brigham and Women's Hospital

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