

# 6.5 million more patients might benefit from statins to prevent heart attacks, strokes

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Millions more patients could benefit from taking statins, drugs typically used to prevent heart attacks and strokes, than current prescribing guidelines suggest, Johns Hopkins doctors report in a new study.

Doctors have long known that statins can help prevent subsequent heart attacks and strokes in [patients](#) who have already had one of these [cardiovascular events](#). Additionally, statins have been shown to have a protective effect for patients who haven't yet had a [heart attack](#) or stroke but are at high risk for developing [cardiovascular disease](#). Consequently, doctors currently prescribe these drugs both to patients with established cardiovascular disease, as well as those with high [cholesterol](#) and other risk factors for developing cardiovascular disease such as diabetes. About 33 million [older adults](#) — men age 50 or older and women age 60 or older — are currently eligible to take statins based on these criteria.

However, notes Erin D. Michos, M.D., M.H.S., assistant professor of medicine at the Johns Hopkins University School of Medicine and its Heart and Vascular Institute, about half of all cardiovascular events occur in patients who don't have high cholesterol, and about 20 percent of these events occur in people who have no identifiable cardiovascular disease risk factor. Until recently, doctors haven't been sure if any of these patients might also benefit from statin therapy.

Last November, a research team led by doctors at Brigham and Women's Hospital in Boston announced the results of a study known as the JUPITER trial that involved nearly 18,000 patients. They found that statins protect against heart attacks and strokes even in older adults without known cardiovascular disease or diabetes and with low cholesterol, below 130 mg/dl—a group that isn't usually prescribed statins—as long as these patients also had high levels of C-reactive protein (CRP), a blood marker for inflammation. Recent

research has shown that inflammation plays an important role in initiating cardiovascular events, says Michos, but at-risk patients aren't routinely tested for CRP levels.

Building on the JUPITER trial results, Michos and Hopkins cardiology professor Roger S. Blumenthal, M.D., wondered how many patients in the United States fit the low-cholesterol, high-CRP profile featured in the study and might also benefit from taking statins. To get an estimate, they gathered data generated by the National Health and Nutrition Examination Survey, or NHANES. This research program, which has gathered various health data from thousands of Americans from 1971 to the present, weights the data from its participants so that they're representative of the entire United States population.

After searching NHANES between the years 1999 and 2004 for participants that fit the JUPITER profile, then extrapolating that to the general population, Michos and Blumenthal estimate that about 6.5 million older adults with low cholesterol and high CRP might benefit from statins. If they expanded their search criteria to the cholesterol level cutoff of 160 mg/dl that doctors often use when deciding to prescribe statins, the researchers increased this statin-benefiting group's size to 10 million.

"We're showing that doctors may be able to prevent thousands of heart attacks, strokes and deaths each year if we expand statin-prescribing criteria to include C-reactive protein levels, something we can assess as part of a simple blood test," says Michos.

The team points out in the study, published in the March 17 issue of the *Journal of the American College of Cardiology*, that based on JUPITER's results, prescribing statins to older adults using this new criteria that incorporates CRP would prevent about 260,000 cardiovascular events over five

years.

Source: Johns Hopkins Medical Institutions

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