

# Study: Most at-risk patients don't adhere to statin treatment, despite real benefits

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A new study from North Carolina State University shows that the vast majority of patients at high risk for heart disease or stroke do a poor job of taking statins as prescribed. That's especially unfortunate, because the same study shows that taking statins can significantly increase the quality and length of those patients' lives.

"We found that only 48 percent of [patients](#) who have been prescribed statins are taking their prescribed dose on a regular basis after one year - and that number dips to approximately 27 percent after 10 years," says Jennifer Mason, a Ph.D. student at NC State and lead author of a paper describing the study. Statins are a component of many current cardiovascular medical treatment guidelines. They lower cholesterol levels and may significantly reduce the risk of heart attack and [stroke](#), particularly in patients that are considered to be at high risk.

The researchers also found that, for high-risk patients, high adherence to a prescribed statin regimen may increase quality-adjusted life years (QALYs) by as much as 1.5 years compared to low adherence - and up to two years compared to not taking statins at all. Low adherence means a patient is taking the statins irregularly or at less than the prescribed dosage. QALYs are established metrics for measuring the effect of health conditions, such as heart disease and stroke, on quality of life.

The study used operations research models to look specifically at patients who have type 2 diabetes, because they are at particularly high risk for [heart disease](#), heart attack and stroke.

"These findings suggest that adherence-improving interventions - such as patient education or electronic reminders to take medications - can significantly improve the quality and length of life, particularly for high-risk patients," says Dr. Brian Denton, co-author of the paper and an associate

professor in the Edward P. Fitts Department of Industrial & Systems Engineering at NC State.

**More information:** The paper, "Optimizing Statin Treatment Decisions for Diabetes Patients in the Presence of Uncertain Future Adherence," is forthcoming from the journal *Medical Decision Making*.

Provided by North Carolina State University

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