

Yes or No: Forcing a choice increased statin prescribing for heart disease patients

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In a clinical trial testing two different forms of "nudging," statin prescriptions at the right dosages increased significantly among patients with heart disease when doctors had to actively choose whether or not to

prescribe the medications, which are used to lower cholesterol. However, for patients who were just deemed at-risk for heart disease, neither an active choice nudge nor a more passive one affected prescribing rates. The results were published today in *JAMA Cardiology*.

Researchers in the Perelman School of Medicine at the University of Pennsylvania (Penn Medicine) randomly embedded one of two different types of nudges into [patients'](#) electronic health records (EHR) a "passive choice" notification that doctors needed to navigate to, or an "active choice" pop-up prompting a prescription for a certain dose of statins that doctors needed to accept or dismiss. Each prompt was tailored to flag patients with [atherosclerotic cardiovascular disease](#) or those who were at-risk for it based on a clinical score. Each nudge also called for an optimal dosage based on the patients' information.

"Active choice prompts are used commonly in [electronic health records](#), but they often are not rigorously tested head-to-head against other approaches," said the study's senior author, Mitesh Patel, MD, the director of Penn Medicine's Nudge Unit. "By systematically testing these interventions we can build upon the approaches that do work and turn off the ones that don't."

The clinical trial included 82 cardiologists and more than 11,000 of their patients. Doctors and their patients were randomly split into three groups: one using the active choice, one with the passive choice, and one without either nudge. The last served as the control group for the study, which lasted for six months.

Upon examining the data, the researchers saw a 4 percentage point increase in optimal statin prescribing in patients already diagnosed with atherosclerotic cardiovascular disease, if their doctors were in the active choice arm of the study.

"Active choice prompts led to small increases in prescribing the right dose of statins for patients at highest risk—those who already had atherosclerotic [heart disease](#)," said first author Srinath Adusumalli, MD, an assistant professor of Cardiovascular Medicine. "These are the types of patients who stand to benefit the most from statin therapy with regard to reduction in major adverse cardiovascular events, like a heart attack, and mortality."

When it came to patients judged to be at-risk for atherosclerotic heart disease but who did not yet have it, there were no significant differences in prescription rates, no matter what arm of the study patients were in. Analysis showed that 42.6 percent of patients in the control group, 40.6 percent in the passive choice group, and 44.5 in the active choice group received statin prescriptions in the optimal amount. Similarly, when examining whether the patients with heart disease received any statin prescriptions at all, at an optimal level or not, there was little difference there as well: 71.6 percent of the [control group](#), 70.9 percent in passive choice, and 73.1 in active choice.

Built into the study was a survey for the cardiologists to give a clearer picture for why the data turned out the way it did. Tellingly, only about a quarter of the doctors from the passive choice arm even remembered seeing a statin prescribing alert, while every single responding doctor from the active choice group remembered seeing theirs. But even then, the cardiologists expressed some misgivings. Some wanted ready access to the information that factored into the prompt for statin prescription, while others knew their patients were already on statins and felt they were getting a message in error—when, in reality, their message was prompting them to prescribe a different dosage.

"Feedback from clinicians revealed that small design changes could have improved the impact of the alerts by making clear why a statin, and a specific statin dose, was indicated within the context of the alert," said

Adusumalli.

Moving forward, the researchers hope to build upon the result of this research.

"We learned a significant amount about the way settings in EHR alerts behave, which will allow us to more finely tune decision support interventions going forward," Adusumalli said. "Additionally, we developed a framework for measuring the impact of these alerts using EHR data, which can be used for future studies."

Among those future studies is one launching later this month which also focuses on statin prescribing, this time in a primary care setting. Patel and his team are designing that study to focus both on clinician and patient nudges to motivate [statin](#) prescribing.

More information: *JAMA Cardiology* (2020). [DOI: 10.1001/jamacardio.2020.4730](#)

Provided by Perelman School of Medicine at the University of Pennsylvania

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