

'Nudging' doctors to prescribe cholesterol-lowering statins triples prescription rates

July 27 2018

Pairing an online patient dashboard with "nudges" to doctors tripled statin prescribing rates in a clinical trial led by Penn Medicine researchers. Cholesterol-lowering statins such as atorvastatin and simvastatin are known to prevent heart attacks, strokes, and associated deaths, and are relatively inexpensive with minor side effects. Yet estimates suggest that tens of millions more should be taking them. The study which used two nudges, active choice framing to prompt physicians to make a decision on prescriptions, and peer comparison feedback which provided physicians with information on their performance relative to other physicians, is published online today in *JAMA Network Open*.

"Health systems around the country often use patient dashboards to monitor clinical outcomes, but there is little evidence on the best way to engage clinicians to use these dashboards to address gaps in care," said study lead author Mitesh S. Patel, MD, MBA, an assistant professor of Medicine and director of the Penn Medicine Nudge Unit. "We found that nudges which asked clinicians to make an active choice on statin prescriptions and delivered feedback on how each clinician's performance compared to their peers led to a significant increase in statin prescription rates."

The concept of "nudging," comes from the field of behavioral economics and is about intervening—often in small, subtle ways—to improve decision-making, in this case for public health benefits. Patel and colleagues in prior research have shown the value of nudge strategies

in a wide range of areas including opioid prescribing behavior, cancer screening and flu vaccination.

Care providers currently identify statin-eligible patients while reviewing records and test results during patient visits. But, as the relatively low national rate of prescribing statins shows, this traditional approach has its limitations. Some patients visit their physician only infrequently, for example, while others might have acute issues to discuss during a visit that preclude a discussion of preventive measures. This trial focused on a population-based approach that could lead to broader impact.

The study of an automated, active-choice alternative included 96 [primary care physicians](#) at 32 different clinics in the University of Pennsylvania Health System (UPHS). At the outset of the two-month study, physicians were divided into three study arms: two arms received an email with a link to an online information "dashboard" listing their patients who were eligible for statin therapy but not already receiving it. For participants in one of those arms, the email also included note comparing their rate of prescribing statins for eligible patients to other doctors in relevant specialties at Penn. Physicians in both intervention groups were asked to review the list of patients and use a multi-choice menu to prescribe a [statin](#) for each one, or indicate a reason for non-prescribing. A third, "control" group received no email link and was left to prescribe statins in the usual way.

In all, the study flagged 4,774 patients who were eligible for statins but not taking them. During the study window, doctors in the control group oversaw 1,566 of these patients and prescribed statins for just 40 of them (2.6 percent). By contrast, doctors in the active-choice group prescribed statins for 116 of 1,743 patients (6.7 percent), while doctors in the active-choice plus peer comparison group prescribed the drugs for 117 of 1,465 patients—8 percent, or more than three times the rate in the [control group](#).

"Health systems often implement new technology without thinking carefully enough about how its design will affect behavior," said senior author David A. Asch, MD, MBA, a professor of Medicine and Healthcare Management, and executive director of Penn's Center for Health Care Innovation. "Our findings demonstrate that you can take a vexing problem—in this case that physicians often don't prescribe statins to everyone who should get them—and make a simple change that helps them get back on course. This nudge means fewer strokes and fewer heart attacks."

In the future, the researchers suggest embedding these types of "nudges" within electronic health records to better fit within a doctor's workflow and to test way to deliver nudges to patients.

"Nudges have the potential to dramatically improve patient outcomes and reduce costs by changing physician behaviors and promoting better care," said the study's executive sponsor, Kevin Mahoney, MBA, executive vice president and chief administrative officer for the University of Pennsylvania Health System, and a co-director of the Penn Medicine Center for Health Care Innovation. "Having a Nudge Unit integrated into our health system allows us to systematically test these types of nudges and scale the approaches that work best to produce improved outcomes."

Provided by Perelman School of Medicine at the University of Pennsylvania

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