

Flip the script: Cardiac rehabilitation is underused, but a simple change could fix that

January 14 2021



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Cardiac rehabilitation is a therapy that combines guided exercise along with heart-healthy lifestyle education that can be life-saving for the majority of people who have had a major cardiac event, such as a heart

attack. However, it is underutilized in the United States, with many hospitals referring just 20 percent or fewer of their eligible patients, largely because the referral process can be cumbersome. But new research shows that implementing a simple, easy to use "opt-out" pathway in the electronic health record drastically increased the rate of referrals, which could lead to fewer rehospitalizations and even lowered mortality. Led by researchers at the Perelman School of Medicine at the University of Pennsylvania, this study was published today in *JAMA Network Open*.

"Referral for cardiac rehab has traditionally been a manual process that involved many stakeholders," explained senior author Mitesh Patel, MD, the director of Penn Medicine's Nudge Unit. "By restructuring the pathway as an opt-out decision, we were able to leverage technology to automate the process and significantly reduce the burden on clinicians and patients."

Most systems require [medical professionals](#) to pore through each patient's medical records and manually identify which might benefit from [cardiac rehabilitation](#) therapy and then write up a referral. However, this is one more proactive decision—requiring doctors to effectively "opt-in"—on a mountain of other decisions, which can reduce the likelihood that it will happen. As such, Patel, lead author Srinath Adusumalli, MD, an assistant professor of Cardiovascular Medicine, researcher Elizabeth Jolly, RN, BSN, MBA, an interventional cardiology transitions coordinator at the Hospital of the University of Pennsylvania, and their team sought to reframe the decision to see if it might boost referrals.

"As some of the people I work with here at the Center for Health Care Innovation have said, you need to make the right thing to do the easy and simple thing to do," Adusumalli said.

In pursuit of that, the researchers enabled a scan of patients' [electronic health records](#) for a number of factors. If a patient was deemed likely to benefit, the clinical care team was automatically notified and a referral—complete with a list of potential cardiac rehabilitation facilities arranged by location—was set up that just required the doctor's signature. Effectively, instead of setting up a referral themselves, they had a choice to either approve or decline one created for them. As a safeguard in the study, there was a manual follow-up on each referral to ensure it was appropriate.

This [intervention](#) was conducted from the start of 2017 through the end of 2018 among 2,832 patients. At the start of 2016, the year before the intervention began, referral rates among the clinical sites that were assigned the opt-out system were around 15 percent. By the end of 2018, rates had steadily increased to more than 85 percent. When compared to the study sites that didn't use the opt-out system, there was a 47 percentage point difference found—the control sites started with roughly the same referral rates in 2016 and only increased to around 38 percent by the end of 2018.

"When we surveyed our providers prior to launching the intervention, we learned they were largely interested in having their patients participate in a cardiac rehab program after discharge, but they were not properly equipped to make that happen," Jolly said. "With our interventions, we saw that the opt-out pathway coupled with the list of facilities made the referral process effortless."

The stark improvements at the study sites that used the opt-out system are especially appealing because they're not difficult to apply.

"The intervention was very low-cost and leveraged existing platforms that are similar at other health systems," Patel said. "The key insight is that the design of the pathway should be implemented carefully and in

partnership with frontline clinicians."

While the study was aimed at improving low cardiac rehabilitation rates, the researchers believe there are many possibilities for where this work could be applied.

"This could be applied relatively easily to lack of referral to a variety of interventions, such as palliative care, advanced heart failure, nephrology, and other conditions or specialties," Adusumalli said.

Moving forward, the researchers are following the patients who were referred through this system to gauge how well they did with cardiac rehabilitation and also to improve their attendance of the therapy. That includes evaluating in-person interventions as well as virtual ones, according to Adusumalli.

Provided by Perelman School of Medicine at the University of Pennsylvania

Citation: Flip the script: Cardiac rehabilitation is underused, but a simple change could fix that (2021, January 14) retrieved 12 July 2023 from <https://medicalxpress.com/news/2021-01-flip-script-cardiac-underused-simple.html>

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