

Online patient portal usage linked to higher rates of flu shots, blood pressure checks

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Patients who use online patient portals are 50 percent more likely to get a flu shot and twice as likely to have their blood pressure checked as compared to patients who do not interact with these portals. A new Penn Medicine study, published in the *Journal of Medical Internet Research*, also showed that patients using portals were 50 percent more likely to have their cholesterol checked, adding to the list of preventive health behaviors linked to portal use.

"Chronic conditions like diabetes, [heart disease](#) and hypertension affect more than half of the adults in the United States, and primary prevention—through screenings and monitoring—is considered one of the best strategies for reducing the prevalence of these conditions," said the study's senior author Kevin Mahoney, chief executive officer of the University of Pennsylvania Health System. "This is the first study to find a meaningful connection between patient portal use and health behaviors, which could have a tremendous impact on patients' health."

Online portals have increasingly become more prevalent over the last decade as [health systems](#) have shifted toward using the electronic health record (EHR) rather than paper charts. Most patient portals focus on streamlining communications of things like appointment reminders and physician referrals, so the research team decided to look at two things: The effect of portal use on patients' preventive health behaviors, and how usage might affect the status of chronic illnesses, including diabetes and hypertension.

While the study showed that portal usage was linked to significant improvements in preventive [health behaviors](#), the researchers found no meaningful changes in chronic illness prevalence. The lead author on the study, Jing Huang, Ph.D., an assistant professor of Biostatistics, believes that while patient portals seem to be effective at changing patient behavior, "behavior is just one factor in the complicated equation to change health outcomes."

Looking beyond health outcomes data, the researchers found differences in the characteristics of the patients who used the portal versus those who did not. A group of 10,000 patients from the University of Pennsylvania Health System who were 50 years or older were analyzed in the study. Reviewing data from between 2014 and 2016, the researchers found that roughly 59 percent had registered on the MyPennMedicine portal, which made them "users" within the study's parameters.

Users of the portal skewed younger than non-users—by about three years, on average—and had higher incomes, roughly \$72,000 compared to \$63,000 annually. The proportion of Caucasian patients was significantly higher in the user category (73 percent) than in the non-user category (53 percent). Additionally, 61 percent of portal users paid for care with commercial insurance, while just 40 percent of the non-users paid with commercial insurance.

"As we looked at the data, we did see some health care access issues," Huang said. "There is substantial work that still needs to be done in order to get more patients—and patients from a wider range of populations—to use these kinds of online health care services."

Moving forward, the researchers plan to evaluate how the use of portals over time affect people's chronic health conditions. Since the clinical study only viewed data collected for two years and saw no distinctions in

chronic [health outcomes](#), a longer look might provide insight into whether portals can be used to provide better care for these conditions.

More information: Jing Huang et al, Difference Between Users and Nonusers of a Patient Portal in Health Behaviors and Outcomes: Retrospective Cohort Study, *Journal of Medical Internet Research* (2019). [DOI: 10.2196/13146](https://doi.org/10.2196/13146)

Provided by Perelman School of Medicine at the University of Pennsylvania

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