

Automated phone and mail notices increase medication adherence

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Patients newly prescribed a cholesterol-lowering medication were more likely to pick it up from the pharmacy if they received automated phone and mail reminders, according to a study published in the *Archives of Internal Medicine* today. This is one of a few published studies to examine strategies for reducing primary nonadherence, which occurs when patients do not pick up new prescriptions.

The study of 5,216 Kaiser Permanente Southern California patients found that those who received an automated reminder were 1.6 times more likely to fill prescriptions for cholesterol-lowering [statins](#) than those who didn't receive a reminder. Informational and encouraging [phone calls](#) were automatically generated if a patient did not pick up his or her medication within one or two weeks of a doctor's appointment where a prescription was written. One week after the telephone call, researchers sent a reminder letter to patients who still had not picked up their prescription. When systems for automated outreach exist, the expense of outreach is relatively small. Expenses for both these prompts totaled \$1.70 per participant in the study. After the intervention, the percentage of patients who picked up their prescriptions increased from 26 to 42 percent.

"Getting patients to take the well-proven medicines their physicians prescribe for them will ultimately reduce their risk of heart attacks and stroke," said Stephen F. Derosé, MD, of the Kaiser Permanente Southern California Department of Research & Evaluation. "This automated intervention is a good way to very efficiently reach a large

number of people and improve their [health](#) outcomes."

Medication nonadherence occurs when a patient does not follow a clinically prescribed medication course, endangering his or her own health and possibly necessitating more aggressive treatment or hospitalizations later. Previous studies estimated that in the United States each year medication nonadherence contributes to approximately 125,000 deaths and costs the health care system \$290 billion. One in three patients prescribed a medication by their health care provider never pick it up from the pharmacy, and, among those who do, nearly 3 in 4 Americans do not take prescription drugs according to providers' orders.

Although this study examined medication adherence exclusively among patients at Kaiser Permanente Southern California receiving their first prescription for a statin drug, the low-cost method is likely to be viable for large populations, other chronic conditions, and other medications. Based on the results of the study, Kaiser Permanente Southern California implemented a new regional outreach program in April 2012. The program has sent reminders to about 2,200 members each month.

"Given the prevalence of the problem, especially among patients with chronic conditions, minor improvements in medication adherence among groups of people should yield significantly better health outcomes for patients and savings for hospitals and health systems," said Derosé.

Kaiser Permanente can deliver transformational health research in part because it has the largest private electronic health system in the world. The organization's integrated model and electronic health record system securely connect 9 million people, 533 medical offices, and 37 hospitals, linking patients with their health care teams, their personal health information, and the latest medical knowledge. It also connects Kaiser Permanente's epidemiological researchers to one of the most extensive

collections of longitudinal and de-identified medical data available, facilitating studies and important medical discoveries that shape the future of health and care delivery for patients and the [medical](#) community. This research is a part of Kaiser Permanente's broader efforts to understand and prevent medication nonadherence. Previous Kaiser Permanente research includes:

- A study of 12,061 men and women in Kaiser Permanente Colorado that found patients whose pharmacies are linked to their electronic health records are more likely to pick up their prescriptions. (Journal of General Internal Medicine, 2011)
- A Kaiser Permanente Northern California study that found patients who obtained new statin [prescriptions](#) via a [mail](#)-order pharmacy achieved better [cholesterol](#) control during the first year of therapy. (Journal of General Internal Medicine, 2011)
- A first-of-its-kind study that found buying mail-order medications may encourage [patients](#) to stick to their doctor-prescribed medication regimen. (American Journal of Managed Care, 2010)

Provided by Kaiser Permanente

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