

Automated reminders improve medication adherence and cholesterol control

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People who received automated reminders were more likely to refill their blood pressure and cholesterol medications, according to a study published today in a special issue of the *American Journal of Managed Care*.

The study, which included more than 21,000 Kaiser Permanente members, found that the average improvement in medication adherence was only about 2 percentage points, but the authors say that in a large population, even small changes can make a big difference.

"This small jump might not mean a lot to an individual patient, but on a population level it could translate into fewer heart attacks, fewer deaths and fewer hospitalizations, which will ultimately have an important impact on public health," said Bill Vollmer, PhD, lead author and senior investigator at the Kaiser Permanente Center for Health Research, in Portland.

In fact, Vollmer says that even though the study lasted only a year, patients who received both telephone and mailed reminders, saw improvements in their cholesterol levels that could lead to improved health outcomes if sustained.

According to a recent federal report, Americans with chronic conditions take their medications as prescribed about 50 to 60 percent of the time. The report estimates that this phenomenon, known as poor adherence, costs the health care system \$100 billion to \$300 billion each year, and

results in about 125,000 deaths.

The most effective educational and behavioral interventions are often complex and costly, involving multiple components, so recently researchers have been testing less expensive health information technologies like automated calls and mailings.

Vollmer's study took place in 2010-2011 and enrolled 21,752 Kaiser Permanente members in Oregon, Washington, Georgia and Hawaii who had diabetes or heart disease and were taking medications to reduce the risk of a stroke or heart attack. Using Kaiser Permanente's electronic health record system, researchers identified patients who were either overdue or soon-to-be due to refill a prescription for a statin, ACE inhibitor or angiotensin receptor blocker.

The study, which examined the PROMPT reminder program, had three arms: usual care, an automated telephone call intervention, and an enhanced intervention that included reminder letters and live calls for those who didn't respond to the automated calls, as well as personalized health reports and educational mailings.

The interactive voice calls lasted about 2-3 minutes, reminding patients to refill their prescription and then giving them an option to be transferred to an automated refill line, or in some cases, to speak with a pharmacist.

At the beginning of the study, participants were taking their medications a little more than half the time. Adherence levels went up among all participants, but they increased by more (1.6-3.7 percentage points) among participants who received the reminders.

People in the enhanced intervention also saw significant reductions in their [cholesterol levels](#). This effect was most pronounced for the subset

of people who started out with levels above 100 mg/dl, which is considered uncontrolled. On average, this group had a 3.6 mg/dl greater reduction in cholesterol compared to people in the usual care group who started out with uncontrolled cholesterol, but received no calls or mailings.

Two Kaiser Permanente regions participating in the study are continuing the medication reminder program for patients who are behind on refilling their [blood pressure](#) and [cholesterol](#) medications.

The study authors are also conducting a cost analysis to examine whether the intervention is a good value for the money.

The study was funded by a CHOICE grant (RO1HS019341) from the Agency for HealthCare Research and Quality.

In another Kaiser Permanente study published in 2012, researchers found that automated reminders were very effective in boosting adherence for patients who had failed to promptly fill their first prescription for statins.

Provided by Kaiser Permanente

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