

# Heart disease prevention program saves lives and reduces costs, study finds

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A new study from Kaiser Permanente Colorado is one of the first to show that an intensive population management program that matches heart disease patients to personal nurses and clinical pharmacy specialists not only reduces the risk of death but reduces health care costs as well.

The findings are published in the November issue of the journal [Pharmacotherapy](#).

Researchers examined health care expenditures in two populations of patients with heart disease: a group of 628 people enrolled in the Kaiser Permanente Collaborative Cardiac Care Service, a population disease management program, and 628 matched patients receiving standard care. The goal of the study was to determine if an intensive disease management program could provide more value than usual care.

The study found that patients cared for by the CCCS experienced superior health outcomes. As compared to patients receiving usual care, enrollees in the CCCS had better cholesterol control, were more likely to be screened and adhere to important medications like [statins](#), and had far fewer hospitalizations. Overall, CCCS patients had an 89 percent reduction in overall mortality and 88 percent reduction in cardiac mortality compared with patients receiving standard care.

When the researchers compared costs, they found that health care expenditures for CCCS enrollees were, on average, \$60 less each day for an annual average of \$21,900 per patient, per year.

These are exciting findings, said the study's lead author, Tom Delate, PhD, of Kaiser Permanente Colorado. "The goal of the CCCS is to get patients with heart disease on the right medications and deliver needed screenings and care, so one might expect to see health care costs go up with the increased service," he said. "However, we found the opposite effect: the CCCS was able to keep patients so healthy that they were more likely to stay out of the hospital. At the end of the day, expenditures from this major cost driver were reduced."

The researchers calculated total health care expenditures by extensively reviewing health care utilization claims and electronic health record files. They also attributed an overhead cost to the staff and systems used to administer the population management program. Ultimately, the analysis found that enrollees in the CCCS had lower health care expenditures across the board, including the following key areas:

- Medications: \$4 per day, compared to \$5 per day
- Doctor's office visits: \$7 per day, compared to \$8 per day
- Hospitalizations: \$19 per day, compared to \$69 per day

"This program works because it is a team approach," added John Merenich, MD, study co-author and medical director of the [Clinical Pharmacy](#) Cardiac Risk Service. "Our teams of nurses and clinical pharmacists, as well as our health information technology, require significant investment. We always knew it was the right investment because it saved lives. Now we know it's also the right investment because it provides the highest quality care at a lower cost. This is the value people have been looking for in health care."

## How the Collaborative Cardiac Care Service Works

The goal of the CCCS is to help patients with [heart disease](#) receive the evidence-based treatment that has been shown to reduce their risk of another event. The program is unique because the majority of care is delivered over the phone by nurses and clinical pharmacy specialists who work under the direction of a physician.

After a hospital discharge, patients with coronary artery disease are enrolled into a 3-6 month rehabilitation program. Patients are assigned a personal nurse. The nurse works with the patient to implement recommendations for a healthy lifestyle. When the rehabilitation program is completed, patients are then transferred to a personal clinical pharmacy specialist, who manages medications known to decrease the risk of future heart problems. Electronic medical records and computerized disease registries help the clinicians coordinate the care. For example, the electronic tools notify the clinical pharmacist if a patient forgets to pick up a prescription or a [cholesterol](#) test shows a change in medication is needed. Using this electronic data, clinical pharmacists can proactively outreach to the patient to support them in making necessary changes.

Provided by Kaiser Permanente

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