Colon cancer screening doubles with new e-health record use

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Researchers used electronic health records to identify Group Health patients who weren't screened regularly for cancer of the colon and rectum—and to encourage them to be screened. This centralized, automated approach doubled these patients' rates of on-time screening—and saved health costs—over two years. The March 5 *Annals of Internal Medicine* published the randomized controlled trial.

"Screening for colorectal cancer can save lives, by finding cancer early—and even by detecting polyps before cancer starts," said study leader Beverly B. Green, MD, MPH. "But screening can't help if you don't do it—and do it regularly," added Dr. Green, a family physician at Group Health and an affiliate investigator at Group Health Research Institute.

More than one in 20 Americans will develop colorectal cancer, which is second only to lung cancer in causing deaths from cancer, Dr. Green said. Screening for colorectal cancer is strongly recommended for everyone age 50 to 75 years, but almost half of Americans do not get screened regularly—far below the screening rates for cervical and breast cancer.

"It's important to find ways to ensure that more people are screened for colorectal cancer—and keep being screened regularly," Dr. Green said. "I've seen patients die from this cancer. So I was thrilled to find that our intervention doubled screening rates and kept them up to date regularly over two years in people who hadn't been getting regular screening."

The SOS (Systems of Support to Increase Colorectal Cancer Screening) trial started by identifying 4,675 Group Health patients, age 50 to 73, who weren't up to date for colorectal cancer screening. Then they were randomly assigned to one of four stepped groups:

- The first group received "usual care," which includes both patient and clinic reminders for those overdue.
- The second group received this plus "automated" care, which included a letter telling them they were due for colorectal cancer screening and a pamphlet about screening choices and the pros and cons of three screening options recommended by Group Health and the U.S. Preventive Services Task Force: fecal occult blood testing (FOBT) yearly; flexible sigmoidoscopy every five years (with one FOBT in between); or colonoscopy every decade. Those patients who didn't call to schedule a colonoscopy or sigmoidoscopy received a FOBT kit in the mail with illustrated instructions and a postage-paid return envelope and a reminder letter three weeks later if the kit was not completed.
- The third group received usual care, automated interventions, and an additional step called "assisted" care if they still had not completed screening. Assisted care included a medical assistant calling patients to ask which screening option they preferred and provided simple assistance to get this done, such as sending a request for a colonoscopy to their physician, or reviewing the FOBT instructions.
- The fourth group received usual care, automated, the assisted intervention, and an additional step called "navigated" care if they were still overdue for screening or requested a colonoscopy or sigmoidoscopy during the automated or assisted steps. Navigated care included a nurse calling to advise patients and facilitate their screening, for those who wanted help in making their choice or didn't get screened after the medical assistant's

> call. Patients who chose colonoscopy or sigmoidoscopy were helped with making an appointment and preparing for the procedure and followed until the test was completed.

Each step of the SOS intervention raised the percentage of patients who were current for colorectal screening for both years: 26 percent for usual, 51 percent for automated, 57 percent for assisted, and 65 percent for navigated care.

The two-year costs of the automated intervention plus the screening were actually $89 lower than if the patients had received only usual care. The reason: compared with patients who received usual care, more of those in the automated care group happened to choose FOBT instead of sigmoidoscopy or colonoscopy. And the kit costs much less than the procedures do.

"Traditionally, the onus has been on each primary-care doctor to encourage their patients to get health screening tests on schedule," Dr. Green said. Group Health pioneered using a centralized registry to remind women to be screened regularly for breast cancer. "We borrowed that approach and applied it to colorectal cancer," she added. "We empowered patients to do testing on time, by giving them options, or sending them a FOBT kit by default if no choice was made."

What's next? "We plan to test whether improved adherence persists for more than two years," she said. This is particularly important for patients who choose FOBT, because it should be repeated every year. "We are also testing this intervention in 'safety-net' clinics, which serve low-income people," Dr. Green added. More of those clinics now have electronic health records and can now leverage these to provide population-based care, similar to Group Health and Kaiser Permanente.

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