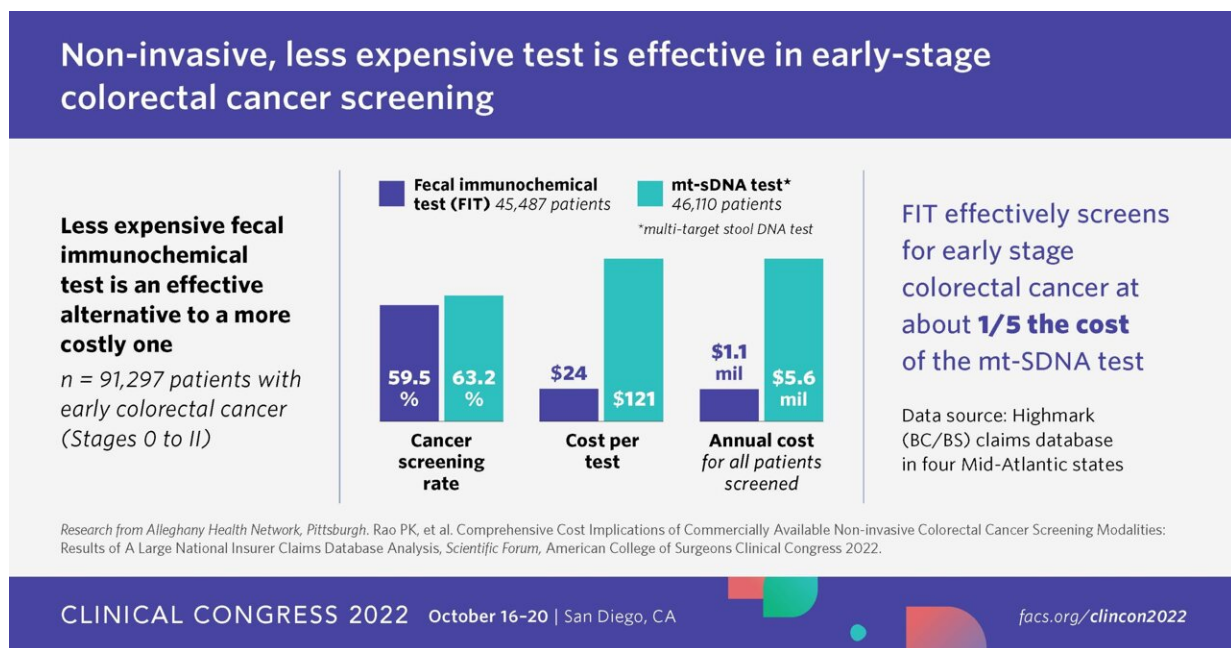


Study finds less expensive noninvasive test is an effective alternative for colorectal cancer screening

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Non-invasive, less expensive test is effective in early-stage colorectal cancer screening. Credit: American College of Surgeons

Commercially available noninvasive screening tests for colorectal cancer—a fecal immunochemical test (FIT) and the multi-target stool DNA test (mt-sDNA; or Cologuard®)—are equally effective for screening patients with early-stage colorectal cancer. However, a FIT

costs about one-fifth of the multi-target DNA test, according to new study results presented at the Scientific Forum of the American College of Surgeons (ACS) Clinical Congress 2022.

Pavan K. Rao, MD, a general surgery resident at Allegheny Health Network in Pittsburgh, Pennsylvania, presented study results looking at 117,519 people in the Highmark claims database who underwent colorectal screening in 2019. Highmark is a Blue Cross Blue Shield Association insurer in four Mid-Atlantic states.

From that group, the researchers identified 91,297 people who had noninvasive screening with either the [fecal immunochemical test](#) (FIT, n=45,487) or the DNA test (mt-sDNA, n=46,110) instead of having a routine colonoscopy.

Key findings

- Among the study population that underwent colorectal screening, 45,487 (38.7 percent) had one of two commercially available FIT tests and 46,110 (39.2 percent) had the mt-sDNA test.
- Patients who were screened with either test presented with early disease, staged from 0 to II, at similar rates: 59.5 percent for FIT and 63.2 percent for mt-sDNA test (p=0.77).
- Patients within the Allegheny Health Network Oncology Registry diagnosed with colorectal cancer were matched to their claims data to determine distribution of cancer stage. If the noninvasive test indicated signs of early disease, patients were then referred for additional testing to confirm the findings.
- The total annual costs for the tests were \$6.47 million—\$1.1 million for a FIT, or about \$24 per test, and \$5.6 million for mt-sDNA, or about \$121 per test. Costs were calculated using Medicare reimbursement rates.

Observations on study results

The study followed guidelines issued by the U.S. Preventive Services Task Force (USPSTF) in 2016 and updated in 2019. Since then, the guidelines were updated again in 2021.

"Despite national guidelines suggesting that FIT be used as the primary noninvasive screening modality, we found that on review of our insurer's claims data, a significant proportion of patients still receive a more expensive alternative test. There is substantial cost savings not only to our patients but to our health system with promoting appropriate use of noninvasive testing," Dr. Rao said.

"There was no difference in the clinical stage at the time of diagnosis between the two tests, which again demonstrates the clinical equipoise maintained by switching to FIT," Dr. Rao said of the variation between the two tests.

He added, "When you look at the national data for which the guidelines put forward, they found no difference between the two tests at detecting adenoma versus colorectal malignancy."

Cost savings without compromising care

The researchers determined that transitioning all noninvasive colorectal cancer screening to FIT would result in a \$3.9 million savings annually in the study population.

"In the current state of healthcare, we are thinking ever more about efficiency and reduction in costs while maintaining patient outcomes, and not compromising the quality of care we provide," Dr. Rao said. "I think a colorectal surgeon or any specialist who sees appropriate patients

for [colorectal cancer](#) screening can use this data to provide recommendations of alternative screening tests to patients who primarily do not want to undergo colonoscopy. We cannot only say it is appropriate from a guideline standpoint, but we're also reducing wasteful spending in health care by appropriately using the FIT."

What makes this study unique is the methodology used to analyze the claims data, said study coauthor Casey J. Allen, MD, a surgical oncologist at Allegheny Health Network and an assistant professor at Drexel University College of Medicine, Pittsburgh. The researchers analyzed outcomes in the local health registry and then applied those outcomes to the claims database. "It's not just the cost of the mt-sDNA test kit or the cost of the FIT kit multiplied by the number of members in the healthcare system," Dr. Allen said. "It's the full downstream costs depending on the rates of false-positive and false-negative tests and how much it costs to obtain a colonoscopy when that occurs. The cost of a screening colonoscopy in the database the researchers used was \$635.

These results support previous studies out of Japan and the Netherlands that found FIT was more cost-effective than other types of noninvasive colorectal screening tests.

More information: Rao, PK et al. Comprehensive Cost Implications of Commercially Available Non-invasive Colorectal Cancer Screening Modalities: Results of A Large National Insurer Claims Database Analysis, *Scientific Forum*, American College of Surgeons Clinical Congress 2022.

Provided by American College of Surgeons

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