

Can personalized care prevent excessive screening for colorectal cancer in older adults?

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Colorectal cancer screening is widely recommended for adults ages 45 to 75 with an average risk of developing the disease. However, many

people don't realize that the benefits of screening for this type of cancer aren't always the same for older adults.

"While many clinicians simply follow guideline recommendations for colon [cancer](#) screening in adults within this age range, this isn't always the best approach," said Sameer Saini, M.D., M.S., who is a gastroenterologist at both Michigan Medicine and the Lieutenant Colonel Charles S. Kettles VA Medical Center and is as a health services researcher at the University of Michigan Institute for Healthcare Policy and Innovation and the Ann Arbor VA Center for Clinical Management Research, or CCMR.

"As individuals get older, they often acquire health problems that can lead to potential harm when coupled with endoscopy. While guidelines recommend a personalized approach to screening in average risk individuals between ages 76 and 85, there are no such recommendations for older adults who are younger than age 76—individuals who we commonly see in our clinics."

But what are the effects of personalizing screening in this population?

This question led Saini and a multi-institutional, international team, including experts from the VA Ann Arbor Healthcare System, U-M, the University of Colorado, Memorial Sloan Kettering Cancer Center and Erasmus University Medical Center Rotterdam to conduct a study to determine the effects of personalizing care on the appropriate use of [colorectal cancer screening](#) in older adults.

[Their findings](#) were recently published in *JAMA Internal Medicine*.

The study targeted individuals who fell into the age range of 70 to 75, and the team compared two different strategies of care in a cluster randomized trial involving 431 older adults of average risk for

developing colorectal cancer.

"Each of our study participants were due for a colorectal cancer screening and had no family history of colorectal cancer or personal history of colon polyps," he said. "Our control strategy was, in some ways, 'usual' care. But we did change a few things at the health system level, as well as at the physician level."

Saini noted that the team made it possible for clinicians to stop screening patients within the [control group](#) without being penalized for doing so.

"Currently, physicians are penalized if they stop screening a patient before age 76," he said. "But our study allowed our participating physicians to make more personalized decisions about screening their patients based on individual factors and personal preferences."

Another thing the team did, said Saini, was provide physicians with education about how screening benefits change throughout an individual's lifespan, and how screening can potentially cause harm when "competing comorbidities" are present.

"In the intervention arm, physicians were also able to make more personalized decisions and were provided with education about screening benefits," said Carmen Lewis, M.D., M.P.H., associate professor of internal medicine at University of Colorado and co-primary author of the study.

"But we also gave patients a personalized decision aid, which was a 30-page booklet with background information about screening, as well as personalized information about screening benefits and harms based upon their age, prior screening history, sex and whether they were healthy or sick at the time of the study."

Lewis added that this information was combined into a personalized risk graph designed for easy interpretation.

The benefit and harm information itself was derived from MISCAN-Colon, a microsimulation model developed by investigators at Erasmus University Medical Center Rotterdam and Memorial Sloan Kettering, and used by the U.S. Preventive Services Task Force to inform [colon cancer screening](#) guidelines.

"However, the patients within the control arm simply received a simple screening informational booklet that was not personalized," said Lewis. "We then looked at whether participants in each group received a screening order—be it a colonoscopy or a stool-based screening test—within two weeks of receiving this information. We also looked at whether they completed their recommended screening or not."

When the team compared the screening orders between the control arm and the intervention arm, they found no significant differences.

"We had originally hypothesized that there would be fewer screening orders in the intervention arm versus the control arm because we thought the individuals receiving personalized information would eventually decide against screening. However, this wasn't the case."

But when the team dug a bit deeper, they unearthed some interesting findings.

"Through an interaction analysis, we looked at how the screening orders varied across the spectrum of screening benefit," said Saini.

"In particular, we analyzed how orders for screening varied for patients who had low benefit versus high benefit for screening. And we found that individuals within the control arm who were least likely to benefit

from screening got more screening orders than those in the intervention arm. In other words, the intervention reduced low-value screening orders. In contrast, we found that those in the control arm who were most likely to benefit got fewer screening orders than those in the intervention arm. Therefore, the intervention increased high-value screening orders."

Saini noted that not only was the intervention effective, but the control arm results also revealed that under usual care, colorectal cancer screenings were happening in excess in low benefit older adults, and not enough in high benefit older adults.

He added that while this is a "counterintuitive finding," it makes sense given that "screening benefit is determined by your overall health, as well as your prior screening history."

And individuals with health issues are more likely to see doctors, who order screening tests, and individuals who have been screened before are more likely to be screened again.

"When we looked at screening use, it was about 13% lower in the intervention arm when compared to the control arm, as fewer intervention arm patients used screening overall, likely reflecting a reduction in use of low value care."

Looking ahead, Saini said that [screening](#) rates don't vary by life expectancy in [older adults](#), and acknowledging the potential around personalized care is hugely important in this regard.

"Patients armed with personalized information were able to make good choices for themselves and arguably, even better choices than what some clinicians would have made for them."

According to Saini, this is really "a story about patient empowerment."

"We saw consumers making sensible, health care-aligned decisions when thinking about colorectal cancer prevention. And this approach could be brought to other preventive care services down the line. That gives me tremendous hope."

More information: Sameer D. Saini et al, Personalized Multilevel Intervention for Improving Appropriate Use of Colorectal Cancer Screening in Older Adults, *JAMA Internal Medicine* (2023). [DOI: 10.1001/jamainternmed.2023.5656](https://doi.org/10.1001/jamainternmed.2023.5656)

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