Starting colorectal cancer screening at 45 would avert deaths

By Amy Jeter Hansen

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A Stanford-led study found that increasing the participation of older adults in colorectal cancer screening would help prevent more deaths than expanding testing to people in their 40s.

Starting routine colorectal cancer screening at age 45 rather than 50 would decrease US cancer deaths by as much as 11,100 over five years, according to a new study led by researchers at the Stanford University School of Medicine.

The move would also decrease the number of cancer cases nationwide by up to 29,400 over that time period. However, screening a greater number of older and high-risk adults would avert nearly three times as many diagnoses and deaths at a lower cost, the study found.

The study models potential effects of a 2018 change to the American Cancer Society's screening guidelines. Following increases in the incidence of colon and rectal cancer among people in their 40s, the society lowered the recommended age for a person at average risk of colorectal cancer to begin screening from 50 to 45. Other groups, including the US Preventive Services Taskforce, are studying whether their screening recommendations should also change.

The shift has concerned some physicians who worry that screening resources may be drawn away from higher-risk

populations. Overall, colorectal cancer incidence remains two to 13 times higher among people over the age of 50 than in younger people.

“This is one of the most important changes to guidelines that has occurred in the colorectal cancer screening world recently, and it was very controversial,” said Uri Ladabaum, professor of medicine at Stanford. “Our aim was to do a traditional cost-effectiveness analysis, but then also look at the potential tradeoffs and national impact. We wanted to crystalise the qualitative issues into tangible numbers, so people could then have a productive debate about these very issues.”

The study found that over the next five years, initiating testing at age 45 could reduce the number of cancer cases by as many as 29,400 and deaths by up to 11,100, at an added societal cost of $10.4bn. An additional 10.6-million colonoscopies would be required.

By comparison, increasing screening participation to 80% of 50- to 75-year-olds would reduce cases by 77,500 and deaths by 31,800 at an added cost of only $3.4bn, according to the model. The number of additional colonoscopies needed would be 12-million.

Cost versus benefits

The incidence of colorectal cancer among people 50 and older decreased by 32% between 2000 and 2013, largely due to a broad embrace of screening. But rates for people in their 40s rose by 22%, according to the American Cancer Society.

Physicians haven’t definitively identified what has driven the increase, but obesity and diet likely are factors, said Ladabaum, who directs the gastrointestinal cancer prevention program at Stanford Health Care.

The crucial question is: Can we screen younger people and at the same time do a better job of screening older and higher-risk people?
“With obesity being such a big problem and hard to tackle, and other potently influential factors not well-defined, people turn to what we know can help in terms of colon cancer risk mitigation, and that’s screening,” he said. “That’s what brings us to this question.”

Aiming to stem the rise in colon cancer cases among younger people, the American Cancer Society’s new guidelines recommend screening for an estimated 21 million additional people.

The new study compares the potential costs and benefits of this approach by modeling five screening strategies, including a colonoscopy every 10 years; annual fecal immunochemical testing; and a sigmoidoscopy at age 45 followed by other tests in subsequent years.

To assess cost-effectiveness, Ladabaum and his colleagues calculated the cost of the additional screening in relation to years gained without or with cancer, a measure known as quality-adjusted life years. An intervention is generally accepted as cost-effective if it costs less than $100,000 per quality-adjusted life-year gained.

The study found that all five strategies offered benefits at acceptable costs when started at age 45 versus age 50, with the cost per additional quality-adjusted life-year ranging from $2,500 to $55,900.

“Is screening starting at 45 cost-effective by traditional standards? The answer is yes,” Ladabaum said. “But the bottom line for me is that this is nuanced. The crucial question is: Can we screen younger people and at the same time do a better job of screening older and higher-risk people?”

Navigating tradeoffs

Physicians who were hesitant to endorse the American Cancer Society’s new recommendations point to the work that

remains in getting higher-risk people screened. Although the vast majority of colorectal cancer cases occur in people older than 50, only about 62 percent of them participate in screening, despite the goal of the health care community to bring that number closer to 80 percent.

In their study, Ladabaum and his colleagues explored the potential results of allocating resources in different ways. According to the model, initiating colonoscopy screening at age 45 would require 758 additional colonoscopies per 1,000 people, and would lead to a reduction of four cancer cases and two deaths per 1,000 people. By comparison, those procedures instead could be used to screen 231 previously unscreened 55-year-olds or 342 previously unscreened 65-year-olds through age 75. Those options would avert 13 to 14 cases and six to seven deaths per 1,000 people. They also would save $163,700 to $445,800 on balance, due to averted cancer treatment costs.

“If we actually do face tradeoffs on the societal level, either in terms of the effort we can put into this or the supply of colonoscopies and the distribution of colonoscopies by geography, then one can debate whether the efforts should go toward now bringing in younger people or whether we should focus on older people,” Ladabaum said. “If we can bring in everybody, great. But if not, screening older and higher-risk people is higher yield in terms of public health benefit. It can get emotional and passionate because death from cancer at a young age is particularly devastating.”

Source: Stanford Medicine

ABOUT THE AUTHOR

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