

ADVANCES IN ENDOSCOPY

Current Developments in Diagnostic and Therapeutic Endoscopy

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Barriers and Facilitators to Colorectal Cancer Screening



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G&H What are the main barriers to colorectal cancer screening uptake among patients?

JD Although progress is being made in getting more patients screened, barriers remain at the individual, provider, and health care system levels. Barriers to screening at the individual level can include instances in which a person thinks that he or she does not belong to an at-risk demographic. Many people think that colorectal cancer (CRC) is a disease that only affects men, but CRC affects both men and women. Some people also think that they must have symptoms or a family history to be at risk, but CRC can be asymptomatic and can develop in persons without any family history. Indeed, most affected patients do not have a family history of CRC.

Some people are simply averse to the idea of CRC screening because the colon and stool may be taboo or stigmatized topics. Other people are fatalistic regarding cancer. They do not see a benefit to screening and think that their fate is out of their hands. Cultural barriers may exist whereby some people believe that natural remedies or foods are protective against CRC. Socioeconomic barriers are another factor and include the costs of screening, taking time from work for screening, and transportation to a screening facility. Language barriers may be an issue as well.

Lack of motivation is another barrier to screening for CRC. Some persons put other priorities and concerns over arranging for screening. This has been especially true during the COVID-19 pandemic, whereby patients are

avoiding screening opportunities for fear of being exposed to COVID-19 while visiting a health care facility.

Further, embarrassment is attached to the idea of CRC screening. Colonoscopy is a target of many jokes. However, a shift is occurring regarding this as more celebrities come forward with personal stories and advocacy regarding CRC and screening. For example, after Katie Couric's husband Jay Monahan died of CRC at age 42 years, she arranged to televise her own colonoscopy in 2000 to bring awareness to the importance of early CRC detection. In 2018, she took Jimmy Kimmel to his first colonoscopy on *Jimmy Kimmel Live*. The recent death of Chadwick Boseman, the star of *Black Panther* and many other films, highlights the rising incidence of early-onset CRC and racial disparities in CRC mortality.

Providers and health care systems also can contribute to screening barriers. Providers may have limited access for patients in need of screening or may provide insufficient counseling and facilitation through the screening process. At the health care system level, barriers include the inadequate data systems for tracking patients through the screening and surveillance process, especially in non-integrated health care settings; however, some systems are more integrated, such as the Veterans Health Administration (VA) and Kaiser Permanente. Integrated health care systems can provide programmatic CRC screening, whereby patients who are at risk for CRC are contacted and offered screening from a population health management perspective. In fact, the VA has implemented a number of interventions to increase screening participation

and has been recognized for its consistently high CRC screening rates.

G&H What are some of the strategies that have enhanced CRC screening uptake?

JD A wide variety of strategies are available to enhance participation in CRC screening. Public service campaigns are an important part of the solution. Couric's campaign proved very effective, as demonstrated by a paper on "the Katie Couric effect" that was published in the *Archives of Internal Medicine* in 2003. After Couric's televised colonoscopy, a significant uptick in screening colonoscopy occurred in the United States. Advertising in public spaces such as airports and on television also has been helpful in keeping the topic relevant in the public domain. Even some television programs are incorporating the topic of colonoscopy into episodes as part of an organized campaign to increase screening.

Although clinical reminders, patient education, and patient navigation are clearly important, the largest impact on screening participation has been demonstrated through programmatic or population health approaches, such as those used by Kaiser Permanente. For example, Kaiser Permanente and even some insurance companies will mail fecal immunochemical tests (FITs) to their members. A paper by Levin and colleagues that was published in *Gastroenterology* in 2018 demonstrated how mailing FITs to members was associated with an increase in CRC screening from 39% to 83% over the course of 5 years, and a 52% decrease in cancer mortality. Offering a choice of screening tests can also enhance screening uptake.

G&H How has the COVID-19 pandemic affected CRC screening?

JD The pandemic highlighted the question "How do you get people screened when they do not want to or cannot come into health care systems?" At the start of the COVID-19 pandemic, most health care systems ceased all elective and nonurgent procedures in an effort to prevent disease transmission and conserve personal protective equipment.

Within the VA, there was a dramatic decline in the number of colonoscopies performed, as most are for elective screening and surveillance indications. A similar picture is seen in an analysis of the GI Quality Improvement Consortium registry by Calderwood and colleagues that was recently published in *Techniques and Innovations in Gastrointestinal Endoscopy*. Although the proportion of screening colonoscopies decreased dramatically, the proportion of colonoscopies with a cancer diagnosis markedly increased. Although there remains significant concern

about deferred care and delayed cancer diagnoses, the higher proportion with a cancer diagnosis is encouraging because it suggests that physicians are prioritizing higher-risk patients.

Access to colonoscopy remains challenging in many settings, and some individuals are reluctant to seek medical care. One attractive solution has become at-home screening using FITs. Within the VA, it was common for patients who presented to their primary care provider to be sent home with a FIT that they would mail in for processing. During the pandemic, however, patients were not presenting to clinics, as telemedicine began to replace in-person care. In response, some VA facilities have begun programmatic mailing of FIT kits to veterans who are due for CRC screening.

G&H What new alternatives to colonoscopy are now available for CRC screening, and how do they compare with colonoscopy?

JD Recommendations from the US Multi-Society Task Force on Colon Cancer Screening put CRC screening tests into 3 tiers. The first tier includes screening colonoscopy and FIT. The second tier includes flexible sigmoidoscopy, computed tomography colonography, and the FIT-DNA test known as Cologuard (Exact Sciences). Capsule colonoscopy is relegated to Tier 3. The US Preventive Services Task Force recently updated its guidelines, which include a similar list of screening options, although it does not include capsule colonoscopy nor does it provide rankings. Blood-based screening tests are in development and are viewed as very attractive options, but none are currently recommended by either of these 2 groups owing to their current performance characteristics.

No long-term data from head-to-head comparative effectiveness studies of different screening options are available yet, but several studies are underway, including the CONFIRM study in the VA in which over 50,000 average-risk persons have been randomized to screening with FIT vs colonoscopy. This study is comparing the long-term impact of these screening methods on CRC incidence and mortality, with results expected in 2028. Three European studies are underway, with preliminary results of one Spanish study (COLONPREV) showing a very similar number of cancers diagnosed with one round of FIT compared with colonoscopy. Some people may be surprised by this finding given that FIT is not as sensitive for CRC as colonoscopy. This study highlighted a very important consideration in assessing the effectiveness of screening; participation was higher with FIT (34%) than with colonoscopy (25%). The COLONPREV study is ongoing and includes several more rounds of FIT screening.

G&H What factors can improve compliance regarding colonoscopy in patients with positive FIT results?

JD Roughly 5% to 7% of FITs are positive. Of those patients who test positive, approximately 3% to 5% will be found to have CRC. When colonoscopy is the screening method, roughly 1 of 200 screenings—or half a percent—reveals CRC. This means that the value of performing a colonoscopy in a FIT-positive patient is approximately 10 times greater in terms of detecting cancer than in the general screening population. However, for a variety of reasons, not everyone who is FIT-positive will undergo a colonoscopy, and delays in colonoscopy are associated with worse cancer outcomes. Therefore, it is crucial to get FIT-positive patients in for follow-up colonoscopy.

As with screening, there are many barriers to this vital diagnostic evaluation, including at the patient, provider, and health care system levels. Unfortunately, cost is one important barrier. Although screening colonoscopy and FIT are fully covered under the Affordable Care Act, if a colonoscopy is ordered following a positive FIT, patients are responsible for copayments under many insurance plans. Professional societies and advocacy groups are currently lobbying to change this. Other approaches to improving colonoscopy follow-up include improving colonoscopy capacity, implementation of tracking systems for FIT-positive patients, and use of patient navigators.

G&H How is artificial intelligence being applied in CRC screening, and does colonoscopy have a role?

JD Artificial intelligence (AI) is an exciting area for CRC screening in several ways. With colonoscopy, it can help the clinician see polyps that might otherwise be missed. As the colonoscope is withdrawn, the AI system projects a box or other flag around a polyp to alert the clinician to investigate that area of the colon. AI also can classify a polyp as to whether it is precancerous or benign, which, in addition to being time-saving, may play a role in enhancing patient safety. Although the risk of complications from polypectomy is very low, it is not zero, and with millions of polypectomies being performed annually, the absolute number of complications can be significant. AI also will have cost implications that need to be

considered. Although AI technology has a cost, every polypectomy also has a cost, but if AI helps avoid polypectomy and biopsy, it could be cost saving overall.

AI also is being explored for colonoscopy quality assurance, including evaluation of cecal intubation, bowel preparation quality, and the proportion of bowel mucosa that is examined. The simple fact that the system is monitoring the procedure may improve quality through the Hawthorne effect (ie, people behave differently when they are being observed). Imagine that AI is programmed to assess the quality of a clinician's examination and gives a performance rating.

A potential downside of this technology is that it may be intrusive and distracting. If highlighting suspicious polyps results in many false-positive signals, it can potentially slow down the colonoscopy to a point whereby it may become inefficient and possibly harmful. Finally, AI is being used to identify patients at greater risk for CRC, whether through use of big data or identification of biomarkers. More studies need to be performed on the accuracy and utility of current AI technology in everyday practice, but its future in CRC screening is very promising.

Disclosures

Dr Dominitz has no relevant conflicts of interest to disclose.

Suggested Reading

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