



STEPS For Increasing Colorectal Cancer Screening Rates

A Manual for Primary Care Practices

ACKNOWLEDGMENTS

The National Colorectal Cancer Roundtable (NCCRT) would like to thank the following people who generously offered their time and expertise to the development of this updated second edition to the first edition of the NCCRT's Steps for Increasing Colorectal Cancer Screening Rates: A Manual for Community Health Centers that was originally published in 2014. This edition has been expanded to include all primary care settings and updated to reflect current guidelines, new screening modalities, and updated literature references. The first edition was one of the most popular resources downloaded from the NCCRT website (www.nccrt.org) and has been instrumental in helping primary care practices throughout the United States achieve improvements in their colorectal cancer screening rates.

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This publication was supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$825,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

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INTRODUCTION

How Can This Manual Help Primary Care Practices Improve Screening Rates?

The goal of this manual is to offer evidence-based, expert-endorsed recommendations for planning and implementing strategies in primary care practices to improve colorectal cancer (CRC) screening rates. This manual provides a succinct step-by-step guide for primary care teams to improve CRC screening and outcomes in practice. These simple steps will assist teams to effectively:

- Agree on and implement an office screening strategy
- Provide education on appropriate and high-quality screening
- Help patients to complete timely, recommended screening
- Track follow-up of screening and results
- Build networks among primary care, specialty care, and health systems
- Provide examples of workflows from successful programs

Since screening recommendations originate in primary care, these settings offer the greatest opportunity to achieve the NCCRT's goal to increase CRC screening rates to 80% in every community.

Instructions for Using This Manual

This manual offers practical advice for implementing expert-endorsed processes for improving CRC screening and follow-up care – one step at a time. It is organized into four primary sections:

- 1** A Background section that provides information on the importance of CRC screening
- 2** A Steps for Increasing Colorectal Cancer Screening Rates section that maps out a plan for improving your CRC screening rates and gives step-by-step instructions for doing so
- 3** Ten case studies from exemplary and diverse practices from across the country
(Coming Soon)
- 4** An Appendices section that provides field-tested tools, templates, and resources to get you started

We suggest that you use the manual by focusing only on the topic pages that you need at any particular time. Be sure to also make use of the appendices, which have several templates, tools, and resources to save you time.

Document Navigation Tip » If you use the jump (live) links throughout the manual, you can return to your original position by pressing "**Alt+Left Arrow**" on a PC or "**Command+Left Arrow**" on a Mac.

BACKGROUND



The NCCRT acts as a catalyst to stimulate work on key issues around colorectal cancer.

About the National Colorectal Cancer Roundtable

The National Colorectal Cancer Roundtable (NCCRT), established by the American Cancer Society, in partnership with the Centers for Disease Control and Prevention, in 1997, is a national coalition of more than 180 membership organizations. NCCRT members include public organizations, private organizations, voluntary organizations, and invited individuals, each dedicated to reducing the incidence of and mortality from colorectal cancer (CRC) in the U.S., through coordinated leadership, strategic planning, and advocacy. Visit the NCCRT website, www.nccrt.org, to learn more.

80% in Every Community



80% in Every Community is an NCCRT initiative in which more than 1,800 organizations are working toward the shared goal of reaching colorectal

cancer (CRC) screening rates of 80% and higher in communities across the nation. Through dedication, determination, and collective action, we are seeing community health centers, other primary care practices, health systems, health plans, employers, counties, and many others achieving CRC screening rates of 80% and higher.

But not everyone is benefiting equally. There are still too many communities with low CRC screening rates – certain racial and ethnic communities and low-income communities, among others. We will continue working to bring down barriers to screening because everyone deserves to live a life free from colorectal cancer. Our mission isn't achieved until we achieve 80% screening rates in every community. Visit nccrt.org/80-in-every-community to learn more.

Evidence-Based Recommendations for Colorectal Cancer Screening

Major Guidelines Now Recommend Colorectal Cancer Screening Starting at Age 45

The American Cancer Society and the United States Preventive Services Task Force (USPSTF) recommend that CRC screening begins at age 45 for both men and women at average risk, a change from the previous recommendation to begin screening at age 50. Universal coverage of CRC screening at age 45 will not be fully required of all health plans until 2023. However, many plans are already covering screening at age 45 in 2022. Learn more about the change to recommend screening at age 45 and the implementation timeline for different types of health plans in [NCCRT's June 7, 2021 webinar](#). Information about changes to national performance measures to begin capturing screening rate data for ages 45-49 can be found on [page 17](#).

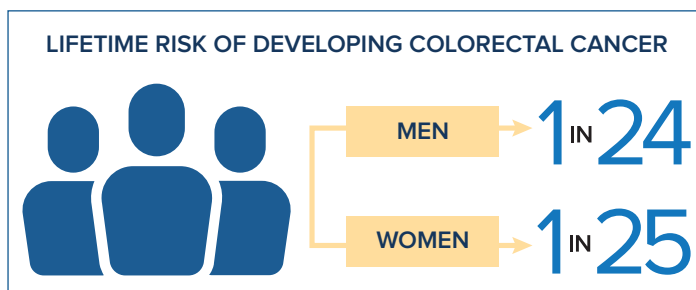
Why Focus on Colorectal Cancer Screening?

“Colorectal cancer is often considered the most preventable, yet least prevented, cancer.”

– Steven H. Itzkowitz, MD,
NCCRT Chair¹

Excluding skin cancers, colorectal cancer (CRC) is the third most commonly diagnosed cancer in the United States. CRC is the third leading cause of cancer-related deaths in men and in women, and the second most common cause of cancer deaths when numbers for men and women are combined.

Overall, the lifetime risk of developing colorectal cancer is about 1 in 24 (4.2%) for men and 1 in 25 (4.0%) for women. In 2022, an estimated 151,030 people will be diagnosed with CRC in the United States, and 52,580 people are expected to die from the disease.²



Screening for colorectal cancer can save lives.

Because CRC usually begins as a small growth known as a polyp, some of which can develop slowly into cancer over a period of 10 to 20 years, regular screening is an important opportunity for both prevention (removing the polyps) and early detection (finding the cancer early if there is one).³

Based on a Veterans Affairs (VA) national study published in 2018, there was an estimated 61% lower risk of death from CRC in patients who underwent colonoscopy screening.⁴ In the Kaiser healthcare system, initiation of organized CRC screening (annual fecal immunochemical testing and colonoscopy) increased the up-to-date status of screening, from 38.9% in 2000 to 82.7% in 2015, and was associated with a 25.5% reduction in annual CRC incidence and a 52.4% reduction in cancer mortality.⁵

Screening for colorectal cancer costs less than cancer treatment.

Cancer treatment, especially the treatment of advanced cancer, is associated with significant increases in health care costs. In a 2018 Medicare study, the average annual treatment cost per patient with a primary diagnosis of CRC increased according to disease stage at diagnosis – from early diagnosis in stage I (\$32,000), increasing with stage II (\$45,000), and peaking with stage IV at diagnosis (\$64,000). Mean spending for the terminal year across all stages peaked at \$74,000.⁶ In contrast, based on findings from the CDC’s Colorectal Cancer Control Program published in 2019, the average screening test costs are \$2,060 per person, ranging from \$1,057 for both a stool-based test and colonoscopy (if follow up is needed) to \$3,153 for colonoscopy alone. All components were, on average, the most expensive for colonoscopy programs.⁷ A systematic review of CRC screening in 2020 showed that all CRC screening techniques are more cost-effective than not screening.⁸

Early Age Onset Colorectal Cancer

Half of new diagnoses are now in people 66 and younger

Research now indicates the burden of colorectal cancer is swiftly shifting to younger individuals as incidence increases in young adults and declines in older age groups. An estimated 18,000 cases of CRC (12%) were diagnosed in people under 50 in 2020, with 1 in 4 patients younger than 50 diagnosed with metastatic disease.

Ensure your patients take advantage of potentially life-saving screening as soon as they become eligible – at 45 for people at average risk or earlier for people at increased or high risk of the disease. People of any age with symptoms should undergo an appropriate diagnostic workup.⁹

Colorectal cancer screening disparities persist

In 2020, 72.1% of adults in the United States were up to date with CRC screening, but disparities persist. For example, screening prevalence was 16.1 percentage points lower among those aged 50-64 years (66.4%) than among those aged 65-75 years (82.5%). In 2020, screening was lowest among American Indian/Alaska Native people (63.1%), Asian American people (64.3%), Hispanic people (64.9%), individuals with less than a high school education (64.4%), individuals with an income below \$15,000 per year (66.7%), individuals without insurance (44.1%), and individuals without a regular health provider.¹⁰ In spite of widespread knowledge that Black adults have higher CRC incidence than white adults, Black adults are less likely than white adults to receive a recommendation for CRC screening.^{11,12}

“The USPSTF recognizes the higher colorectal cancer incidence and mortality in Black adults and strongly encourages clinicians to ensure their Black patients receive recommended colorectal cancer screening, follow-up, and treatment.”

– United States Preventive Services Task Force
Final Recommendation Statement,
Colorectal Cancer Screening, May 2021

In community health centers (health centers), which largely serve underrepresented populations, the national CRC screening rate in 2019 was 45.6%, ranging from 29.3% (Oklahoma) to 64.8% (Delaware).¹³ In 2020, the national CRC screening rate was 40.1% amongst health centers.¹⁴ The decline in screening was expected given the myriad of challenges health centers faced and continue to face due to the ongoing COVID-19 pandemic. Notably, despite these challenges, health centers screened 2,448,976 patients in 2020, close to the total number screened in 2018 (2,491,769). In 2021, health centers’ national CRC screening rate began to recover to the pre-pandemic rate and increased to 41.9% across all health centers, ranging from 27.1% (Nevada) to 62.0% (Maine), with a total of 2,680,583 patients screened nationally.¹⁵

The existence of these disparities suggests that health centers have tremendous potential to reduce CRC morbidity and mortality in racially and ethnically diverse, socioeconomically challenged communities across the country.

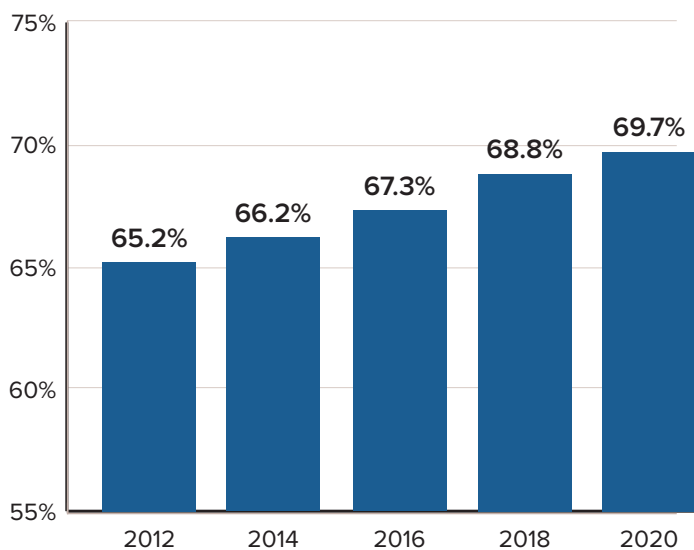
Colorectal Cancer Screening Rates

NCCRT monitors all available national data to assess our progress in reaching the goal of 80% of adults ages 45 or older screened for colorectal cancer. There are strengths and limitations of each data set.

Note: In the last few years, many major guidelines have changed their colorectal cancer screening recommendations to recommend CRC screening for average-risk adults starting at age 45. However, most screening data sources do not yet include data for adults ages 45-49.

National Screening Rate – BRFSS

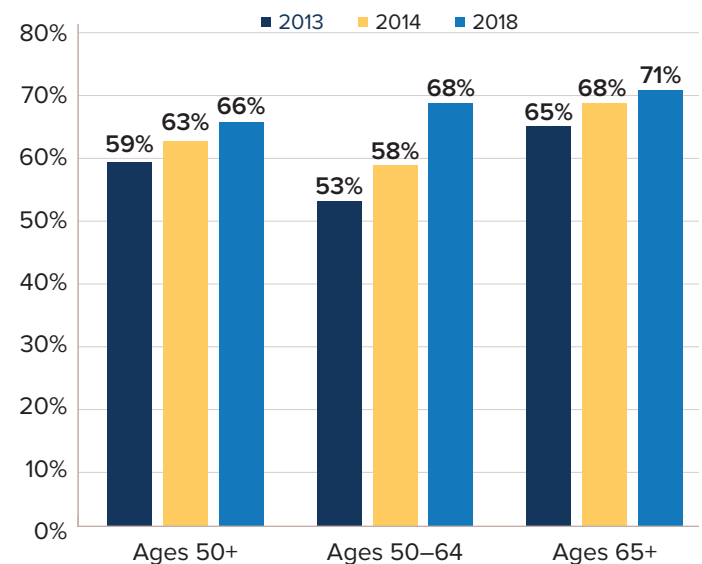
Percentage of U.S. Adults Age 50-75 years Up-to-Date with CRC Screening, Behavioral Risk Factor Surveillance System¹⁶



The increase in the screening rate between 2012 and 2018 represents an additional 9.3 million adults screened for colorectal cancer.

National Screening Rate – NHIS

CRC Screening Among Adults Aged 50-75 Years, US, 2013-2018, National Health Interview Survey¹⁷



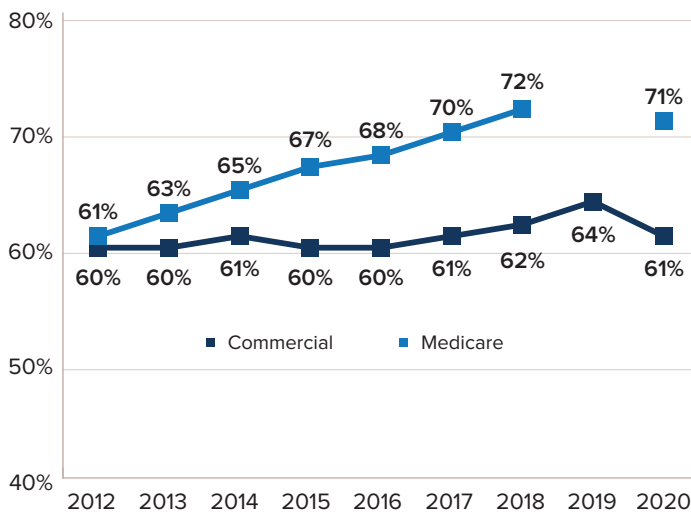
The prevalence of up-to-date screening with any recommended test among individuals aged 50 years and older increased from 38% in 2000 to 66% in 2018. The lower screening rate in individuals younger than 65 years largely reflects a lag in uptake in those 50 to 54 years, among whom screening prevalence in 2018 was 48% versus 68% in those aged 55 to 64 years.

Visit the [NCCRT Data & Progress webpage](#) to find up-to-date statistics on CRC screening, incidence, and mortality.



Insured Adults – HEDIS

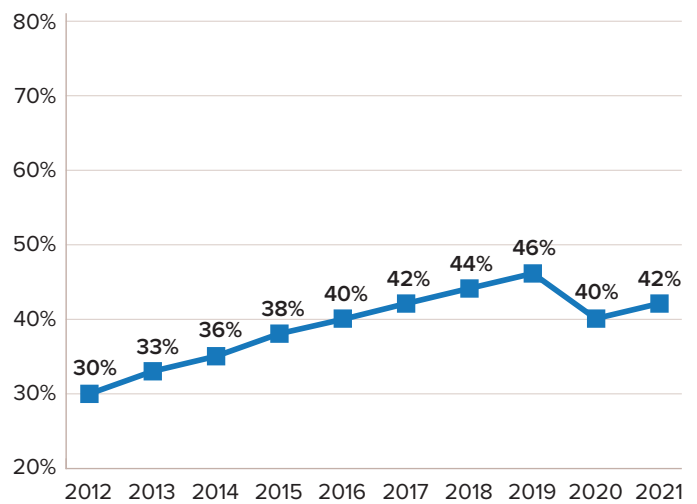
Percentage of U.S. Adults Age 50-75 years Up-to-Date with CRC Screening, Healthcare Effectiveness Data and Information Set.¹⁸



Screening rate data for Medicare plans is not available for 2019 because in March 2020 the Centers for Medicare & Medicaid Services (CMS) **suspended Medicare quality reporting requirements** in response to COVID-19. Visit the **80% Hall of Fame** to see the list of health plans that have achieved 80%.

HRSA Uniform Data System (UDS)

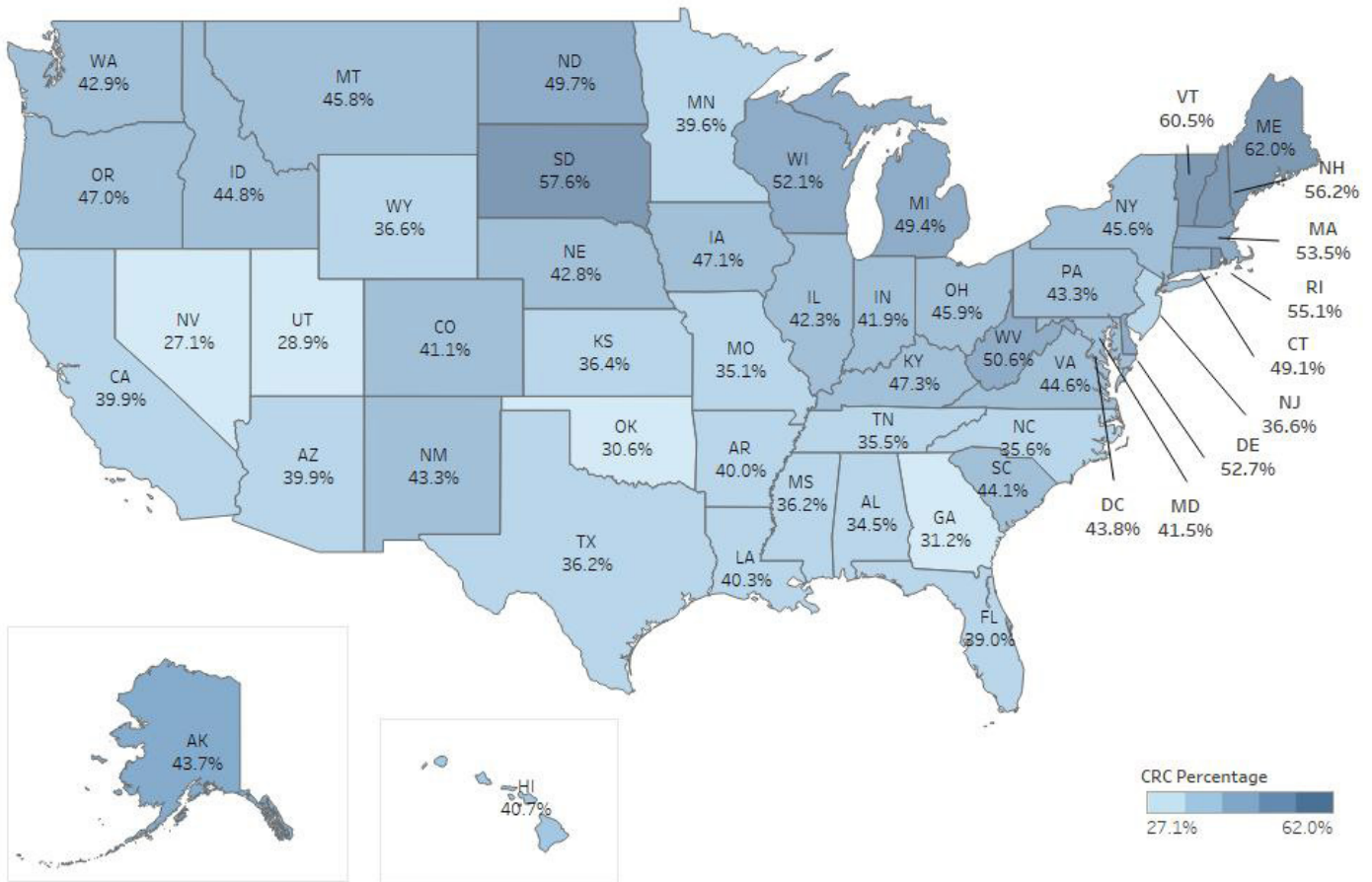
Percentage of HRSA-funded Health Center Patients Ages 50-75 years Up-to-Date with CRC Screening, Uniform Data System.¹⁵



The UDS CRC screening rate was 41.9% in 2021, which amounts to 2,680,583 patients screened in 2021 alone. In 2021, 21 out of 1,373 health centers reached or exceeded an 80% screening rate, up from 11 in 2020.

A map of 2021 UDS colorectal cancer screening rates in health centers by state follows.

Figure 1. Colorectal Cancer Screening Rates in Community Health Centers by State, 2021 Data



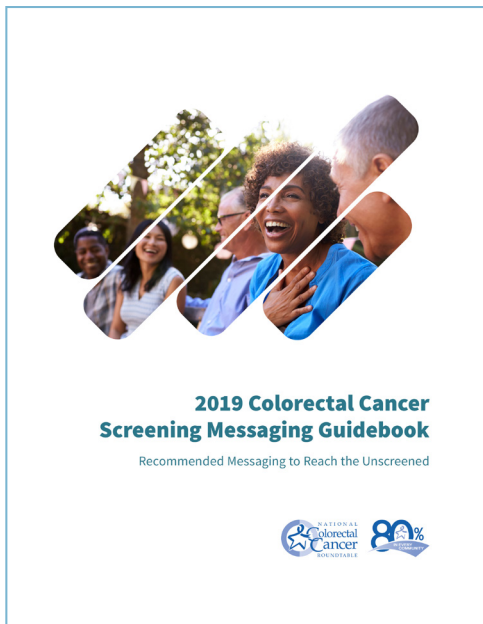
Data Source: UDS data 2021.¹⁵

Adults 50-75 years of age who received any of the following: FOBT or FIT during the reporting year, mt-sDNA during the reporting period or previous two years, colonoscopy during reporting year or previous nine years, CT colonography during the reporting year or previous four years, or flexible sigmoidoscopy conducted during reporting year or previous four years.

Additional Sources of CRC Data and Screening Rates

The following sources provide CRC screening, incidence, and mortality rates and data visualizations:

- **Colorectal Cancer Facts & Figures, 2020-2022 (ACS)** – state level screening, incidence, and mortality rates
- **Colorectal Cancer Screening State Profiles (CDC)** – state level screening rates by race/ethnicity, sex, insurance status, and age group
- **United States Cancer Statistics: Data Visualizations (CDC)**
 - **CRC Screening** – state- and county-level estimates
 - **CRC Incidence and Mortality** – state- and county-level estimates
 - **CRC Incidence and Mortality Trends** – state-level trends
- **Cancer Statistics Center (ACS)** – state level screening, incidence, and mortality rates
- **State Cancer Profiles (NCI)** – county level screening, incidence, and mortality rates
- **500 Cities Project (CDC)** – screening rate estimates for 500 major U.S. cities



Reaching the Unscreened

In 2018, NCCRT and the American Cancer Society conducted market research with screened and unscreened populations to better understand and address screening disparities. The market research was used to produce the **2019 Colorectal Cancer Screening Messaging Guidebook: Recommended Messages to Reach the Unscreened**.

Self-reported barriers to CRC screening include:

- **Procrastination** – This is the leading barrier to screening across many unscreened groups. Unscreened people may be knowledgeable about CRC screening but tend to prioritize other life demands over the need for screening.
- **Unpleasantness** – Unscreened people often have a basic understanding of CRC screening. But they typically have strong beliefs about the unpleasantness of the test procedure. They describe the test as embarrassing and invasive.
- **Cost** – Unscreened people have a common perception that colorectal cancer screening is not affordable.
- **No Family History** – Many unscreened people believe that colorectal cancer is primarily hereditary. Since they have no symptoms or family history, they feel that the need for screening doesn't apply to them.¹⁹

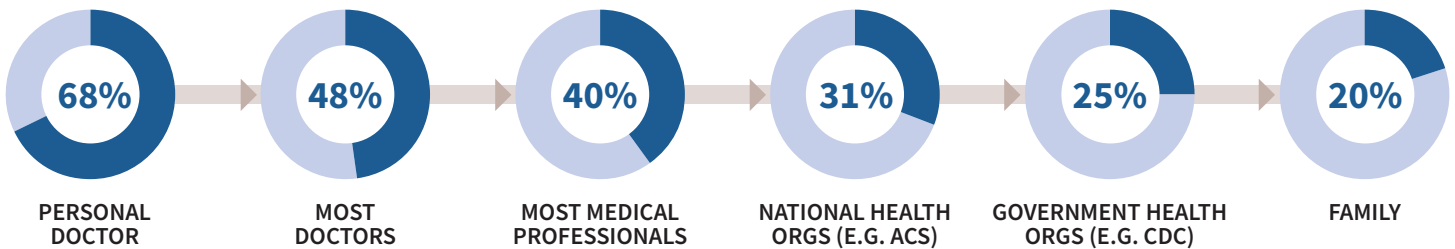
The market research found the following message to be the most preferred across a diverse range of demographic profiles:



A colonoscopy isn't the only option for colorectal cancer screening. There are simple, affordable options, including tests that can be done at home. Talk to your doctor about which option is right for you. Ask which tests are covered by your health insurance.

When it comes to delivering CRC screening messages, clinicians are a top source of trusted information. The following graphic shows the percentage of respondents that trusted these six sources for CRC screening information.

Trusted Messengers



Visit the NCCRT Resource Center to find additional market research-based messaging guidance, including the **2022 NCCRT Messaging Guidebook for Black & African American People: Messages to Motivate for Colorectal Cancer Screening**, **Hispanics/Latinos and Colorectal Cancer Companion Guide**, and **Asian Americans and Colorectal Cancer Companion Guide**, which include tested messages in Spanish and several Asian languages. Partners can use the NCCRT's market research and the recommended messaging provided to strengthen communications campaigns and create resources that resonate with target audiences by using personal creativity, innovation, and spokespersons.

To find evidence-based interventions (EBIs) to improve communications about CRC screening, in addition to the numerous resources found in this guide, details of additional EBIs to mitigate communications barriers can be found in the CDC's Community Guide²⁰ and National Cancer Institute's (NCI) **Evidence-Based Cancer Control Programs** (EBCCP). This Steps Guide provides practical approaches and guidance for primary care practices to apply these EBIs in practice as part of a comprehensive approach to increase CRC screening.

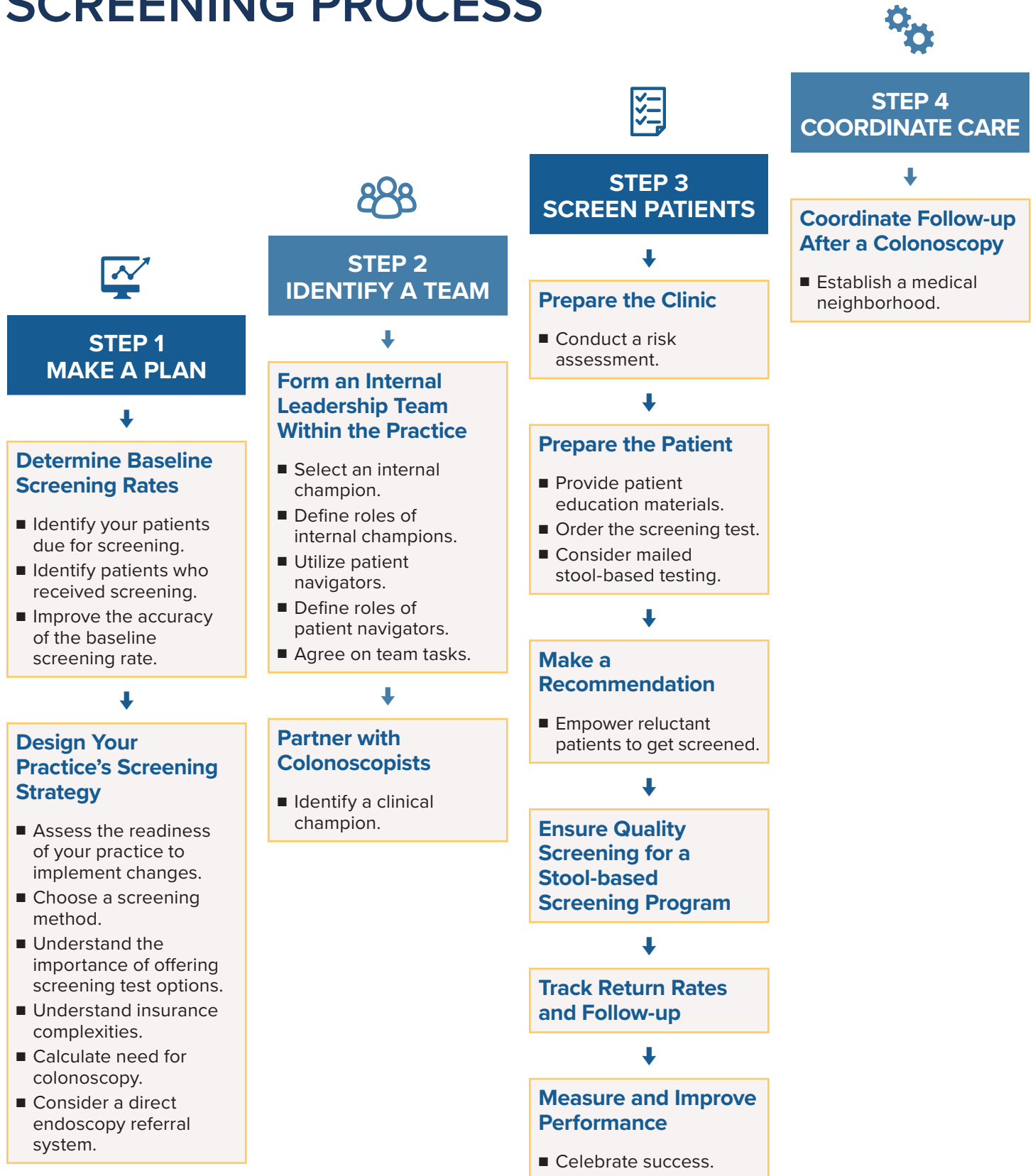
STEPS For Increasing Colorectal Cancer Screening Rates



← COMMUNICATION →

← CONTINUOUS QUALITY IMPROVEMENT →

OVERVIEW OF THE SCREENING PROCESS





1  **MAKE A PLAN**

2  **IDENTIFY A TEAM**

3  **SCREEN PATIENTS**

4  **COORDINATE CARE**

STEP #1: MAKE A PLAN



“The best screening test is the one that gets done well.”

– Sidney J. Winawer, MD, DrSc,
principal investigator of the National Polyp Study,
the sentinel study that demonstrated adenoma
removal reduces CRC risk

Determine Baseline Screening Rates

The first step involves calculating the baseline screening rate for the organization. This is critical to measuring practice improvement at the end of the implementation process. This requires the following steps:

Identify patients who are due for screening

Identify patients who have received screening

Validate and improve the accuracy of the data

Calculate the screening rate

Identify Your Patients Due for Screening

An important step involves identifying the active, current patients who are eligible for screening based on the performance measures' criteria. For example, a practice may consider a patient active if they have been seen in the past one or two years.

Providing individual clinician or practice-wide reports on clinical quality measures to clinicians and practice staff is a core competency in the Patient Centered Medical Home (PCMH) model and is crucial for holding the practice and providers accountable for performance. Electronic Health Records (EHRs) provide the ability to document the primary care provider (PCP) selected by the patient during patient registration or between visits.²² This makes the process of generating reports by PCP panel easier.

Performance Measure Alignment

The Centers for Medicare & Medicaid Services (CMS) maintains an Electronic Clinical Quality Improvement (eCQI) Resource Center website that includes performance measure specifications across care settings. The measure steward for the colorectal cancer (CRC) screening measure is the **National Committee for Quality Assurance (NCQA)**. The **Health Resources Services Administration (HRSA) Uniform Data Set (UDS)** is used to assess federally-qualified health center (FQHC) performance aligned to the **same electronic clinical quality measure (eCQM)** that's used to assess the performance of non-FQHC practices. Regardless of what measure is being used, one of the keys to identifying patients due for screening is understanding the criteria used for defining the denominator.

The **2022 UDS measure** and the **eCQI Measure 130 v. 10** for CRC screening require identifying **patients 50-75 years** of age with a visit during the measurement period. According to HRSA, patients who have had at least one documented in-person or virtual visit with a clinician during the calendar year should be counted as active patients.²¹ According to CMS, the 2023 eCQI Measure 130 v. 11 will require identifying patients starting at age 45.²²

HEDIS (Healthcare Effectiveness Data and Information Set), which is a performance improvement tool published by the NCQA, serves as performance indicators for many commercial and Medicare plans. The **2022 HEDIS CRC screening measure** will begin to measure CRC screening among **patients 45-75 years of age** in measurement year (MY) 2022 to reflect the 2021 USPSTF guideline. The Medicaid product line has also been added for reporting in MY 2022.²³

Providing individual clinician or practice-wide reports on clinical quality measures to clinicians and practice staff is a core competency in the Patient Centered Medical Home (PCMH) model and is crucial for holding the practice and clinicians accountable for performance. Electronic Health Records (EHRs) provide the ability to document the primary care clinician selected by the patient during patient registration or between visits.²² This makes the process of generating reports by primary care clinician panel easier.

Identify Patients Who Have Received Screening

Several performance measures exist to monitor colorectal cancer (CRC) screening rates within health systems and practices. Appendix A-1 includes a table providing a comprehensive overview of these measures.²⁵ Appendix A-2 includes information for health centers on how to calculate CRC screening rates using HRSA's UDS specifications.

The USPSTF CRC screening guidelines were updated in May 2021, lowering the starting age for CRC screening in average-risk individuals from age 50 to age 45. NCQA expanded the HEDIS measure to include the 45- to 49-year-old age group beginning in the measurement year 2022. The eCQM for 2023 indicates that it will change the eligible population age to match the updated USPSTF recommendations.

The following diagnosis and billing codes (ICD and CPT codes) can be useful in identifying the patients who meet the criteria for having received CRC screening:

- ICD-9-CM: 45.22, 45.25, 45.42-45.43, V76.51
- ICD-10: Z12.10, Z12.11, Z12.12 R19.5
- CPT- 45330-45345, 44388-44397, 45355-45392, 81528, 82270, 82274, G0104, G0105, G0106, G0107, G0120, G0121, G0328, G0464

Although ICD-9 codes were transitioned to ICD-10 codes in 2015, there are still likely patients in the practices who had colonoscopies within the last ten years that would have had ICD-9 codes associated with the test.

Improve the Accuracy of the Baseline Screening Rate

Even after incorporating all of this data, there will be patients who have received CRC screening who are missing documentation. Some strategies to address this issue include:

- **Appropriate Documentation** – Develop written procedures on how to appropriately document CRC screenings and exclusion criteria in the EHR following best practice guidelines for the analytics/reporting tool used by the organization. The documentation of the screening should include the date performed, the type of test, and the result. Performance measure specifications **do not allow self-reporting. Evidence of the test must be included in the patient’s record.**
- **Prior to the Visit** – Review the patient’s chart prior to their visit to review gaps in care, including preventive screenings such as CRC screening.
- **Use Health Information Exchange** – Look for CRC screenings performed outside the practice that may be available through a local Health Information Exchange (HIE) or frameworks such as CareQuality or CommonWell.
- **Care Team Huddle** – Use huddles to review the items needed for the patients being seen for the day and ensure the entire care team knows what screenings and tests are needed for the patient. Several EHRs’ integrated data overlay and/or care management platforms offer patient care gap summaries that are extremely valuable for use during team huddles.
- **During the Visit** – Order appropriate screenings needed and make a plan for tests needed before their next appointment jointly with the patient.
- **Clinical Protocols** – Establish a protocol for staff and clinicians to ask patients about prior screening during the patient visit. Potentially add standing orders/referrals for screening.
- **Checklists** – Use a written self-administered preventive care checklist for patients with adequate literacy and appropriate language skills.
- **Alerts/Flags** – Use HIT/EHR clinical decision support to alert clinicians or flag patients who are not up to date with screening so that recommendations and orders can be integrated into the upcoming appointment. Make it easy to order the needed tests to satisfy the alert using order sets.

Design Your Practice's Screening Strategy

Assess Readiness of Your Practice to Implement Changes

A number of readiness assessment tools are available to assess current screening processes in the practice, as well as gaps and needs. The results of the assessment can be used to help prioritize whichever step(s) need the most adjustment. Examples of these readiness assessment tools are included in Appendix A-3 and are also described in Section 2 on identifying a team and documenting current state workflows. The assessment is best conducted with the practice team to gain a full picture of how each member of the staff contributes to or can potentially contribute to improving the screening process.

Choose a Screening Method

There are multiple screening tests available to screen patients for colorectal cancer. The most effective strategies to improve screening are multi-component and multi-level, addressing barriers at the patient, clinician, and health system levels.²⁶

In 2018, the ACS updated its recommendations for colorectal cancer screening to begin screening at age 45 for individuals at average risk of colorectal cancer.²⁷ In 2021, the USPSTF also updated its recommendations for colorectal cancer screening to align with the starting age of 45 for individuals at average risk of colorectal cancer.²⁸

CRC Screening Test Options

American Cancer Society

Stool-based tests

- Highly sensitive fecal immunochemical test (FIT) every year
- Highly sensitive guaiac-based fecal occult blood test (gFOBT) every year
- Multi-targeted stool DNA test (mt-sDNA) every 3 years

Visual (structural) exams of the colon and rectum

- Colonoscopy every 10 years
- CT colonography (virtual colonoscopy) every 5 years
- Flexible sigmoidoscopy (FSIG) every 5 years

If a person chooses to be screened with a test other than colonoscopy, any abnormal test result should be followed up with a timely colonoscopy.

Source: American Cancer Society 2018 CRC Screening Guideline: <https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/acs-recommendations.html>

CRC Screening Test Options

USPSTF

Stool-based tests

- High-sensitivity gFOBT every year
- FIT every year
- mt-sDNA every 1 to 3 years

Visual (structural) exams of the colon and rectum

- CT colonography every 5 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years + FIT every year
- Colonoscopy screening every 10 years

Positive or abnormal findings identified by non-colonoscopy screening require follow-up colonoscopy for screening benefits to be achieved.

Source: USPSTF 2021 CRC Screening Guideline: <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening>

Colorectal Cancer Screening Recommendations

The **American Cancer Society** recommends that people who have no symptoms and are at average risk* of colorectal cancer start regular screening at age 45. This can be done either with a stool-based test or visual (structural) exam (e.g., colonoscopy).

People who are in good health and with a life expectancy of more than 10 years should continue regular colorectal cancer screening through the age of 75.

For people ages 76 through 85, the decision to be screened should be based on a person's preferences, life expectancy, overall health, and prior screening history. This should be a shared decision made after a discussion with your physician.

People over 85 should no longer get colorectal cancer screening.

*For screening, people are average risk if they do **not** have:

- A personal history of colorectal cancer or certain types of polyps
- A family history of colorectal cancer
- A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)
- A confirmed or suspected hereditary colorectal cancer syndrome, such as familial adenomatous polyposis (FAP) or Lynch syndrome (hereditary non-polyposis colon cancer or HNPCC)
- A personal history of getting radiation to the abdomen (belly) or pelvic area to treat a prior cancer



Table 1. Characteristics of Recommended Colorectal Cancer Screening Tests

	Benefits	Performance and Complexity*	Limitations	Test Time Interval
Visual Examinations				
Colonoscopy	<ul style="list-style-type: none"> ■ Examines entire colon ■ Can biopsy and remove polyps ■ Can diagnose other diseases ■ Required for abnormal results from all other tests 	<p>Performance: Highest</p> <p>Complexity: Highest</p>	<ul style="list-style-type: none"> ■ Full bowel cleansing ■ Can be expensive ■ Sedation usually needed, necessitating a chaperone to return home ■ Patient may miss a day of work ■ Highest risk of bowel tears or infections compared with other tests 	10 years [†]
Computed tomographic colonography (CTC)	<ul style="list-style-type: none"> ■ Examines entire colon ■ Fairly quick ■ Few complications ■ No sedation needed ■ Noninvasive 	<p>Performance: High (for large polyps)</p> <p>Complexity: Intermediate</p>	<ul style="list-style-type: none"> ■ Full bowel cleansing ■ Cannot remove polyps or perform biopsies ■ Exposure to low-dose radiation ■ Colonoscopy necessary if positive ■ Not covered by all insurance plans 	5 years
Flexible sigmoidoscopy	<ul style="list-style-type: none"> ■ Fairly quick ■ Few complications ■ Minimal bowel preparation ■ Does not require sedation or a specialist 	<p>Performance: High for rectum & lower one-third of the colon</p> <p>Complexity: Intermediate</p>	<ul style="list-style-type: none"> ■ Partial bowel cleansing ■ Views only one-third of colon ■ Cannot remove large polyps ■ Small risk of infection or bowel tear ■ Slightly more effective when combined with annual fecal occult blood testing ■ Colonoscopy necessary if positive ■ Limited availability 	5 years
Stool Tests (Low-sensitivity stool tests, such as single-sample FOBT done in the doctor's office or toilet bowl tests, are not recommended.)				
Fecal immunochemical test (FIT)	<ul style="list-style-type: none"> ■ No bowel cleansing or sedation ■ Performed at home ■ Low cost ■ Noninvasive 	<p>Performance: Intermediate for cancer</p> <p>Complexity: Low</p>	<ul style="list-style-type: none"> ■ Requires multiple stool samples ■ Will miss most polyps ■ May produce false-positive test results ■ Slightly more effective when combined with a flexible sigmoidoscopy every five years ■ Colonoscopy necessary if positive 	Annual
High-sensitivity guaiac-based fecal occult blood test (gFOBT)	<ul style="list-style-type: none"> ■ No bowel cleansing or sedation ■ Performed at home ■ Low cost ■ Noninvasive 	<p>Performance: Intermediate for cancer</p> <p>Complexity: Low</p>	<ul style="list-style-type: none"> ■ Requires multiple stool samples ■ Will miss most polyps ■ May produce false-positive test results ■ Pre-test dietary limitations ■ Slightly more effective when combined with a flexible sigmoidoscopy every five years ■ Colonoscopy necessary if positive 	Annual
Multitargeted stool DNA test (Cologuard®)	<ul style="list-style-type: none"> ■ No bowel cleansing or sedation ■ Performed at home ■ Requires only a single stool sample ■ Noninvasive 	<p>Performance: Intermediate for cancer</p> <p>Complexity: Low</p>	<ul style="list-style-type: none"> ■ Will miss most polyps ■ More false-positive results than other tests ■ Higher cost than gFOBT and FIT ■ Colonoscopy necessary if positive 	3 years, per manufacturer's recommendation

*Complexity involves patient preparation, inconvenience, facilities and equipment needed, and patient discomfort.

[†]For average-risk individuals, e.g., does not apply to those who have a history of adenoma.

Source: ACS Colorectal Cancer Facts & Figures 2020-2022: <https://www.cancer.org/research/cancer-facts-statistics/colorectal-cancer-facts-figures.html>

Visual (Structural) Exams of the Colon and Rectum

All three direct visualization screening tests for colorectal cancer visualize the inside of the colon and rectum, although flexible sigmoidoscopy can only visualize the rectum, sigmoid colon, and descending colon, while colonoscopy and CT colonography can generally visualize the entire colon. For colonoscopy and flexible sigmoidoscopy, a camera is used to visualize the inside of the colon, while CT colonography uses X-ray images. **When positive or abnormal results are found on flexible sigmoidoscopy or CT colonography, follow-up with colonoscopy is needed for further evaluation.** Unlike colonoscopy and flexible sigmoidoscopy, CT colonography may reveal extracolonic findings that require additional workup.^{29,30}

Although clinical trials have established that flexible sigmoidoscopy is an effective screening method for average-risk patients, flexible sigmoidoscopy is not in frequent use for screening in the United States.²⁸ In locales where high-quality flexible sigmoidoscopy is available, it can continue to be used by clinicians as long as positive or abnormal screening results are followed up with colonoscopies.²⁷

Stool-based Tests

A high-sensitivity guaiac-based FOBT (HSgFOBT) refers to modern highly sensitive forms of the guaiac stool-based test, such as Hemoccult II Sensa, which detect colorectal cancer at much higher rates than older tests (Hemoccult II, Seroccult). Screening guidelines specify that only high-sensitivity forms of guaiac-based tests (like Hemoccult II Sensa) or FIT should be used for colorectal cancer screening.³¹

The fecal immunochemical test (FIT) uses antibodies against hemoglobin to specifically detect human blood in the stool and is about twice as likely as most gFOBT products to detect both advanced adenomas and cancer. Many individuals prefer FIT over gFOBT because of its convenience, lack of dietary restrictions, and collection of fewer stool samples.²⁸

A multitarget stool DNA test (also known as mt-sDNA) combines the FIT test with a test that looks for abnormal/altered sections of DNA in the stool. Cologuard is the only mt-sDNA test currently available in the US. Like all other stool tests, mt-sDNA testing is appropriate only to screen individuals at average risk for CRC. Medicare, most commercial insurers, and the majority of state Medicaid programs cover mt-sDNA testing.³²

Screening for colorectal cancer can reduce mortality rates only if screening is performed with adequate quality. It is important to emphasize that **in-office stool testing by digital rectal exam is not an appropriate method for screening for colorectal cancer.** An in-office single digital stool test missed 90% of cancers found at subsequent colonoscopy in one study.³² A high-quality stool-based screening program requires that specimens be collected at home or with a spontaneously-passed stool in the medical home, that the stool-based test be repeated regularly (annually for FIT and high-sensitivity gFOBT and every three years for mt-sDNA), and that all positive or abnormal stool tests results are followed up with colonoscopies.

Understand the Importance of Offering Colorectal Cancer Screening Test Options

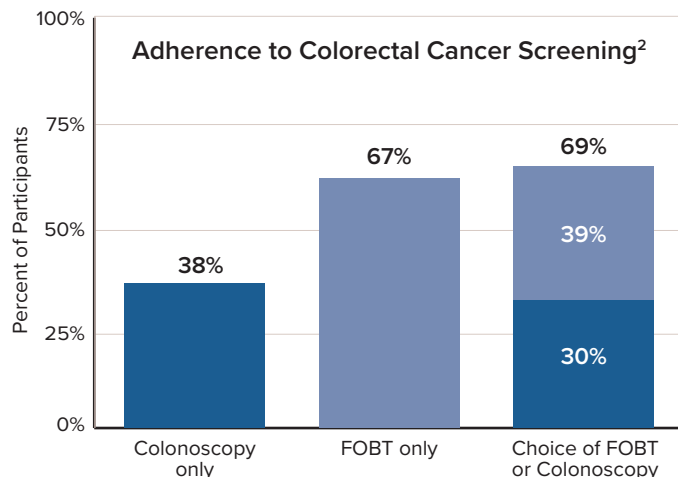
Awareness of the benefits of stool-based tests, FIT, high-sensitivity gFOBT, and mt-sDNA testing is needed to set the record straight. In a survey of 180 clinicians, 92% of survey respondents viewed colonoscopy as “highly effective,” but most misjudged stool tests, with only 25% assessing FIT as “highly effective” and less than 10% perceiving gFOBT this favorably. In addition, colonoscopy was preferred despite the fact that 51% of clinicians reported colonoscopy was not readily available for their patients, and 82% felt that many of their patients had financial barriers to screening with colonoscopy.³³

As highlighted in this manual, achieving target screening rates will require the use of both colonoscopy screening and a stool-based strategy. Many patients prefer a less invasive test; using FIT, HSgFOBT, or mt-sDNA offers an evidence-based alternative. On the other hand, reaching high screening rates with a stool-based strategy alone is challenging, demanding a very organized approach to the annual recalling of patients and access to timely colonoscopy after a positive or abnormal stool-based test.

Achieving target screening rates will require the use of both colonoscopy screening and a stool-based strategy.

One advantage of using colonoscopy as a primary screening method for a population is that screening is required only once every 10 years. Thus, the individuals who are screened in one year don't need to be recalled the next year; this enables a focus on other patients. However, offering only colonoscopy may be problematic. One study in a community health center population found that screening adherence was lower in patients who were offered screening colonoscopy alone compared to those who were offered a stool-based method alone or a choice between the two options (screening status after one year is illustrated in the chart below).³⁴ In a three-year follow-up study, those participants offered a choice between a stool-based test and colonoscopy, continued to have high adherence to CRC screening.³⁵





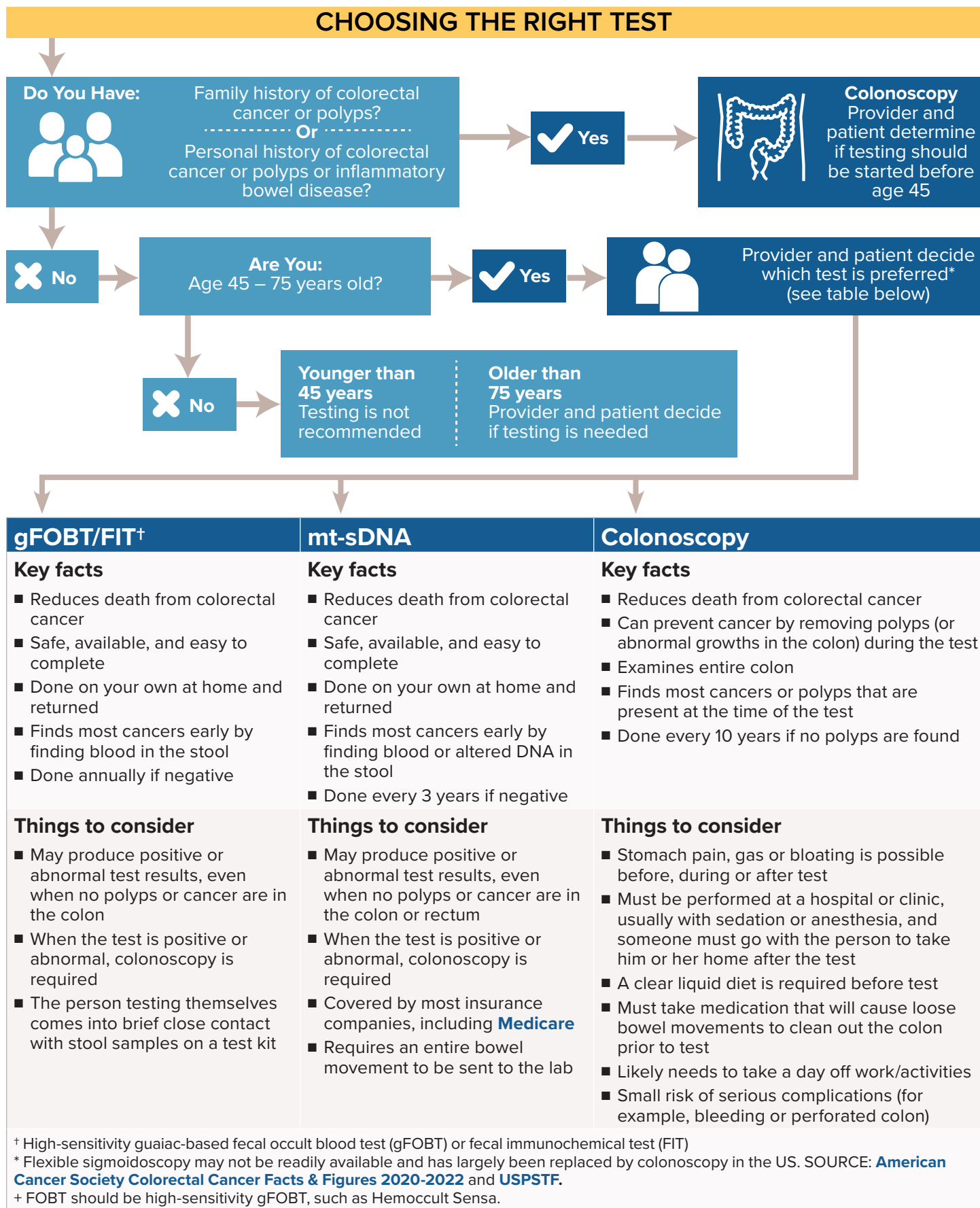
If possible, programs should offer patients options: stool-based testing, screening colonoscopy, or CT colonography. The screening strategy should also consider the characteristics of the patient population, including patient history and risk level, patient preferences (culture, language), insurance status, and local health care resources.

Some organizations may face difficulty in ensuring access to colonoscopy for their patients. These organizations may opt to choose a stool-based test as their primary screening modality. Even if that is the choice, it is critical to remember that colonoscopy will still be needed for patients with positive or abnormal stool-based test results. In fact, patients with positive or abnormal results from CT colonography, high-sensitivity gFOBT, FIT, or mt-sDNA should only be counted as having completed the screening process AFTER a colonoscopy is performed. A summary of the characteristics of each screening method is in Figure 2.

“Positive results on stool-based screening tests require follow-up with colonoscopy for the screening benefits to be achieved.”

– US Preventive Services Task Force. Final Recommendation Statement Colorectal Cancer: Screening. May 18, 2021

Figure 2. Choosing the Right Test³⁶



Performance characteristics of different types of stool-based tests are summarized in the tables below, which show that high-sensitivity gFOBT, FIT and mt-sDNA are all more sensitive and specific than older guaiac-based FOBT.³¹

Figure 3. Performance Characteristics of Stool Tests³¹

Three types of stool tests are available – FIT, guaiac-based FOBT and mt-sDNA				
<p>Fecal Immunochemical Tests (FITs) look for hidden blood in the stool and are specific for human blood while older guaiac-based tests (gFOBTs) are not. Unlike gFOBT, FIT results are not impacted by food or medication. There is evidence that patient adherence with FIT may be higher than with gFOBT possibly because no dietary and medication restrictions are required before collecting samples, or because some brands of FIT require collection of only 1 or 2 specimens for a completed test. It is important to note that not all FITs are equally effective. As of July 2016, there are 26 FDA-cleared FITs available for purchase in the US, however, most do not have published data on their performance for detection of cancer. To assist with choosing a FIT for use in your setting, the table below includes FITs that have published data on sensitivity and specificity for cancer.</p>				
FIT Brand Name	Manufacturer	Sensitivity for Cancer †‡	Specificity for Cancer †‡	Number of Stool Samples
Automated (non-CLIA waived) FITs				
OC Auto-FIT*	Polymedco	65% - 92.3% ^{37,38}	87.2% - 95.5% ^{37,38}	1
CLIA-waived FITs				
OC-Light iFOB Test (OC Light S FIT)	Polymedco	78.6%-97.0% ^{39,40}	88.0%-92.8% ^{39,40}	1
QuickVue iFOB	Quidel	91.9% ³⁹	74.9% ³⁹	1
Hemosure One-Step iFOB Test	Hemosure, Inc.	54.5% ³⁷	90.5% ³⁷	1 or 2
InSure FIT	Clinical Genomics	75.0% ⁴⁰	96.6% ⁴⁰	2
Hemoccult-ICT	Beckman Coulter	23.2%-81.8% ³⁷	95.8%-96.9% ³⁷	2 or 3
<p>*Used with OC-Sensor DIANA and OC-Auto Micro 80 automated analyzers. †Detection limits for cancer vary across FIT brand and by study such that direct comparison between FIT brands is not possible. ‡Cited studies should be interpreted in the full context of the published literature given variation in study size and quality.</p>				
<p>Guaiac-based FOBTs (gFOBTs) have been the most common form of stool tests used in the US prior to FIT becoming widely available. Modern high-sensitivity tests have much higher cancer and adenoma detection rates than older tests, resulting in fewer missed cancers. Hemoccult II SENSEA is the only test in this category for which published performance data is available. Screening guidelines now specify that only high-sensitivity forms of guaiac-based tests should be used for colorectal cancer screening. Hemoccult II and similar older guaiac-based tests should not be used for colorectal cancer screening.</p>				
gFOBT Brand Name	Manufacturer	Sensitivity for Cancer	Specificity for Cancer	Number of Stool Samples
Hemoccult II SENSEA	Beckman Coulter	61.5%-79.4% ³⁸	86.7%-96.4% ³⁸	3
<p>mt-sDNA is a stool test that looks for altered DNA biomarkers that are released into the stool as cells from colorectal cancer and adenomas degenerate. Mt-sDNA tests for the presence of 10 DNA biomarkers plus hemoglobin in the stool sample. Cologuard is the only stool DNA test currently marketed in the US.</p>				
mt-sDNA Brand Name	Manufacturer	Sensitivity for Cancer	Specificity for Cancer	Number of Stool Samples
Cologuard	Exact Sciences	92.3% ⁴¹	89.8% ⁴¹	1

Source: NCCRT Clinician's Reference: Stool-Based Tests For Colorectal Cancer Screening: <https://nccrt.org/resource/fobt-clinicians-reference-resource/>

Understand Insurance Complexities

Although great progress in insurance coverage for colorectal cancer screening has occurred in the past few years, organizations need to help patients understand and navigate through the coverage complexities.

The Patient Protection and Affordable Care Act (ACA) requires private health insurers to cover recommended preventive services without any patient cost-sharing, such as co-pays and deductibles. Colorectal cancer screening is one of these covered benefits.

The ACA requires non-grandfathered plans to cover services with an “A” or “B” recommendation from the United States Preventive Services Task Force to be covered free of cost sharing. This includes the following screening tests for average-risk patients ages 45 to 75 who are not having symptoms of colorectal cancer:

- High-sensitivity gFOBT or FIT every year
- mt-sDNA every 1 to 3 years
- CT colonography every 5 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years + FIT every year
- Colonoscopy screening every 10 years

Note that federal regulations have specified that non-grandfathered private plans offer colonoscopy free of cost-sharing even when a polyp is discovered and that anesthesia services are offered free of cost sharing if the attending clinician deems it to be medically appropriate. In addition, as of May 31, 2022, non-grandfathered private plans and Medicaid expansion plans must cover follow-up colonoscopies with no cost sharing after a positive or abnormal non-invasive stool test. Coverage for patients with symptoms or for diagnostic testing may be subject to co-pays and deductibles.



The American Cancer Society, the American Cancer Society Cancer Action Network (ACS CAN), gastroenterology societies, the NCCRT, and other advocacy organizations worked for nearly a decade to remove the Medicare coinsurance and copayment when a polyp is removed during the colonoscopy.^{43,44} In December 2020, the US House of Representatives unanimously passed the *Removing Barriers to Colorectal Cancer Screening Act*, commonly referred to as the “Medicare Loophole” bill. The bipartisan legislation phases out surprise out-of-pocket expenses that can act as a barrier to lifesaving CRC screenings for Medicare beneficiaries starting in 2023.⁴⁵

Colonoscopies that are performed to evaluate specific symptoms, such as intestinal bleeding or anemia, are not typically classified by private insurers and Medicare as screening procedures and, therefore, may not be eligible for waiver of deductible and copay requirements. See Table 2 for an overview of when cost sharing may apply for CRC screening.⁴²

Table 2. Overview of Colorectal Cancer Screening Cost Sharing

	Colorectal cancer screening – no polyp discovered	Colonoscopy screening when a polyp is discovered	Colonoscopy following a positive or abnormal stool-based test
ACA-compliant non-grandfathered private plans	Covered by federal law; free of cost-sharing	Covered by federal law; free of cost-sharing	Covered by federal law; free of cost-sharing**
Grandfathered private plans	Not required by federal law, but could be required by state law; cost-sharing requirements vary	Not required by federal law – cost-sharing may apply	Not required by federal law – cost-sharing may apply
Medicare	Covered by federal law; free of cost-sharing	Covered by federal law; no deductible, but co-pay applies*	Covered by federal law; cost-sharing may apply***

*Legislation passed in 2020 will phase out these out-of-pocket expenses starting in 2023.⁴⁵

**Federal FAQs published in January 2022 clarify that plans and issuers must provide coverage without cost sharing for plan or policy years beginning on or after May 31, 2022.⁴²

***On July 8, 2022, the CMS released proposed changes to the 2023 Medicare program that, if finalized, would eliminate cost sharing for colonoscopies after a positive or abnormal, non-invasive screening test.⁴⁶



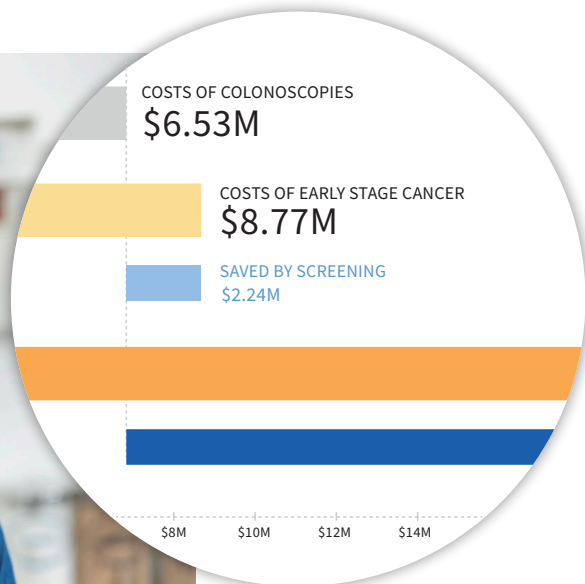
Calculate the Need for Colonoscopy

Colorectal cancer screening programs in many locations depend on stool testing as the primary screening method.

In some locations, limited capacity for colonoscopy results from an inadequate supply of colonoscopists to meet population needs, low rates of insurance coverage, or restricted acceptance of uninsured and under-insured patients by colonoscopists. Thus, determining the clinic's real need for colonoscopy is an essential strategic planning calculation. Though the need may seem to be difficult to achieve, in fact, it is typically finite and measurable.

Calculating the extent of the need for colonoscopy will help organizations understand the real size and find a solution for meeting the need. Approaching specialists and local hospitals for help in meeting the need for a specific number of colonoscopies per year is more effective than making an open-ended request.

All programs must have colonoscopies available for increased-risk patients and for diagnostic purposes for patients with positive or abnormal screening test results.



The NCCRT's **Colonoscopy Needs Calculator**, found in the [NCCRT Learning Center](#), allows practices to estimate the number of colonoscopies that can be realistically anticipated with a high-quality stool-based CRC screening program. Estimates are based on various screening rate goals and other data inputs. The tool also estimates the total system costs of colonoscopy and compares the costs of treating cancer with the costs of providing colonoscopies. You have the option to create an account to track your progress.

If you prefer to use an Excel spreadsheet that allows full manipulation of data inputs, the **Colonoscopy Volume Calculator** (calculations illustrated below) produces an estimate of the number of colonoscopies that would be needed, but does not include information on estimated costs.



A: Colonoscopies for High-Risk Patients

of 40-75 Year Old Patients x .15* **THEN**

Divide by number of years it will take to get those tests done, e.g., 1/3 per year for first 3 years, 1/5 per year for subsequent years

= Colonoscopies per year for high-risk patients



B: Colonoscopies for Average-Risk Patients

of 45-75 Year Old Patients x .85** x .05***

= Colonoscopies per year for average-risk patients

A + B = Colonoscopies needed per year

* research suggests ~ 15% of the population 40-75 is at High Risk^{40,47}
 ** Since 15% of patients are High-Risk, the remaining 85% are at Average Risk⁴⁸
 *** research suggests ~ 5% at average risk are expected to have positive stool tests⁴⁸

Because colonoscopy is performed in a facility and often involves an anesthesiologist and pathologist, enlisting the aid of a colonoscopy champion and/or a hospital-based physician champion will help to line up the array of clinicians and facilities that are needed for your patients. This medical neighborhood will include the entire “assembly line” to coordinate the care of this patient: facility, pathology, anesthesia, backup surgery, radiology, hospital, and possibly oncology. While access to colonoscopy does depend on location, it is important to note that successful colonoscopy-based screening programs have been implemented in such geographically diverse regions of the country as New York City, rural Georgia, New Hampshire, and Colorado. Many established programs rely in part on donated colonoscopies. See the following sections on identifying an internal champion and a physician champion who will help build a local culture that promotes cancer screening in the community.



Consider a Direct Endoscopy Referral System

The use of a direct endoscopy referral system eliminates the need for a gastroenterology consult prior to colonoscopy.

Many programs have found they can reduce the need for pre-procedure appointments with colonoscopists by sending patients who are fully prepared for colonoscopy and can receive the procedure on the day of their first contact with the colonoscopist. This direct endoscopy referral system (DERS), sometimes called open access, is designed to allow primary care clinicians to prepare patients to go directly for colonoscopy. In order to do this, the patient needs to:

- Be well-oriented and have completed the appropriate prep before the procedure.
- Have someone with them to drive them home from the procedure.
- Have a good understanding of the procedure.

In New York City's colonoscopy screening program, as many as 80% of participants have no contraindications and can be processed through the direct endoscopy referral system. The eligibility criteria for DERS and [sample forms](#) used for direct endoscopy referral are available in Appendix C-3 and C-4 and can be tailored to meet the specifications of referral sites.^{49,50}

While some health systems have found ways to include the DERS form in their electronic health record (EHR), for many, a paper or faxed copy is still used if no electronic interface is available to transmit the referral between different EHR systems.

4



COORDINATE CARE

3



SCREEN PATIENTS

2



IDENTIFY A TEAM

1



MAKE A PLAN

STEP #2: IDENTIFY A TEAM



“Coming together is a beginning.
Keeping together is progress.
Working together is success.”

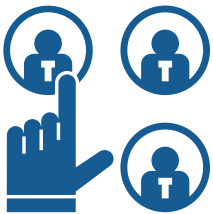
– Henry Ford

Form an Internal Leadership Team Within the Practice

A clear organizational structure is needed early in the process of developing an effective colorectal cancer (CRC) screening system. The internal team can include the medical director, clinic manager, primary care clinician, medical assistants, nurses, quality improvement leaders, and other staff. Once the executive leadership is committed, identifying and training an internal champion who will lead the process is helpful.

A key component of the New Hampshire Colorectal Cancer Screening Program’s success is the use of at least one internal champion – someone who is enthusiastic, dedicated, and supported by the organization’s leaders. This internal champion can have a medical or administrative background or a combination of the two. Below are helpful examples from the New Hampshire program on what makes a good champion and a description of the responsibilities.⁵¹

Select an Internal Champion



- Consider someone who has a personal interest in CRC or cancer screenings.
- Choose someone who is motivated and respected in the organization.
- Consider having two champions – one medical and one administrative.
- Consider population health staff, marketing staff, practice administrator, informatics staff, and clinical staff.

Define Roles of Internal Champion

- Set up an introductory meeting with practice staff to discuss how to increase CRC screening rates and to review strategies that will be implemented.
- Become familiar with the evidence-based interventions (EBIs) for increasing CRC screening rates available from the Community Guide and National Cancer Institute's (NCI) evidence-based cancer control programs (EBCCPs).⁴⁹ Work with practice staff to develop a year-long plan that may include presentations on current CRC screening guidelines, the development of a screening policy, workflow analysis, small media campaigns, community outreach, and setting goals for increasing CRC screening rates.
- Act as a spokesperson for the practice.
- Serve as the point of contact for practice staff and meet via phone at least monthly and face-to-face quarterly.
- Commit to an average of one to two hours per week, with more time needed in the initial phases of the project, and less time as everyone on the staff learns their roles and responsibilities and as patients become more familiar with the program.

Utilize Patient Navigators

Barriers to CRC screening can be addressed with the assistance of patient navigators, community health workers, and/or health educators. Patient barriers to CRC screening include medical comorbidities, difficulty following the preparation and other screening steps, negative screening experiences of others, high costs, low patient awareness and knowledge about CRC and screening, and cultural or psychosocial issues.^{53,54} Other studies have identified a lack of trust in physicians, lack of symptoms, fear of pain and discovering cancer, the shame of being seen as sick or weak, and feelings of violation as reasons for not getting screened.⁵⁵

Navigators have provided a significant boost to screening programs for underserved populations, including CRC screening.^{56,57} They can assist with patient education, scheduling appointments, appointment reminders, transportation, cultural barriers, communicating between referring clinicians, and coordinating follow-up care after procedures. Navigators can be recruited and trained from among patients, social workers, community health workers, nurses, or case managers.^{58,59} For additional information on how to design a patient navigation intervention for colorectal cancer screening, see references in Appendix D.⁶⁰

Successful patient navigation has been implemented in CRC screening programs in states and regions around the country, including colonoscopy-based programs.⁵⁸ In the New Hampshire Colorectal Cancer Screening Program, navigators helped to reduce the no-show rate to zero and had fewer than 1% inadequate bowel preps.⁶⁰ The Cancer Coalition of South Georgia's patient navigation system has led to a 2% no-show rate and less than 5% of inadequate bowel preps. The effective use of patient navigators by Operation Access in San Francisco has led to a 97% patient compliance rate.⁶²

A health center in Boston, Massachusetts, had a higher number of navigated patients who completed colonoscopies compared to those without navigation (54% vs. 13%).⁶³ In another program in Mount Sinai Hospital in New York, twice the number of navigated patients completed screening colonoscopies compared to non-navigated patients (66% vs. 34%), with a decrease in the no-show rate from 40% to 9.8%, and only 5% inadequate bowel preps.⁶⁴

Additionally, patient navigation has proved to be valuable in stool-based CRC screening programs. Navigators in such programs have assisted with test choice, scheduling appointments, patient support and motivation, appointment reminders, and education about stool-based blood tests and bowel prep for follow-up colonoscopy after a positive or abnormal stool-based test.

An East Harlem, New York, program with a largely Hispanic, low-income, and publicly-insured population saw an increase up to 42% of navigated patients completing stool-based tests compared to 25% of non-navigated patients.⁶⁵ Navigated patients at a health center in Somerville, Massachusetts, who received an average of four hours of telephone navigation, were more likely to be screened with gFOBT and colonoscopy within six months compared to those not receiving navigation (31% vs. 9%).⁶⁶

In a study including four health centers and two public hospital-based clinics in Massachusetts, navigated patients were more likely to complete gFOBT and/or colonoscopy screening at 12 months than non-navigated patients (33.6% vs. 20%).⁵⁶

Colorectal cancer screening patient navigation is a health care strategy and intervention that has proven to be effective when integrated in the health care setting.

One health center in Fair Haven, Connecticut, has even partnered with a local community college to create a patient navigation certification with online modules.⁶⁷ This empowerment of the navigator role has been very successful. It is important to note that patient navigators can be of assistance with other aspects of health, including chronic disease management, preventive care, and other cancer screenings.



Define Roles of Patient Navigators

Below is a list of possible functions a patient navigator could complete for your practice. Additional resources and manuals for patient navigators are available in Appendix D.

Utilize population health management tools and/or EHR registries to identify and flag individuals who are not up-to-date with colorectal cancer screening.



Patient Level

- Provide patients with education on CRC screening targeted to specific patient populations (i.e., culture- and age-appropriate educational materials and methods).
- Explain and distribute FIT/HSgFOBT kits, and track returns and results.
- Explain and request referrals (for those who choose colonoscopy or CT colonography).
- Expedite referrals for follow-up colonoscopy after positive or abnormal stool-based test results.
- Arrange appointments (CT colonography, colonoscopy, and follow-up tests).
 - ▶ Use a direct line to the colonoscopy center to schedule the appointment that same day.
 - ▶ Empower the patients and educate them about the preparation.
- Assist with financial barriers (transportation, bowel prep supplies).
- Conduct calls for appointment reminders and to reinforce instructions for colonoscopy preparation.
- Track appointment adherence and results.
- Arrange initial surgical treatment when necessary.
- Transition patients diagnosed with cancer to oncology patient navigation.
- Document interventions and number of people reached.



Staff Level

- Conduct in-service educational training with staff on CRC screening – why it is important and how it is done.
- Collaborate with the staff to share insights into characteristics of the population served, including potential language or cultural barriers.



Community Level

- Use community health data such as cancer mapping to identify areas of high-need CRC screening services.
 - ▶ Work with faith-based organizations, local businesses or employers, pharmacies, schools, libraries, and other community groups to increase colon and rectal health awareness (involve the community in program planning whenever possible).
 - ▶ Promote CRC screening at health fairs, at local festivals, announcements at local sporting events, or with local media.
- Formulate and implement strategies and methods to reach the target population.
- Provide the community with educational classes on CRC prevention, early detection, and screening guidelines.

To ensure patients are properly prepped and show up, successful practices have implemented protocols for following up with patients. As an example, the health center in Fair Haven, Connecticut, has navigators contact patients one to three weeks before their colonoscopy to review the procedure and then calls patients the week and the day before to anticipate any problems. The **colonoscopy preparation navigator checklists** are included in Appendix C-6. Practices can also consider partnering with local businesses to donate the prep materials to the center.

An important question for programs includes how to obtain funding for patient navigators. Several programs with patient navigation systems currently have used grants through the American Cancer Society (ACS), the Centers for Disease Control and Prevention (CDC), or the National Cancer Institute (NCI). Other programs have used funding sources from local foundations, state cancer coalitions, county hospitals, or state and city health departments. The following resources address possible funding sources for patient navigation:

- **Paying for Colorectal Cancer Screening Patient Navigation Toolkit and Interactive Website** (NCCRT)
- **Patient Navigation** (CDC)

Agree on Team Tasks

The team should agree on a screening strategy (see Step #1), provide CRC screening education to all staff, and assess barriers for patients beforehand (i.e., language, cultural, travel, missed work time). A list of helpful tasks includes:

- Define program goals, objectives, and time frame.
- Formulate a patient navigator role description.
- Identify the supervisor (for feedback and support) of the patient navigator role.
- Identify potential costs (patient navigator hiring, training, salary, and benefits, supplies, materials, and equipment, computers, patient education/support/outreach materials, colonoscopy prep, transportation for patients who need it, outreach incentives, advertising, evaluation).
- Define activities and processes.
 - Develop a screening protocol.
 - ▶ A screening policy template adapted from the New Hampshire Colorectal Cancer Screening Program is available in Appendix C-1.
- Various tools to help organize your steps and assess your practice workflows for CRC screening can be found in Appendix A-3. The following tools can be used to assess which evidence-based interventions may work best for the practice, as well as help to determine what changes need to occur to implement the interventions:
 - **Clinical Decision Support/Quality Improvement Worksheet** and CRC screening example (Appendix A-3.1)
 - West Virginia Program to Increase Colorectal Cancer Screening Partner Clinic Readiness Assessment Toolkit (Appendix A-3.2)
 - New York State Department of Health Clinic Assessment Tool – This tool is intended to be part of a larger assessment process and to stimulate conversation and communication about the various included topic areas. The intended use is to set the stage for continued communication with clinics about their activities. (Appendix A-3.3)
 - CDC’s publication, *Increasing Colorectal Cancer Screening: An Action Guide for Working with Health Systems*⁹⁰
- Choose the specific type of stool-based kit, and decide whether to process lab work in-house or externally. Find a list of evidence-based stool-based tests in the NCCRT publication, **Clinician’s Reference: Stool-Based Tests For Colorectal Cancer Screening**.
- Navigator/staff training – examples of training manuals from several programs (Appendix D)
- Develop or adopt clinical practice tools (standardized intake form, tracking system/ follow-up log, brochures describing the program):
 - Standard history and physical form with labs (Operation Access) (Appendix C-3)
 - Workflow and follow-up for HSgFOBT/FIT (Appendix A-4)

- Direct endoscopy referral – sample referral form from the New York Citywide Colon Cancer Control Coalition (C5) (Appendix C-4)
- Sample colonoscopy appointment letters in English and Spanish (Operation Access) (Appendix C-5)
- Navigator checklists – sample colonoscopy preparation checklists that can be reviewed with patients before the procedure (Appendix C-6)
- FluFIT and FluFOBT – evidence-based programs that allow clinic staff to identify eligible patients and offer home-based stool tests at the time of their annual flu shots. Coupling CRC screening with established annual flu shot activities can be an excellent way to introduce the importance of CRC screening to clinic teams and patients and has been shown to improve screening outreach.^{69,70} For a description of five steps for implementing a FluFIT or FluFOBT in your primary care practice, see Appendix C-7.2. For additional websites describing evidence-based programs that could be useful in your community, see Appendix D.
 - ▶ Visit <http://flufit.org/> to find guidance, program materials, and publications to support implementing a successful FluFIT or FluFOBT program.
 - ▶ The FluFIT program incorporates the evidence-based concept of giving nurses **standing orders** to offer flu shots and CRC screening to eligible patients during routine primary care.⁵³
 - ▶ Several of the practices interviewed for the case studies identified the use of **standing orders** to rely on clinical staff other than primary care physicians to assist with offering CRC screening to eligible patients.
- Reminder follow-up tools are available in Appendix C⁶⁸, including:
 - Sample reminder cards (Appendix C-8)
 - Sample patient reminder letter for screening (Appendix C-9)
 - Sample patient reminder letter to return test (Appendix C-10)
 - Sample patient letter regarding a negative test (Appendix C-11)
 - Sample memorandum of understanding with gastroenterology and other specialty physicians (Operation Access) (Appendix C-13)
- Determine the resources you are going to devote to follow-up and adherence.
 - EHR support (chart prompts, clinician and staff prompts and alerts, guidelines in EHR, EHR-generated patient reminders/letters), staff involvement (calls/letters/postcards) (Appendix C-12)
- Identify program evaluation methods (assess collected data, assess whether the program is meeting goals and objectives, assess the effect on the target population, assess efficiency and effectiveness of program methods). The **NCCRT Evaluation Toolkit** can help inform evaluation efforts in your setting.
 - Assess your progress worksheet⁹⁰ (Appendix A-3.4)

The organization should engage the team in creating, supporting, and following the policy. The screening process and office flow should be evaluated on an ongoing basis. Strategies can include fostering a team approach to care, standardizing and reducing variation at each step, analyzing each step systematically to troubleshoot areas of concern, training and supporting the staff in the process change, and continually reviewing the quality improvement infrastructure.

Partner with Colonoscopists

A 2004 study by the CDC found there was sufficient capacity to screen the entire risk-eligible population in the United States within one year using a stool-based test, reserving colonoscopy for patients with positive or abnormal screening tests.⁷⁴ However, from a geographic point of view, capacity varies in different parts of the country. It is important to understand the level of need and capacity for colonoscopy in your community (see Step #1). Once this information is available, one of the most helpful strategies for finding colonoscopists is to identify a physician champion.

In 2014, ACS and NCCRT launched the **Links of Care pilot project** to build specialty care linkages for Federally Qualified Health Center (FQHC) patients in need of CRC screening and follow up. The Links of Care pilot program was successfully implemented in three sites that varied in geographic location, patient population, and available external resources. Pilot participants from both FQHCs and specialty care practices emphasized the critical importance of patient navigation in establishing and maintaining mutually beneficial medical neighborhood relationships.⁷¹

Identify a Clinical Champion

Whether your program is based on offering all patients a colonoscopy or emphasizing home stool testing for average-risk patients, access to colonoscopy services is essential for the success of any colorectal cancer screening program.

These efforts to improve screening often start at the physician level and grow by recruiting other physicians and clinical leaders to the cause. Oncologists and cancer surgeons are often the best hospital-based champions because they see many patients with late-stage disease that could have been prevented through screening. This experience becomes a strong motivator. This clinical champion can be instrumental in organizing the entire “assembly line” to care for patients, including the facility, pathology services, anesthesia, surgery, radiology, hospitalization, and oncology.

Several pilot programs have implemented colorectal cancer screening programs in primary care practices with a clinical champion as a key component of their success.



Following is a table outlining programs that have been championed by physicians with a description of their effective strategies.

Table 3. Example Programs with Physician Champion(s) and Strategies of Success

Program	Description	Physician Champion and Strategies of Success
Colon Cancer Prevention Network ⁷²	Partnership between the University of South Carolina Center for Colon Cancer Research and several South Carolina Gastroenterology Association (SCGA) member physicians to perform free colonoscopy screenings for underinsured patients throughout South Carolina.	<ul style="list-style-type: none"> ■ Started as a grassroots effort by a small group of physicians and researchers. ■ Obtained grant from South Carolina State Legislature and Blue Cross Blue Shield of South Carolina for patient navigators. ■ Utilized network of colleagues to enlist gastroenterologists throughout the state to participate.
Surgery on Sunday Louisville, Inc. ⁷³	Community-wide colorectal cancer screening program offering free colonoscopies and surgery to uninsured and underinsured community members.	<ul style="list-style-type: none"> ■ Initiated by a small group of surgeons and gastroenterologists wanting to make a difference and do the right thing for the city. ■ Built on a collaborative model – every hospital in the area shares responsibility for providing in-kind services. ■ Formed a not-for-profit 501c3 and developed a business strategy.
Cancer Coalition of South Georgia	Community cancer screening program to increase cancer screening among uninsured and underinsured patients of health centers	<ul style="list-style-type: none"> ■ Initiated by local gastroenterologists. ■ Strong collaboration between PCPs, specialists, hospitals, and community health centers. ■ Coalition estimates county needs and apportions patients to colonoscopists. ■ The use of patient navigators led to a 2% no-show rate and fewer than 5% inadequate bowel preps.
New Hampshire Colorectal Cancer Screening Program	Statewide CDC-funded program that provides free, high-quality colonoscopy to uninsured and underinsured patients	<ul style="list-style-type: none"> ■ Gastroenterology champion led efforts to recruit other gastroenterologists. ■ Utilization of internal champions. ■ Highly effective patient navigation. ■ Clear protocols. ■ Secured the commitment of leadership at community health centers, hospitals, and endoscopy sites.

4



COORDINATE CARE

3



SCREEN PATIENTS

2



IDENTIFY A TEAM

1



MAKE A PLAN

STEP #3: GET PATIENTS SCREENED



A primary care clinician recommendation is the most powerful influence on a patient's decision to get screened for cancer

Prepare the Clinic




Train and educate all staff on the following:

- Colorectal cancer (CRC) screening guidelines and protocols
- CRC screening strategy used by the practice, addressing approaches to stool-based and colonoscopy screening
- Appropriate screening intervals based on average- and elevated-risk categories
- How to assess and document CRC risk and exclusions to CRC screening
- HIT/EHR features – Templates, order sets, alerts, and dashboards
- Documentation required as evidence of prior screening (date, test, result, evidence of the test (such as the electronic or paper test result or report) added to the chart and recommended follow-up.
- **In-office stool testing by digital rectal exams (DRE) is not an appropriate method of screening for colorectal cancer.** One study demonstrated that the in-office stool test missed 90% of cancers found at subsequent colonoscopy.³¹
- One health center's innovative approach to collecting spontaneously-passed stool samples in the patient's medical home ("poop on demand") is featured in this [short video segment](#) and in this [blog post](#).

It is important to keep in mind that most patients are at average risk. If your practice has very low baseline screening rates, it is perfectly acceptable to start a robust stool-based screening program, even if only a very basic risk assessment can be performed.

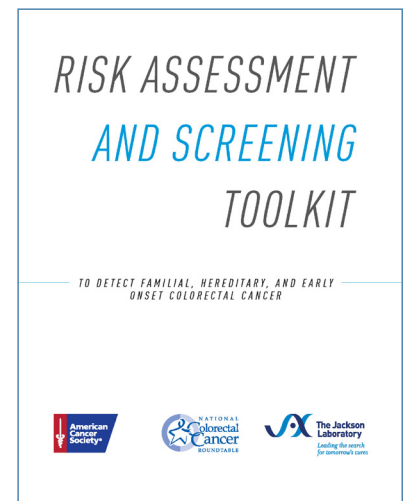
Over time, look for ways to assess and document risk more comprehensively, such as utilizing the EHR, especially in a community where patients are unlikely to have complete information about their medical and family histories.

Conduct a Risk Assessment

		
<p>An average-risk individual is someone without any of the risk factors described in the other two categories.</p>	<p>Increased-risk patients have a personal or family history of adenomatous polyps or colorectal cancer with no known hereditary colorectal cancer syndrome.</p>	<p>High-risk patients include those with a history of colorectal cancer or adenoma in close relatives; those with hereditary colorectal cancer syndromes, such as hereditary non-polyposis colorectal cancer (HNPCC) also called Lynch Syndrome, familial adenomatous polyposis (FAP), and another form of FAP, called Attenuated FAP (AFAP), which is a milder version of the disease.</p> <p>Other high-risk patients include those with Crohn’s disease or ulcerative colitis (their risk increases with the extent and duration of the disease, usually after at least eight years)⁷⁴, as well as those with a history of abdominopelvic radiation for previous cancer.</p>

For a more detailed description of the criteria and screening recommendations for increased-risk and high-risk patients, see the **US Multi-Society Task Force on Colorectal Cancer Guidelines for Colonoscopy Surveillance After Screening and Polypectomy**, which is also available in Appendix D-2.1.⁷⁵

Additionally, refer to Appendix D-2.2 for the **NCCRT Risk Assessment and Screening Toolkit to Detect Familial, Hereditary and Early Onset Cancer** and the corresponding **Risk Assessment and Screening Quick Start Guide**. The American Cancer Society’s Sample Screening Algorithm for Assessing Personal and Family Risk, per the 2018 ACS Guidelines is included in Appendix D-2.3 for Ages 45+.



Genetic testing should be offered to those who have a personal or family history suggestive of one of the hereditary colorectal cancer syndromes. Most cancer genetics clinics now offer telehealth services, which helps increase access for patients in rural areas without a major cancer center nearby. Primary care clinicians can find a cancer genetic counselor for their patients at www.findageneticcounselor.com. See the list below for websites with additional information.



Resources for Genetic Testing and Genetic Counseling

- **American Cancer Society** – Provides information on genes and cancer, family cancer syndromes, and genetic testing for cancer risk
- **National Society of Genetic Counselors** – Includes information on genetic counseling, questions to ask before genetic testing, a guide to collecting family history, information on genetic testing and genetic counselors, and a directory of genetic counselors
- **American Board of Genetic Counseling** – Offers additional information on how to find a genetic counselor
- **National Cancer Institute** – Provides a list of services related to cancer genetics (cancer risk assessment, genetic counseling, genetic susceptibility testing)

Prepare the Patient

Provide Patient Education Materials

Many patient education materials are available to you. Options include:

- **In the waiting room and exam room**, consider offering educational video(s) on CRC screening.
 - The American Cancer Society offers numerous videos that describe test options in **English** and **Spanish**, as well as **an animated video illustrating a colonoscope and colonoscopy**.
 - The CDC offers **several videos on the importance of CRC screening**.
 - Kaiser Permanente’s Center For Health Research’s mailed FIT website offers **numerous videos on CRC screening and FIT testing**.
 - The FluFIT and FluFOBT website offers **multilingual videos with instructions on conducting a stool-based test** (available in 10 languages).
 - East Boston Neighborhood Health Center offers instructional videos for patients on how to conduct sample collection for the Insure ONE FIT kit: **Patient Instruction Video – English** and **Patient Instruction Video – Spanish**.
 - T.R. Levin, Chief Gastroenterologist, Kaiser Permanente Northern California, speaks to the **importance of CRC screening**.
 - Instructional video for patients on **collecting and returning multi-target stool DNA** (mt-sDNA or Cologuard) test samples and other **patient videos and information**.

- **In the office and community**, post and distribute multicultural and multilingual health information materials, including infographics, flyers, inserts, posters, brochures, fact sheets, letters, postcards, phone scripts, greeting cards, or birthday cards.
- The ACS offers numerous patient resources, including:
 - ▶ **Get Screened for Colorectal Cancer**
 - ▶ **You Can Help Prevent Colorectal Cancer**
 - ▶ **2018 Colorectal Cancer Screening Guideline for Men and Women at Average Risk infographic**
 - ▶ **Colorectal Cancer: Catching It Early infographic**
 - ▶ **Colorectal Cancer Fact Sheet**
 - ▶ **Cancer information about cancer including prevention, early detection, treatment, and more in 13 languages**
 - ▶ **Colonoscopy Frequently Asked Questions**
- The CDC offers several **print materials, shareable graphics, social media post content, and radio scripts on the importance of CRC screening** (English and Spanish).
- **MIYO (Make it Your Own)** offers a library with hundreds of templates for creating customized and culturally-tailored patient education materials in multiple languages.
- Kaiser Permanente's Center For Health Research's mailed FIT website offers **numerous educational materials on CRC screening and FIT testing**.
- The New York City Department of Health provides a **novella on colonoscopy preparation**.

- **In the lab or triage area**, staff should ask about family history and prior screening with a checklist. If not screened, provide patients information on options for CRC screening or explain the health center's protocol for screening.

Order the Screening Test

Train staff to communicate with patients and to provide appropriate test instructions. See below for sample counseling scripts for average- and increased-risk patients. During the rooming process, a FIT kit can be left on the counter as a reminder prompt to the clinician to complete the process of recommending and ordering the screening test during the visit.

When placing the order for CRC screening, associate the order with the appropriate ICD-10 Diagnosis Code (Z12.11 for CRC screening, either FIT, mt-sDNA or colonoscopy – average risk; R19.5 for colonoscopy as follow-up of positive or abnormal stool tests).

- For patients going straight to colonoscopy, provide direct access to endoscopy when available. See Appendix C-4 for eligibility criteria for direct endoscopy referral.
- For those patients who are unsure about screening, flag the chart so a clinician will discuss it during their clinic visit.
- Another option for average-risk patients who are not up to date with CRC screening is mailed stool test kits (FIT or mt-sDNA).

The ACS provides this two-page **CRC screening fact sheet for healthcare professionals**, which could be used as a primer for educating all staff on CRC screening.

Consider Mailed Stool-based Testing

Kaiser Permanente in Northern California has been mailing FIT kits to patients for several years, resulting in an increased screening rate between 2005 and 2010 among the commercially insured from 37% to 69% and in the Medicare population from 41% to 78%.^{37,76} In 2017, Kaiser Permanente in Northern California was able to achieve 82% screening participation from a combination of prior endoscopy, a large initial response to mailed FIT kits, and smaller responses to automated reminders and personal contacts.⁷⁷

mt-sDNA (Cologuard) is a mailed CRC screening test that is shipped directly to the patient's home. When a clinician submits an order for mt-sDNA testing to Exact Sciences, the company's Customer Care team contacts the patient, confirms their address, and arranges for UPS® delivery of the mt-sDNA test collection kit. A single bowel movement is needed to process the test. Once collected, the patient can either schedule a UPS pick-up from their home or can drop their used kit at a nearby UPS shipping center. When the sample is received by the Exact Sciences Laboratories, it is processed, and the lab provides the results to the ordering clinician within two weeks. Each mt-sDNA order comes with a built-in patient navigation program, which includes a patient support line available 24/7 in more than 200 languages, reminder phone calls and letters, as well as an option for email and/or text reminders (at the patient's discretion).



The COVID-19 pandemic disrupted CRC screenings in 2020 and 2021 in profound ways. Screening colonoscopies came to a standstill while health systems pivoted to address the urgent needs of patients with COVID-19 and reduce the risk of the spread of the virus in healthcare settings, especially in the early phase of the pandemic. Health systems that were already offering patients the option of stool testing (especially mailed FIT and mt-sDNA) were able to continue their screening programs with fewer disruptions.⁷⁸ Increased use of stool-based CRC screening participation, particularly through organized mailed outreach may help to limit the undoing of public health progress in CRC and, perhaps, even contribute to achieving the NCCRT goal of 80% adherence to screening nationwide.⁷⁹

In 2022, the National Association of Chronic Disease Directors and Kaiser Permanente Center for Health Research developed a **Mailed FIT Implementation Guide** that provides step-by-step instructions for planning and implementing a mailed FIT outreach program.⁸⁰

Sample Average-risk Counseling Script for Stool-based Screening Program

“I would like you to be tested because colorectal cancer is the second most common cause of cancer-related deaths. Testing may help prevent cancer or find it early while it can often be treated successfully. This is especially important because there are usually no symptoms for colorectal cancer when it’s first starting. I recommend testing for all of my patients 45/50 years of age and older. **[NOTE: as of May 2021, USPSTF, ACS, NCCN, and ACG all recommend 45 and older – check patients’ insurance coverage prior to recommending.]**”

We offer screening for patients who are at average risk with a take-home test (FIT/HSgFOBT) that looks for blood in the stool, or the mt-sDNA test that looks for blood or DNA changes in the stool that might indicate the presence of cancer or polyps. If you are found to have abnormal results on a stool test, you will need a follow-up colonoscopy. A colonoscopy is an exam in which the doctor inserts a thin, flexible tube to look at the inside of the intestine. This procedure allows us to find and painlessly remove growths (polyps) in the colon. The main risks are perforation (making a small hole in the intestine), complications from anesthesia, or bleeding from the removal of a polyp.

These risks are very uncommon.

Finding and removing polyps can help prevent cancer. These tests can also find cancers at an early stage while they can often be treated successfully. If we find a cancer, then you can start to receive treatment right away.”

Sample Average-risk Counseling Script for Program Offering Stool-based Test or Colonoscopy

“I would like you to be tested because colorectal cancer is the second most common cause of cancer-related deaths. Testing may help prevent cancer or find it early while it can often be treated successfully. This is especially important because there are often no symptoms for colorectal cancer. I recommend testing for all of my patients 45 years of age and older.

Our practice offers two main ways that you can get tested:

1. A colonoscopy is an exam in which the doctor inserts a thin, flexible tube to look at the inside of the intestine. This procedure allows us to find and painlessly remove growths (polyps) in the colon. If you have a polyp, it can be removed right there during the time of the colonoscopy and taking it out can help prevent cancer. The main risks are perforation (making a small hole in the intestine), complications from anesthesia, or bleeding after polyp removal. These risks are very uncommon.
2. You can also choose a take-home test, FIT/HSgFOBT that looks for blood in the stool, or the mt-sDNA test that looks for blood or DNA changes in the stool that might indicate the presence of cancer or polyps. If you are found to have abnormal results on a stool test, you will need a follow-up colonoscopy.

Finding and removing polyps may help prevent cancer. These tests can also find cancers at an early stage while they can often be treated successfully. If we find a cancer, then you can start to receive treatment right away.”

Sample Increased-risk Counseling Script

“Because you are at increased risk for colorectal cancer (state the reasons), I recommend that you have a colonoscopy. A colonoscopy is an exam in which the doctor inserts a thin, flexible tube to look at the inside of the intestine. This procedure allows us to find and painlessly remove growths (polyps) in the colon. If you have a polyp, it can be removed right there during the time of the colonoscopy and taking it out may help prevent cancer. The main risks are perforation (making a small hole), complications from anesthesia, or bleeding following removal of a polyp. These risks are very uncommon. If there is any chance that we find a cancer, then treating it early may help save your life.”⁸¹

Make a Recommendation

Multiple studies have shown that a recommendation from the primary care clinician (or a member of the clinician's team) is the most influential factor in patient screening behavior.⁸²⁻⁸⁴ If the practice is able to offer screening options to patients because they have access to colonoscopy (which is usually the case for Medicare patients, those with commercial insurance and some Medicaid patients), clinicians should explore individual patient preferences.

For example, patients who place a high value on having only one test less frequently may prefer to have a colonoscopy so that potential pre-cancerous or cancerous polyps can be removed and analyzed at the same time. Patients who place a high value on convenience, reassurance from more frequent testing, or are uncomfortable with the more invasive test, may prefer a stool-based test every year (HSgFOBT/FIT) or every three years (mt-sDNA).

Studies have shown that average-risk patients are more likely to complete screening when given a choice, and a significant number of patients prefer a stool test over colonoscopy.⁸⁵⁻⁸⁷ Based on the patient's risk factors (personal and family history) and individual preferences, the clinician can help provide the best screening recommendation using shared decision making – a practice encouraged by CRC screening guidelines from the American Cancer Society, US Preventive Services Task Force and other organizations.

Helpful recommendations include one-on-one patient-clinician discussions that avoid the use of medical jargon, focus on the benefits and positive aspects of screening, and limit the key information to three to five points. Patient education materials, such as prep instructions in various languages at appropriate literacy levels, translation services, and multilingual staff can also be helpful in promoting patient understanding.

Visual aids may be helpful for people who do not read well, as well as bilingual instructions in English and the patient's native language. The patient may have family members at home who can help the patient understand and adhere to your recommendations. For information on resources to assist with patient decision-making, see the section on Preparing the Patient on [page 44](#) of this manual.



Empower Reluctant Patients to Get Screened

There will still be patients who are reluctant to get screened despite receiving a clinician recommendation. At every visit, the primary care clinician and members of the clinician team should continue to recommend screening. In a health center focus group study, all of the clinicians believed it was important to take time to explain the purpose of screening and to communicate its significance on a personal level. They suggested using examples from real life, such as other patients who had a delayed cancer diagnosis.

Communication plays a strong role between clinician and patient. Several clinicians reported they would sometimes speak bluntly to patients (especially those in a high-risk group) and provide statistics to motivate them to get screened. Others stated they also gave their patients time to process the information or discuss it with their families before committing to a decision.

It was also considered necessary to follow-up with the patient and revisit the screening decision with the patient at the next visit. One clinician noted that in his experience patients are more likely to accept a stool-based test after first discussing a colonoscopy; they were more amenable to a stool-based test because they did not want to go through the steps necessary for a colonoscopy.⁸⁸

Another project designed to increase CRC screenings in federally qualified health centers in northern Louisiana focused on a health literacy intervention. Helpful lessons learned from this project include:

- Patients and clinicians should provide input on educational materials.
- Staff can provide a mock stool test demonstration and have patients demonstrate what they learn.
- Offering the screening test before the primary care visit is well received.
- Regularly scheduled clinic-wide orientations and in-service trainings are beneficial.⁸⁹



An excellent resource for recommended messages for those who are reluctant to be screened for CRC is the [2019 Colorectal Cancer Screening Messaging Guidebook: Recommended Messages to Reach the Unscreened](#).

Ensure Quality Screening for a Stool-based Screening Program

If the practice chooses a primarily stool-based screening program, it will be important to obtain high test completion rates. The steps below are helpful to ensure high-quality test collection and processing:

CRC screening using HSgFOBT/FIT requires:

- That stool samples are collected at home or by spontaneously-passed stool in the medical home.
- Verify the date of collection with the patient if the date is not written on the sample container.
- Use trained, experienced personnel to develop and report the test kits.
- When possible, send test kits to a central laboratory for processing to assure good quality control.
- Monitor test positivity rates (usually will be between 5-10%, depending on patient population and test characteristics).⁴⁹

CRC screening using mt-sDNA requires:

- Verification of patient phone number and address to assure that the Exact Sciences Customer Care team can contact the patient to answer any questions about the test and arrange shipment of the collection kit to the patient's home.
- That stool samples are collected at home or by spontaneously passed stool in the medical home.
- Specimens should be shipped (via UPS) within 24 hours of collection.
- All specimens must be shipped to the Exact Sciences laboratory for processing, assuring good quality control.

When giving normal (negative) results, it is always helpful to set expectations by informing patients that a repeat test will be needed in one year after a negative HSgFOBT/FIT or in three years after a negative mt-sDNA test. It's also a good idea to set up a system to ensure that patients will be reminded to get screened or to get a new kit sent to them a month before their next test is due.

Once CRC screening has been completed, it is critical to follow up on positive or abnormal results. Practices should track test results and refer all patients with positive or abnormal test results for colonoscopy. Positive or abnormal results should be documented in the patient's medical problem list as well as in the electronic health record. This helps ensure that clinicians caring for the patient will be alerted to the result and will need to follow up if the patient fails to get a colonoscopy immediately.

For patients with a positive or abnormal stool test who have not yet had a follow-up colonoscopy, patient navigators or other clinic staff can help reach out to these patients. All available resources should be used – text, phone, email, or mail. Collaborate with the colonoscopist to assure prompt and proper follow up.

Similarly, for patients who have undergone colonoscopy that resulted in the detection of adenomatous polyps or cancerous lesions, systems should be in place to ensure that these patients receive timely follow-up and/or cancer care as needed.

The final important step is to sustain regular test completion with a HSgFOBT or FIT (annual) or mt-sDNA test (every three years). On an ongoing basis, the practice should assess numbers and rates of the following: eligible patients, test kits provided, test kits returned and processed, test kits rejected by the laboratory, positive or abnormal test results, and colonoscopy for positive or abnormal test results.⁸⁹ These programmatic quality features are summarized in the NCCRT brief:

Clinician's Reference: Stool-Based Tests For Colorectal Cancer Screening.

Track Return Rates and Follow-up

An organized system to track screening tests and follow-up is very important in a screening program. Different options are available, depending on practice resources.

Organizations should use a closed loop system to track stool-based lab test orders and diagnostic imaging/referrals ordered using the EHR (Computerized Provider Order Entry). EHR and health information technology eliminate the need to keep paper tracking systems. Results that are electronically received through an interface typically are associated with the order, where results received by paper will need to be attached to the order. Orders should be routed to the ordering clinician for review, the result entered, and the positive or negative result communicated to the patient. Organizations should use their EHR to identify orders that are outstanding and follow up within 30 days by a staff member.⁶⁶

The EHR can also provide prompts to the clinician when patients who are due for screening seek care at the clinic. Seeing the alert, the clinician can refer the patient for colonoscopy or prescribe an mt-sDNA test or the office-based support staff can distribute screening stool-based kits at the time of a clinician visit or flu clinic.

Electronic prompts in the EHR can track patients and even provide reminders to them at specified intervals to return their stool cards. A primary care practice can create a registry in the EHR for CRC screening status that will show the last screening date, overdue status, and the patient's next scheduled visit. The EHR can also flag the chart with positive or abnormal results so that staff can notify patients and refer them for a follow-up colonoscopy.

Orders with no accompanying results within a specified timeframe (i.e., within two weeks of the visit) can be followed up with a phone call by a staff member.⁶⁶

To help ensure patients follow through on referrals, patient navigators can help schedule the colonoscopy, assist the patient with logistical barriers, follow through until the test result is completed, and track the necessary follow-up interval for screening. See Appendix C for some helpful tools for following up with patients.



Measure and Improve Performance

A program measures its success by demonstrating an improvement from baseline screening rates. Some programs have found it helpful to provide monthly screening rate reports, allowing for ongoing reevaluation of the process.

Important components include:

- Collect, monitor, and report data (you can use **Assess Your Progress Work Sheet**⁹⁰ in Appendix A-3.4)
- Ensure thorough documentation of screening tests, results, and tracking follow-up.
- Gather feedback from staff, patients, navigators, clinicians, and specialty physicians on processes.
- Share responsibility and attain good communication between colonoscopists and primary care clinicians.

In places with a more rigorous quality reporting environment, insurers provide gap reports on quality measures. These gap reports indicate patients who are missing preventative health screenings. The use of this list can be another opportunity to reach out and engage those patients who have still not yet been screened.

The **Clinical Decision Support for Quality Improvement Worksheet**, developed by the Office of the National Coordinator, Clinical Decision Support for Meaningful Use, can be used to assess current practice workflows, identify gaps, and recommend enhancements for improving CRC screening processes within the practice. This process provides a holistic approach to clinical quality improvement and higher likelihood of success in implementing initiatives to improve screenings. An example of a mapped-out workflow for CRC screening is included in Appendix A-3.1.

Ongoing evaluation by the staff and team is the only way to improve. Internal champions and patient navigators can provide feedback on continued barriers and fine-tune interventions during the process. Successful programs can contribute to performance improvement in other practices by disseminating their strategies.

Celebrate Success

As you measure and improve performance, take time to celebrate your success, both for the practice as a whole and for individual members of the team. By celebrating milestones reached in working toward your goals, you can help to disseminate best practices and spread friendly competition.

When you reach significant goals, consider sharing your success more broadly. Each fall, the NCCRT accepts nominations for the *80% in Every Community National Achievement Awards*. Visit nccrt.org/awards to learn more and consider nominating your practice or individual clinical champions for their success.



4



COORDINATE CARE

3



SCREEN PATIENTS

2



IDENTIFY A TEAM

1



MAKE A PLAN

STEP #4: COORDINATE CARE ACROSS THE CONTINUUM



“Delaying colonoscopy after an abnormal stool test can have major consequences, including increased risk for cancer diagnosis, late-stage cancer at diagnosis, and death from colorectal cancer.”

– Dr. Samir Gupta,
VA San Diego Healthcare System⁹¹

Coordinate Follow-up After a Colonoscopy

Electronic health record systems are expanding their capacity to share patients’ clinical information across primary and specialty care sites, making it easier for primary care practice and specialty gastroenterology practices to deliver coordinated care. Nevertheless, good communication between colonoscopists and primary care clinicians is essential. Such communication can ensure that the colonoscopist receives adequate information about the patient’s clinical history in order to ‘clear’ the patient for the colonoscopy procedure. It can also support the timely receipt of colonoscopy reports in primary care.

The colonoscopy report must be complete, including the colonoscopist’s follow-up recommendation. After primary care clinicians receive and read colonoscopy reports, the result and appropriate follow up should be documented in the health record. Primary care clinicians need to be familiar with CRC screening and surveillance guidelines so that both colonoscopists and primary care clinicians actively ensure patient follow up. The table below summarizes the appropriate surveillance follow-up guidelines.⁶⁰

Understanding colonoscopy quality measures is also important for primary care clinicians. The NCCRT published a report in 2010 on assessing the quality of colonoscopy services. See Appendix C-14 for a list of the quality measures for colonoscopy reports.⁹²

Table 4. US Multi-society Task Force Recommendations for Post-Colonoscopy Follow-up in Average-Risk Adults with Normal Colonoscopy or Adenomas.^{a,75}

Baseline Colonoscopy Finding	Recommended Interval for Surveillance Colonoscopy	Strength of Recommendation	Quality of Evidence
Normal	10 years ^b	Strong	High
1-2 tubular adenomas <10mm	7-10 years ^c	Strong	Moderate
3-4 tubular adenomas <10mm	3-5 years	Weak	Very low
5-10 tubular adenomas <10mm	3 years	Strong	Moderate
Adenoma ≥ 10 mm	3 years	Strong	High
Adenoma with tubulovillous or villous histology	3 years ^d	Strong	Moderate
Adenoma with high-grade dysplasia	3 years ^d	Strong	Moderate
>10 adenomas on single examination ^e	1 year	Weak	Very low
Piecemeal resection of adenoma ≥ 20mm	6 mo	Strong	Moderate ^f

^aAll recommendations assume examination to cecum with bowel preparation adequate to detect lesions >5mm in size; recommendations do not apply to individuals with a hereditary CRC syndrome, personal history of inflammatory bowel disease, personal history of hereditary cancer syndrome, serrated polyposis syndrome, malignant polyp, personal history of CRC, or family history of CRC, and must be judiciously applied to such individuals, favoring the shortest indicated interval based on either history or polyp findings.

^bFollow-up may be with colonoscopy or other screening modality for average-risk individuals.

^cPatients with recommendations issued before 2020 for shorter than 7-to-10-year follow-up after diagnosis of 1-2 tubular adenomas may follow original recommendations. If feasible, physicians may re-evaluate patients previously recommended an interval shorter than 10 years and reasonably choose to provide an updated recommendation for 7-10-year follow-up, taking into account factors such as quality of baseline examination, polyp history, and patient preferences.

^dAssumes high confidence of complete resection.

^ePatients with >10 adenomas or lifetime >10 cumulative adenomas may need to be considered for genetic testing based on absolute/cumulative adenoma number, patient age, and other factors such as family history of CRC.

^fSee US Multi-Society Task Force recommendations for endoscopic removal of colorectal lesions.

Establish a Medical Neighborhood

The creation of a medical neighborhood will be critical for coordinating the care of patients; the neighborhood will include the primary care clinician, gastroenterology or other specialty physicians, the facility, pathology, anesthesia, backup surgery, radiology, hospital, and possibly oncology.

A practice can utilize a physician champion as mentioned previously to line up the needed components. It is helpful to have a way to estimate the number of cancers found in a state or region so that practices can then negotiate with the hospitals and oncology centers. This is because most of the cancers found on screening are stage I, and if not picked up until later, are usually found at stage III or IV, and could be considered a greater financial liability for the hospital and oncology center.

Hospitals that are accredited by the American College of Surgeons Commission on Cancer program may have data on the number and stage of colon and rectal cancers treated in their institution. Such data can also stimulate collaboration.

Care coordination becomes increasingly important for patients who are diagnosed with colorectal cancer.

Practices should utilize existing local resources – state primary care associations, hospital affiliations, cancer coalitions, specialty advocacy organizations, health center-controlled networks and health plans, state and local health departments, academic medical centers, and legislative and political champions – to provide funding and to build networks to link care between primary care clinicians, specialty physicians, and health systems.

Some states may already receive funding through the CDC's Colorectal Cancer Control Program (CRCCP), which requires working with their own state comprehensive cancer control program and state cancer coalition. An advantage of working with cancer coalitions is that they can pull in nontraditional public health partners, such as insurers, employers, and large health systems, to try to reach as many people as possible who have not been screened. This collaboration can further improve links of care and ensure continuity among primary care clinicians, gastroenterologists, oncologists, radiation oncologists, and surgeons in underserved communities.

Conclusion

The steps in this manual will help your practice implement an appropriate screening strategy for your patients, successfully navigate the process with tracking of results and follow-up, and help support well-functioning medical neighborhoods and effective care coordination between primary care and other specialty physicians. Our goal is to make a difference in the lives of patients by increasing colorectal cancer screening rates and ultimately decreasing colorectal cancer incidence and mortality around the country.



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