



STEPS For Increasing Colorectal Cancer Screening Rates

A Manual for Primary Care Practices

ACKNOWLEDGMENTS

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NCCRT is grateful to **HealthEfficient** for serving as the lead author on this second edition.

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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
- 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 200 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](#).

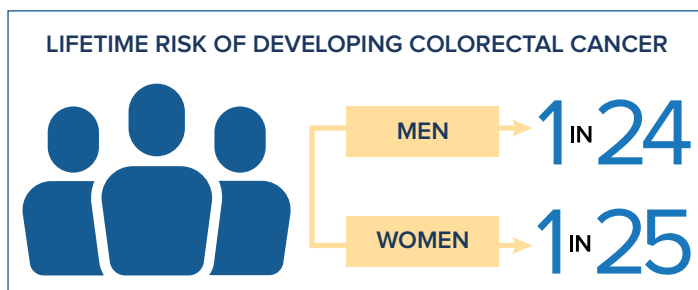
Why Focus on Colorectal Cancer Screening?

“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.

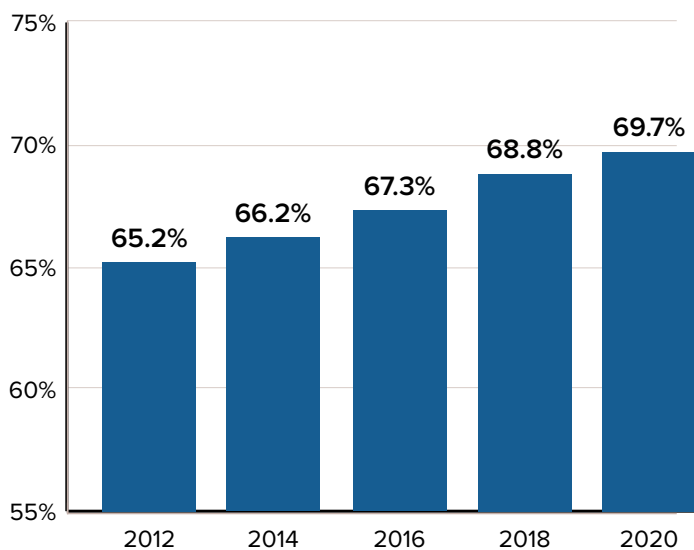
Colorectal Cancer Screening Rates

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

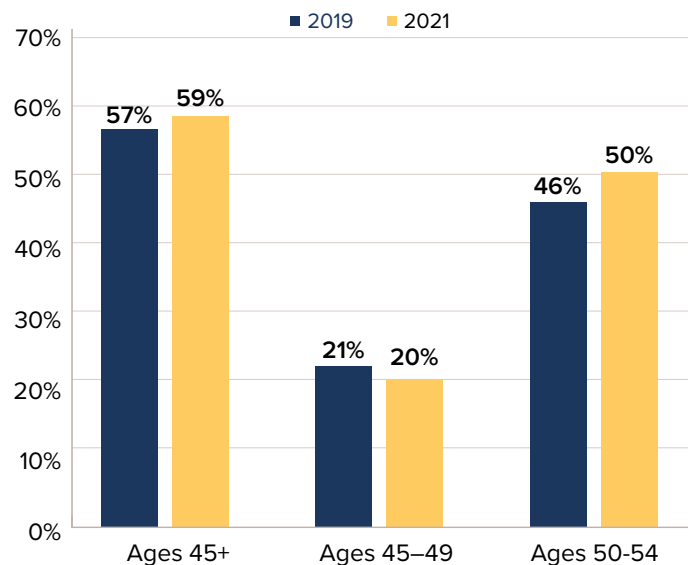
Percentage of U.S. Adults Age 50-75 years Up-to-Date with CRC Screening, Behavioral Risk Factor Surveillance System¹⁶



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 45+ Years, US, 2019-21, National Health Interview Survey¹⁷



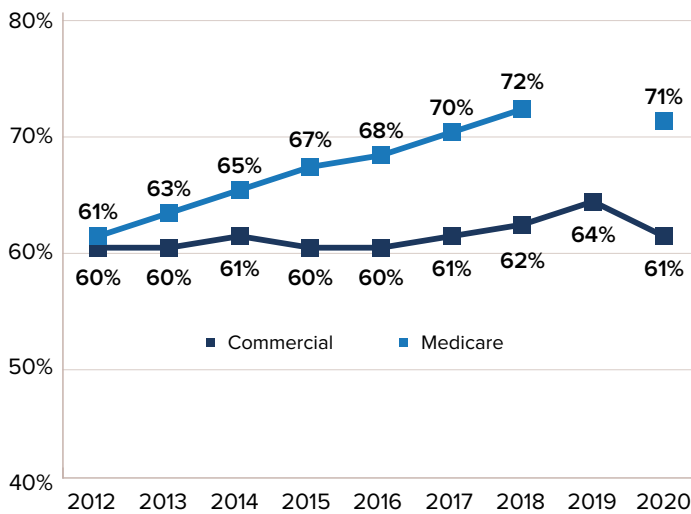
The prevalence of up-to-date screening with any recommended test among individuals aged 45 years and older increased from 57% in 2019 to 59% in 2021. Screening prevalence remains lower in younger screening-eligible age groups, especially among ages 45-49.

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



Insured Adults – HEDIS

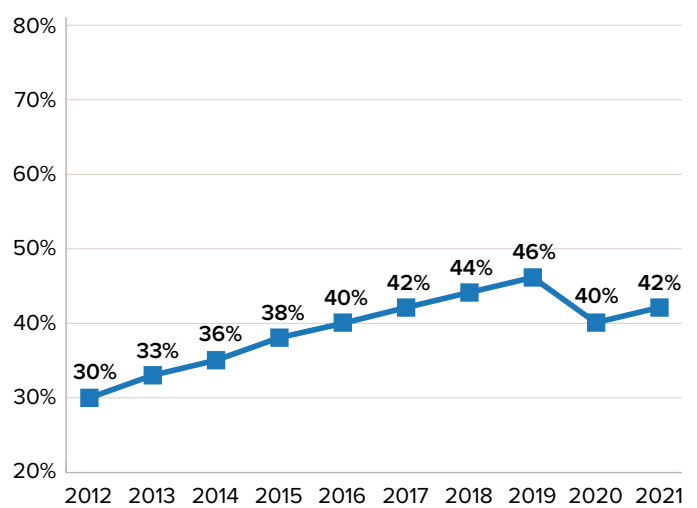
Percentage of U.S. Adults Age 50-75 years Up-to-Date with CRC Screening, Healthcare Effectiveness Data and Information Set.¹⁸



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)

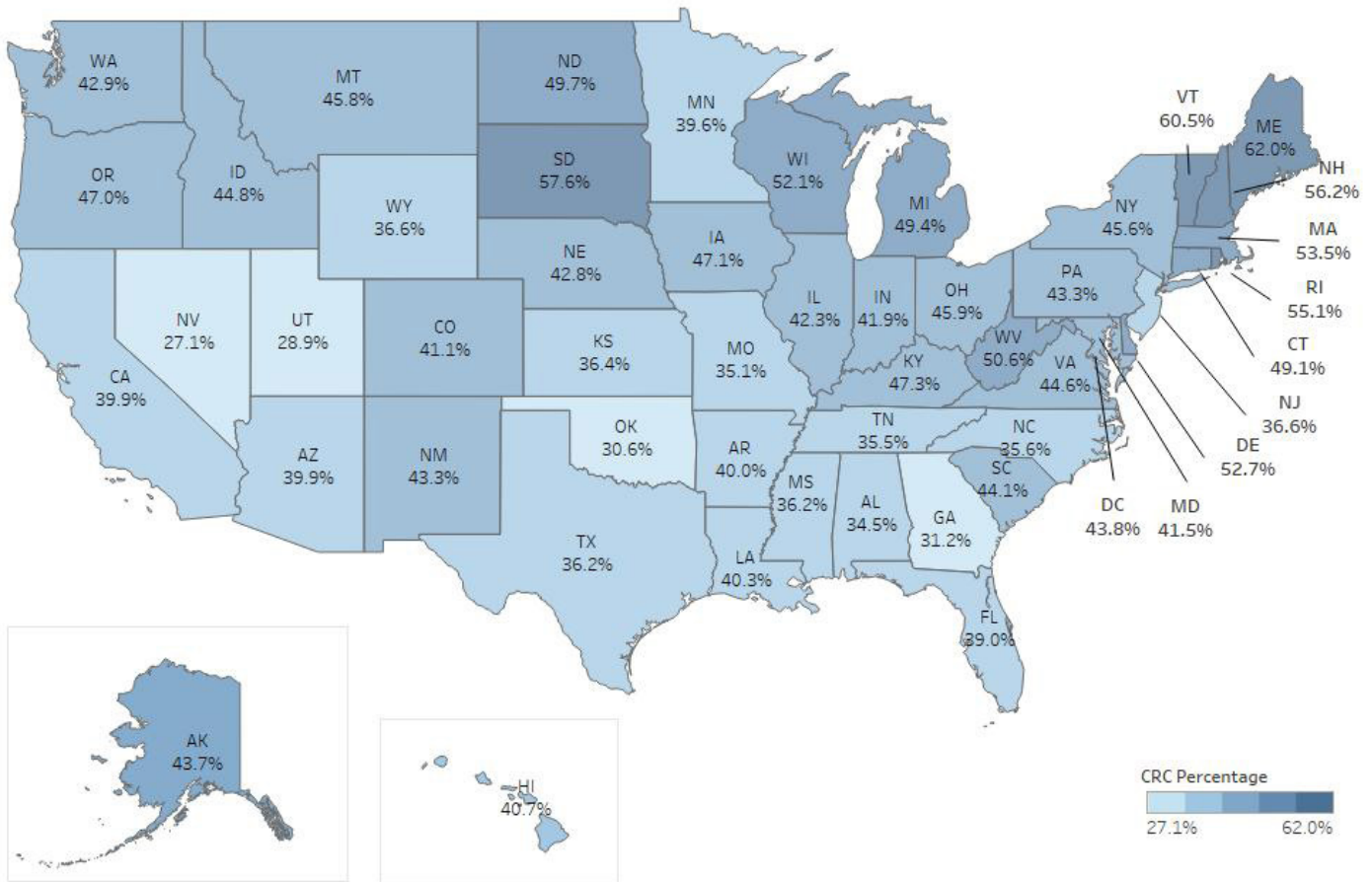
Percentage of HRSA-funded Health Center Patients Ages 50-75 years Up-to-Date with CRC Screening, Uniform Data System.¹⁵



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



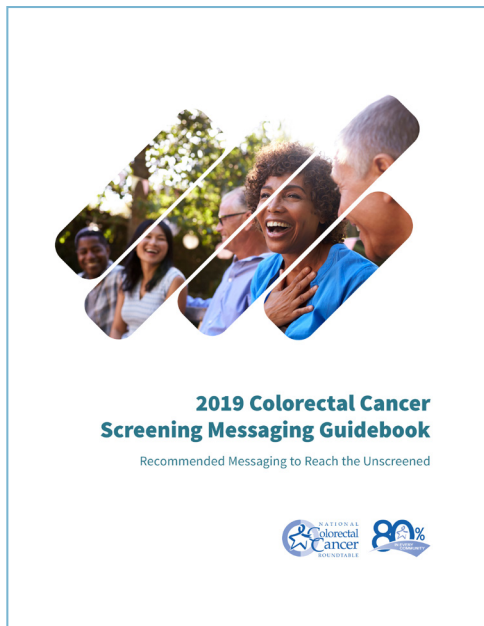
Data Source: UDS data 2021.¹⁵

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

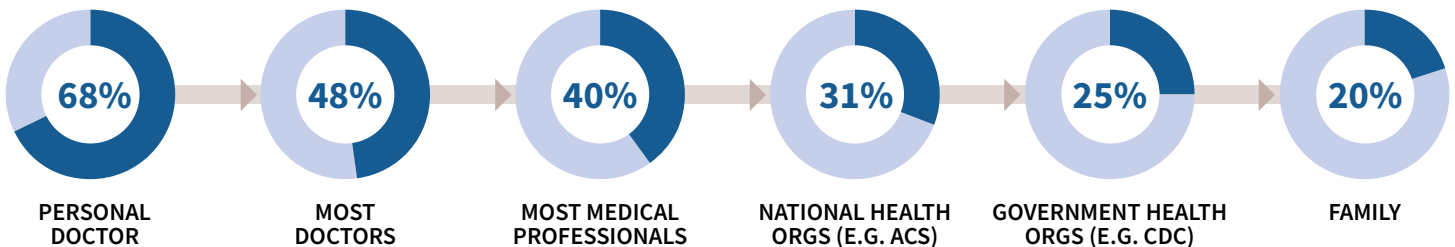
The market research found the following message to be the most preferred across a diverse range of demographic profiles:



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.

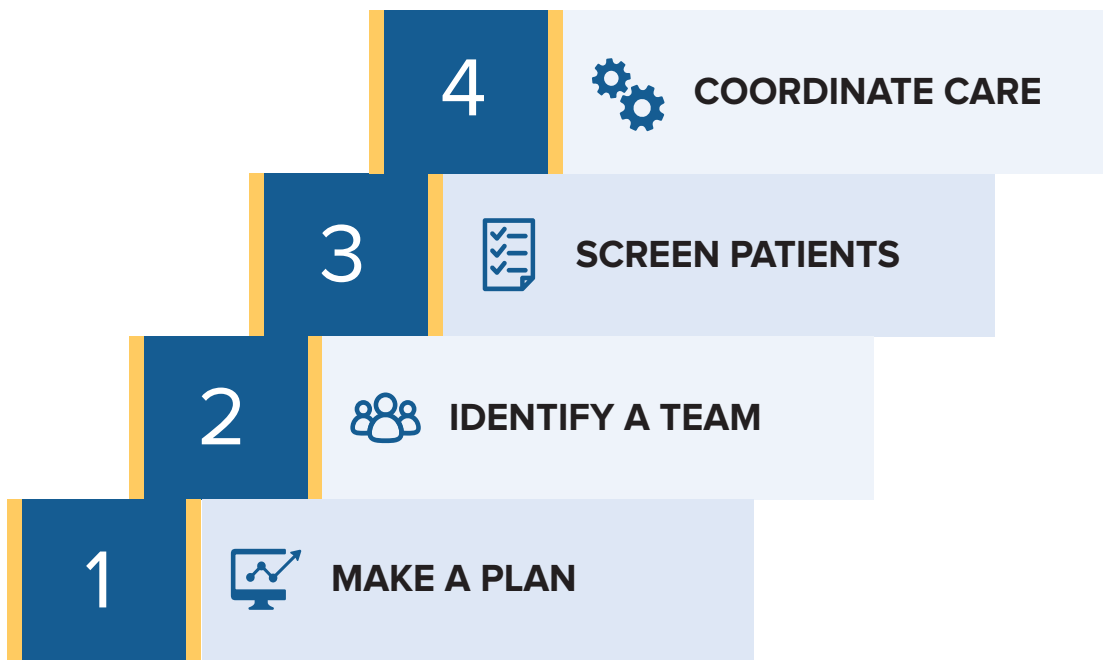
Trusted Messengers



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.

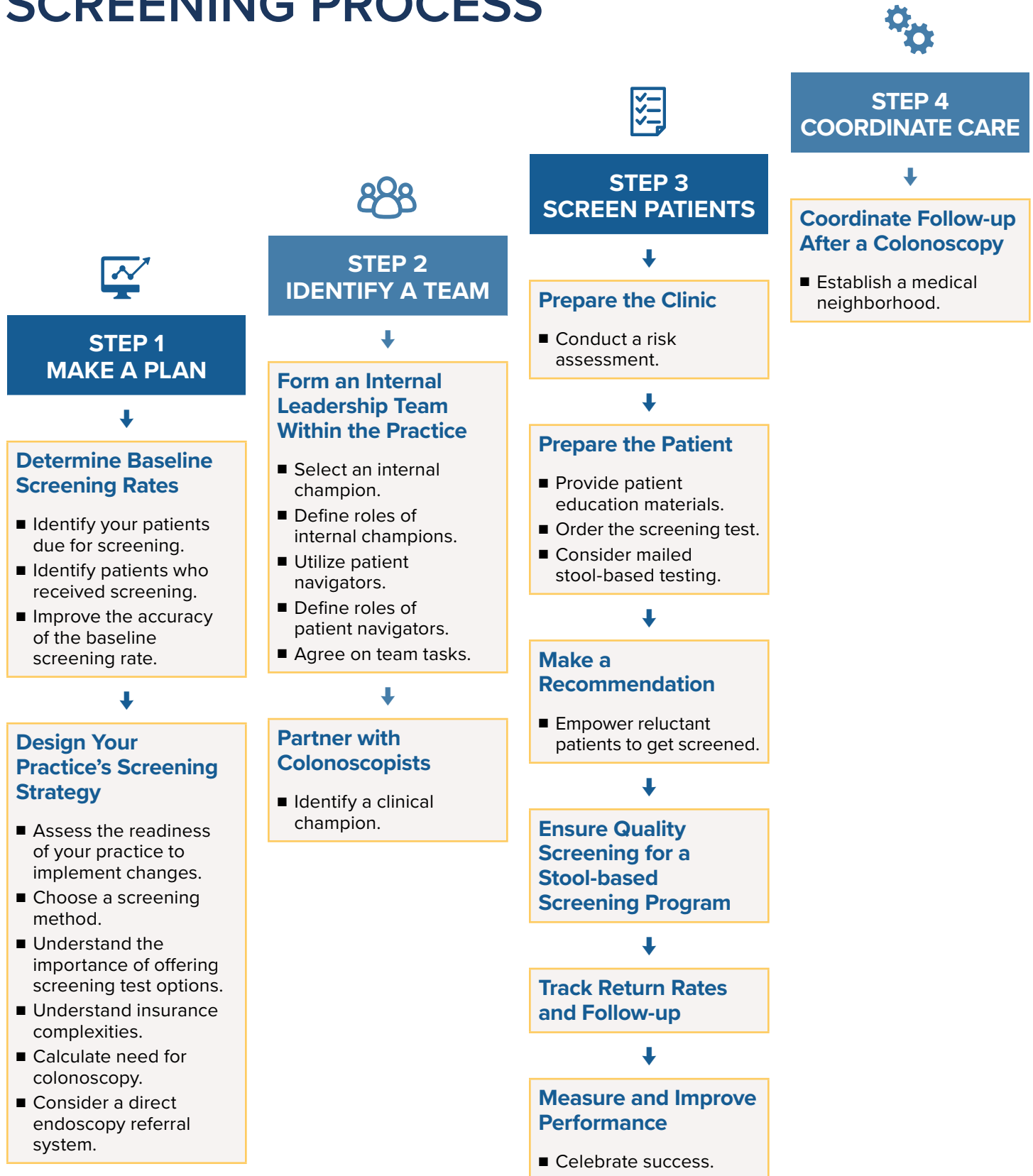
STEPS For Increasing Colorectal Cancer Screening Rates



← 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

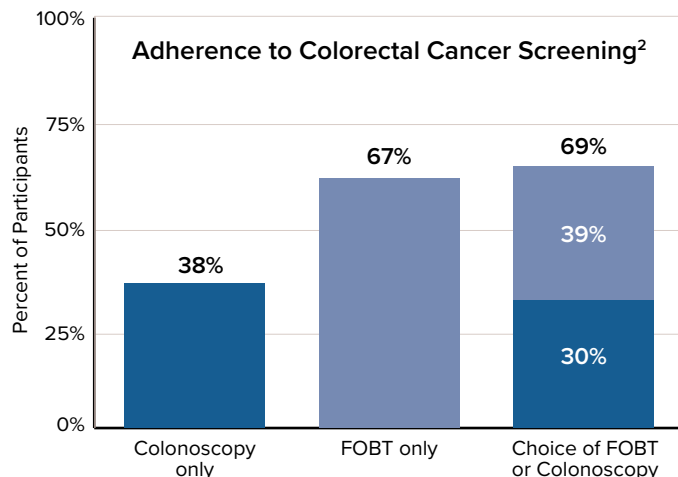
Awareness of the benefits of stool-based tests, FIT, high-sensitivity gFOBT, and mt-sDNA testing is needed to set the record straight. In a survey of 180 clinicians, 92% of survey respondents viewed colonoscopy as “highly effective,” but most misjudged stool tests, with only 25% assessing FIT as “highly 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





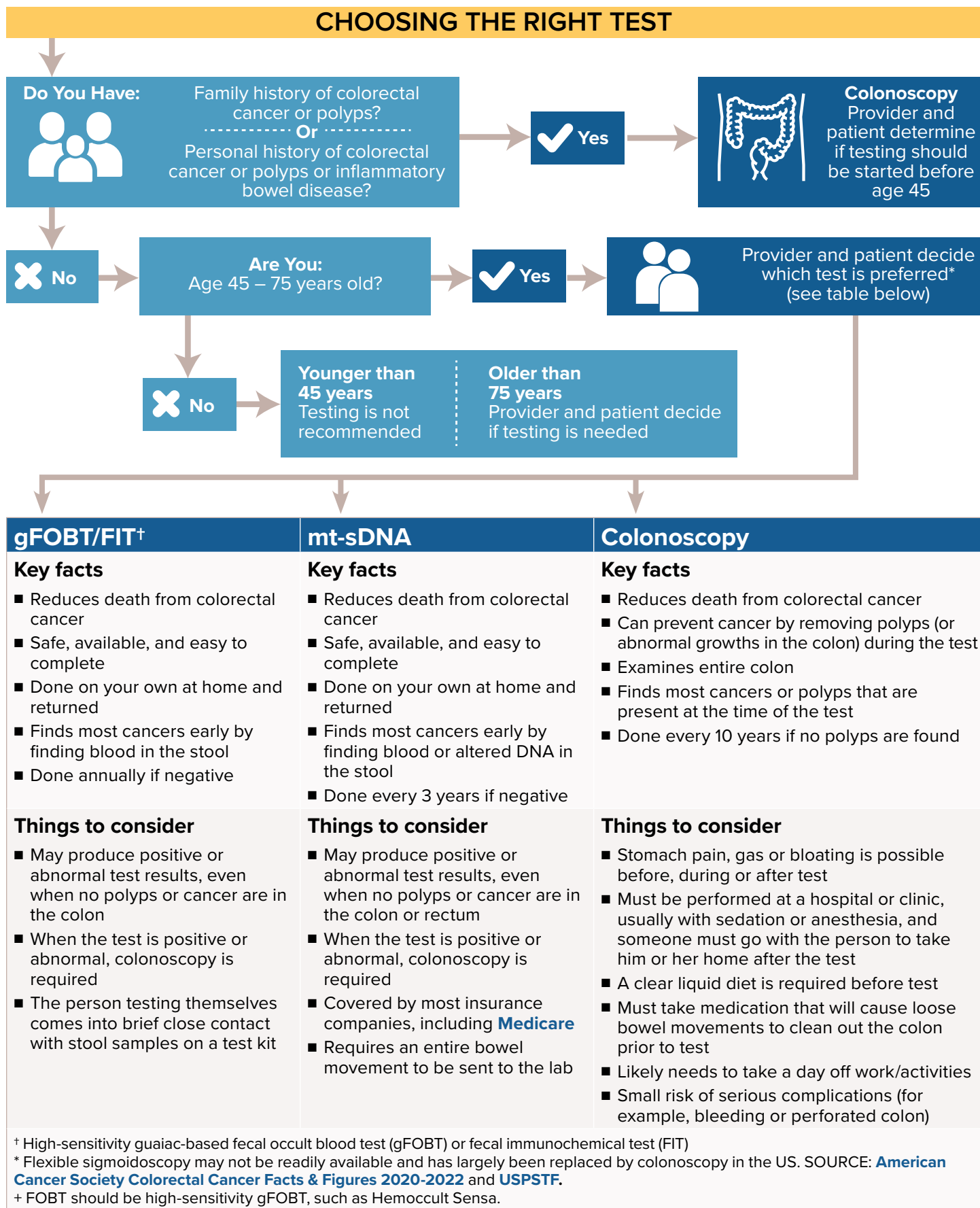
If possible, programs should offer patients options: stool-based testing, screening colonoscopy, or CT colonography. The screening strategy should also consider the characteristics of the patient population, including patient history and risk level, patient preferences (culture, language), insurance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



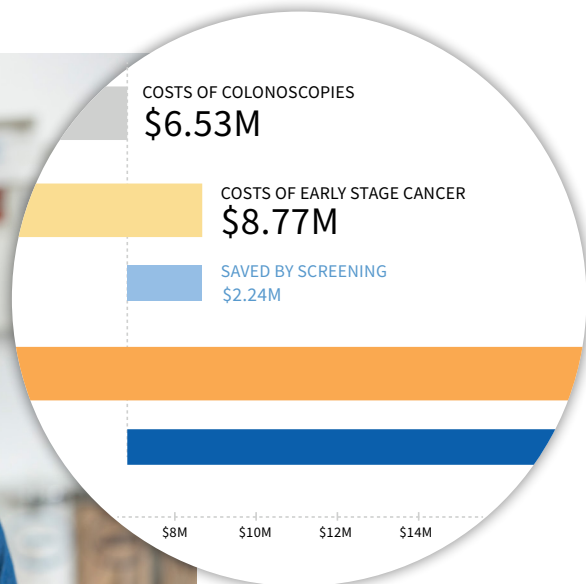
Calculate the Need for Colonoscopy

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.

<div style="text-align: center; margin-bottom: 10px;">  </div> <p style="text-align: center;">A: Colonoscopies for High-Risk Patients</p> <p># of 40-75 Year Old Patients x .15* THEN</p> <p>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</p> <p style="text-align: center;">= Colonoscopies per year for high-risk patients</p>	<div style="text-align: center; margin-bottom: 10px;">  </div> <p style="text-align: center;">B: Colonoscopies for Average-Risk Patients</p> <p># of 45-75 Year Old Patients x .85** x .05***</p> <p style="text-align: center;">= Colonoscopies per year for average-risk patients</p>
<p>A + B = Colonoscopies needed per year</p>	
<p style="text-align: center;">* 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</p>	

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.”

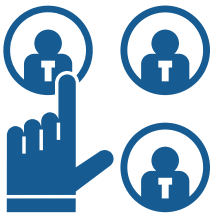
– Henry Ford

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.

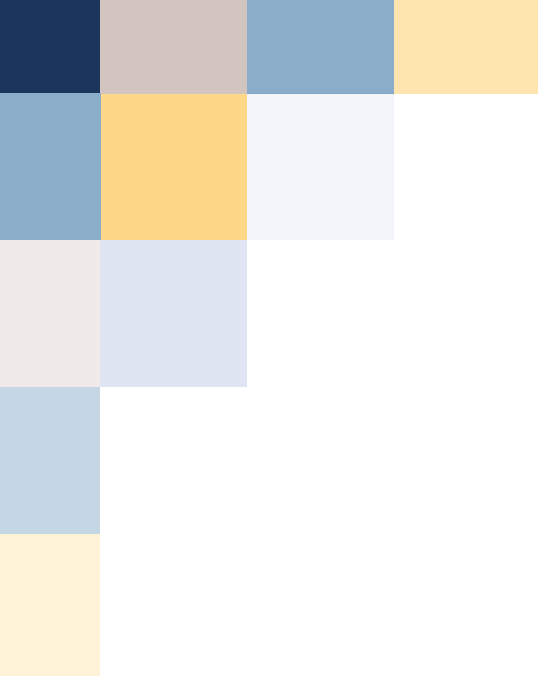
Several pilot programs have implemented colorectal cancer screening programs in primary care practices with a clinical champion as a key component of their success.




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.

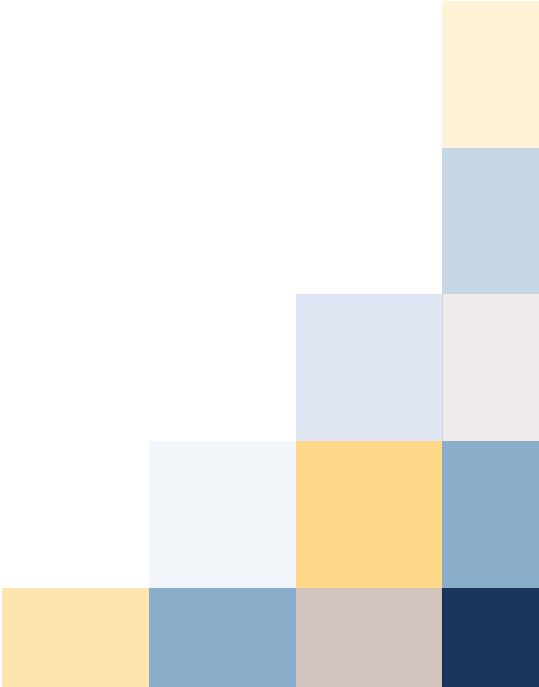


4  COORDINATE CARE

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.

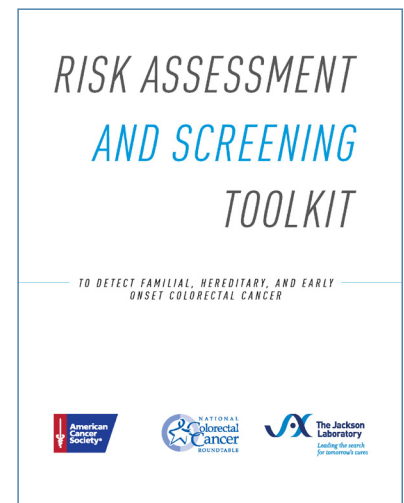
Over time, look for ways to assess and document risk more comprehensively, such as utilizing the EHR, especially in a community where patients are unlikely to have complete information about their medical and family histories.

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.





CASE STUDIES

10 EXEMPLARY PRIMARY CARE PRACTICE CASE STUDIES

Real-world examples of colorectal cancer (CRC) screening improvements provide health systems with an opportunity to jumpstart their adoption of best practices and glean insight from lessons learned.

To augment the updated *Steps Guide*, in the summer of 2021 the ACS NCCRT reached out to ten diverse primary care health systems that had made achievements in increasing their CRC screening rates. The following ten case studies are based on interviews conducted to assess these health systems' key innovations and strategies implemented in their specific populations as well as lessons learned.* Much of the content is in their own words and the ACS NCCRT thanks them for sharing their stories.

The goal of the *Steps Guide* and these case studies is to provide practical approaches and guidance for primary care practices to apply these interventions as part of a comprehensive approach to increase CRC screening. The summary chart on the following page provides high level details for each health system and links to their in-depth summary. Within the summaries, example resources are linked and in the appendices.

*Many of the interventions documented were conducted before most health systems began implementing CRC screening for average risk patients at age 45, earlier than the previous recommendation to begin screening at age 50.

For questions or concerns, please reach out to the ACS NCCRT team at nccrt@cancer.org.

Sources:

American Cancer Society, 2023. Colorectal Cancer Facts and Figures. Accessed on 6/5/2023 from <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/colorectal-cancer-facts-and-figures/colorectal-cancer-facts-and-figures-2023.pdf>

SUMMARY OF HEALTH CENTER INITIATIVES (CASE STUDIES)



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Reducing client out-of-pocket costs
- Small media
- Navigator/Community Health Worker
- Automated campaigns
- Patient incentives



Clinician/Staff Strategies

- Provider assessment & feedback
- Provider reminder or recall
- Provider education
- Provider incentives
- Care team/team-based approach
- Clinical champion
- HIT interventions dashboard
- Shared decision-making model
- Standing orders
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Mailed FIT
- Transportation
- Community outreach
- Open scheduling
- Expanded office hours

Organization	Overview	Pg
Allegheny Health Network Premier Medical Associates <i>Pittsburgh, PA</i>	<ul style="list-style-type: none"> ■ Large Multi-specialty Physician Practice ■ Urban ■ EHR: Allscripts 	61
Coal Country Community Health Center <i>Beulah, ND</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Rural ■ EHR: Epic 	65
East Boston Neighborhood Health Center <i>Boston, MA</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Urban ■ EHR: Epic 	69
Family and Medical Counseling Service, Inc. <i>Washington, D.C.</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Urban ■ EHR: eClinicalWorks 	72


Organization	Overview	Pg
Mercy Health System <i>Headquarters in St. Louis, MO</i>	<ul style="list-style-type: none"> ■ Large Health System ■ Urban, Suburban, Rural ■ EHR: Epic 	76
NOELA Community Health Center <i>New Orleans, LA</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Urban ■ EHR: AthenaHealth 	80
North Hudson Community Action Corporation <i>Union City, NJ</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Suburban ■ EHR: eClinicalWorks 	83
Sanford Health <i>Bismark, ND</i>	<ul style="list-style-type: none"> ■ Large Health System ■ Urban, Suburban, Rural ■ EHR: Epic 	86
Tiburcio Vasquez Health Center <i>Alameda County, CA</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Suburban ■ EHR: OCHIN-Epic 	89
Zufall Health Community Health Center <i>Dover, NJ</i>	<ul style="list-style-type: none"> ■ Federally Qualified Health Center ■ Suburban ■ EHR: eClinicalWorks 	92

CASE STUDY SPOTLIGHT

Allegheny Health Network Premier Medical Associates




<p>Type Primary Care System</p> <p>Location Pittsburgh, PA</p> <p>EHR Allscripts</p>	<p>81,000+ patients</p>	<ul style="list-style-type: none"> ■ 0.2% are best served in a language other than English ■ 11% Black ■ 0.8% (679 patients) Hispanic ■ 1% (1,026 patients) of patients are uninsured
<p>100+ providers</p>	<p>24 medical services and specialties</p>	<p>10 locations</p>



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media
- Navigator/Community Health Worker
- Automated campaigns



Clinician/Staff Strategies

- Provider assessment & feedback
- Provider reminder or recall
- Provider education
- Care team/team-based approach
- Clinical champion
- HIT interventions Dashboard
- Shared decision-making model
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Mailed FIT

Background

Premier Medical Associates, an affiliate of the Allegheny Health Network (AHN), is the largest multi-specialty physician practice in the Greater Pittsburgh area. In 2012, AHN had a colorectal cancer (CRC) screening rate of 57.5% with a 15-20% mailed fecal immunochemical test (FIT) kit return rate. Many providers were only offering colonoscopies as well, believing them to be the “gold standard” of CRC screening.

Results

Within 15 months of implementing changes, the practice increased its CRC screening rate to 75%. By 2019, AHN increased CRC screening rates to 88.7% through a combination of strategies, including a revised FIT kit mailing process (achieving a 90% mailed return rate) as well as the practice’s efforts to follow up with patients with positive (abnormal) FIT results, AHN.

Evidence-based Strategies and Innovations

AHN used a multipronged approach to increase CRC screening rates, including patient- and clinician/ staff-focused strategies as well as reducing structural barriers through their revised mailed FIT program. Patient and provider education as well as reminders for both groups, a shared decision-making model, provider assessment and feedback, a FIT registry, and follow-up on positive abnormal test results are highlights from their success story.

In 2012, Dr. Francis Colangelo, the chief quality officer at the time, acting as a provider champion, brought in a nationally recognized clinical champion to educate providers on the importance of offering patients appropriate choices for screening. By sharing data on practice performance and developing routine processes for outreach, mailing and follow-up, the organization implemented a mailed FIT intervention with high rates of success. AHN provided the following strategies to increase CRC screening rates as well as lessons learned:

Educate Providers to Offer Patients Choice

In 2012, Dr. Colangelo invited Dr. Richard Wender, ACS NCCRT chair at the time, to conduct grand rounds with 100 providers in the practice explaining the different screening modalities and the importance of offering patients choice in screening. They offered providers a new verbal script to use when offering patients CRC screening and explained the absolute need for the follow-up colonoscopy after positive or abnormal FIT results. Dr. Colangelo continues to be the clinical champion for this effort and continues to provide regular training to providers on offering patients choice. Examples of the scripts used to reinforce the need for colonoscopy after positive or abnormal FIT results are available in [Appendix CS01-1](#).

Be Transparent in Reporting Data

The practice began to transparently report monthly CRC screening rates in a visual display at provider meetings, listing each provider and how well their patient panel was doing on meeting the metric. The practice has transitioned to reporting CRC screening rates by office location instead of by provider, emphasizing the team-based nature of the improvement initiative. Examples of the current report of screening rates by office location and original provider-by-provider CRC Screening dashboard display are included as an attachment to this case study.

Outreach to Existing Patients Turning 50* Each Month

Each month, the quality team pulls lists of average-risk patients who are newly turning 50 in the upcoming month (an average of 50-70 patients per month) and sends a tailored phone message about screening. The message alerts the patient that it is time to begin screening, that there are multiple ways for the individual to get screened, and that a kit will be mailed to their house that week for them to start screening. These patients are then added to the practice's FIT Registry for annual FIT screening. Increased or high-risk patients receive a recommendation to go straight to colonoscopy. The practice is now implementing plans to include patients aged 45-50 who have not been screened in such outreach.

* At the time this intervention was conducted, most major guidelines recommended individuals at average risk of CRC start screening at age 50.

FIT Registry

The organization maintains a FIT registry within an Excel spreadsheet of all average-risk patients who have reached the initial age of screening and who choose to be screened with FIT, and on the 11-month anniversary of their prior test, the health center mails a FIT kit to them. Most of the patients return their FITs within a week or two. The registry contains nine years of data for patients whom they've been following for eight years now, and that's what has enabled the practice to achieve screening rates above 80% and to keep them above 80%. Patients who have a positive or abnormal FIT result are moved into the practice's Abnormal FIT Registry (see below).

Abnormal FIT Registry

For patients who have a positive or abnormal finding on a FIT, the practice added an Alert to the EHR banner indicating "+FIT Test" in red text to grab the attention of the provider and address the issue. Providers offer these patients colonoscopy scheduling and follow-up with these patients every six months until the colonoscopy is completed. Once a colonoscopy is completed, patients are followed-up for colonoscopy screening at the recommended interval for their level of risk.

Automated Robocall Reminders

The health system quality department runs monthly automated robocall campaigns just prior to the kits being mailed to patients. The calls are run via their EHR which delivers a recorded message to patients reminding them that their screening anniversary is coming up and that they'll be receiving a FIT kit in the mail from the health system. The quality team then mails out the FIT kits to all patients who are due for their screening that month.

Exam Room Screening Reminder Posters

Every exam room has a locally created poster that provides education on the importance of CRC screening. An example poster is included as an attachment to this case study in [Appendix CS01-2](#).

Educating Providers on Timely Follow-up of Abnormal FIT Results

The practice makes an ongoing, concerted effort to remind providers that all positive or abnormal screening tests must be followed by colonoscopy. Examples of the scripts made available to providers are included in [Appendix CS01-1](#).

Messaging to Patients About Abnormal FIT Results

The practice provides the medical assistants and RNs with a script to use for patients who receive positive or abnormal FIT results and are reluctant to proceed with colonoscopy. Patients are reminded every 30 days to schedule their follow-up colonoscopy if necessary. Patients who still don't schedule the colonoscopy receive a mailed letter from their provider outlining the potential negative consequences of delaying follow-up.

Tools Shared

- Examples of:
 - Script for providers for FIT – [Appendix CS01-1](#).
 - Script used by MAs/RNs when contacting patients who had positive or abnormal FIT results and are reluctant to proceed with colonoscopy – [Appendix CS01-1](#).
 - Mailed letter for monthly positive or abnormal FIT/colonoscopy procrastinators – [Appendix CS01-1](#).
 - Robocall/text (sent one month before 50th birthday if patient has never been screened before) – [Appendix CS01-1](#).
 - Example of provider-by-provider CRC screening dashboard display – [Appendix CS01-3](#).
 - Screenshots of Abnormal FIT Alert in EHR and Abnormal FIT Registry – [Appendix CS01-4](#).
- Exam Room Poster – [Appendix CS01-2](#).



Interviewee

Frank Colangelo, MD, MS-HQS, FACP
Vice President and Chief Quality Officer
Premier Medical Associates

CASE STUDY SPOTLIGHT

Coal Country Community Health Center



Type

Federally Qualified Health Center

Location

Beulah, ND

EHR

Epic

8,685

patients

4

locations

- 28.4% of patients at or below 200% Federal Poverty Guideline
- 0.5% of patients are best served in a language other than English
- 8.1% of patients are uninsured



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media
- Navigator/Community Health Worker



Clinician/Staff Strategies

- Provider reminder or recall
- Care team/team-based approach
- Clinical champion
- HIT interventions dashboard
- Shared decision-making model
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Transportation
- Community outreach
- Expanded office hours

Background

Coal Country Community Health Center (CCCHC) provides colorectal cancer (CRC) screenings for patients in rural and remote areas. These patients have unique challenges and access issues and in 2012, CCCHC had a CRC screening rate of 29%.

Results

By January 2018, CCCHC had increased its CRC screening rate to 68% through the implementation of several innovative quality improvement projects. Their 2019 screening rate dipped to 56% but increased to 59% in 2020 despite challenges posed by the COVID-19 pandemic.

Evidence-Based Strategies and Innovations

CCCHC saw opportunities to strengthen its collaborative relationship with the local critical access hospital and tertiary hospitals to increase screening rates, as well as make improvements to their own internal CRC screening process. For patients, they focused on education, reminders, small media, and navigation. With a clinical champion, they created a team-based approach, dashboards, reminders, shared decision-making, and improved process on follow-up after a positive or abnormal fecal immunochemical test (FIT). Lastly, they conducted community outreach, provided transportation to appointments, and expanded office hours to reduce structural barriers.

Furthermore, under the direction of Dr. Aaron Garman, Medical Director, the health center's healthcare delivery transformed from an acute care model, where they focused on sick visits, to a prevention and wellness model, where they are proactively working to keep their patients well. CCCHC shared the following solutions and lessons learned from their CRC screening interventions:

Distributing FIT

The health center provides FITs to patients while they are in the practice. Patients are then able to return kits to the health center in-person or by mail.

Referrals and Preferred Partnerships

- The health center has a strong relationship with the local critical access hospital in the area, which allows them to schedule colonoscopies relatively easily and have a seamless process for closing the referral loop. The critical access hospital has their own surgeon on staff, and the health center has a clinic in it. Before the patient leaves for the visit, they will have their colonoscopy appointment scheduled with the local critical access hospital.
- The health center also has an established relationship with each of the two tertiary hospitals about 80 miles away for patients who prefer to travel to one of the two facilities.
- The health center utilizes the same EHR as the critical access hospital and both tertiary hospitals, making it easy to share patient records.
- Incomplete referrals are sent from the medical records team to the nurse to perform follow-up. The reason is then documented in the EHR as to why the colonoscopy was not completed, canceled, or rescheduled.

Existing Patient Outreach

The health center does a 100% recall for all patients who are not up to date on their CRC screening every six months. Quarterly reminders are also sent through the patient portal automatically for preventive screenings.

Historical Test Result Data

When reviewing the medical record to see if a patient has completed their screening, any missing historical test records are requested from the entity that performed the screening. Once the historical results have been received, the medical records department sends the historical results to the nurse to update the medical record.

EHR-based Best Practice Advisories

Within the EHR there are best practice advisories to guide the providers to perform preventive screenings. The health center can also submit requests to the EHR vendor to customize these alerts. The practice also uses order sets customized to the type of screening ordered.

Three-Step Recall Process

The health center utilizes the dashboards within the EHR.

- When an order is noted as delinquent in the EHR, the health center first mails a letter to the patient. The practice then contacts the patient via phone if the screening has not been completed within two weeks, then lastly the practice sends another letter.
- The health center also uses text messages for reminders.
- Reminders are also sent through the patient portal via the EHR.

Patient Education

- The health center uses the patient education module within the EHR to print education for patients. The practice also works with the North Dakota Colorectal Cancer Roundtable to develop messages and education for patients. Additionally, the health center works with other health centers and the state primary care associations in North and South Dakota to share patient education resources for CRC screenings.
- The health center provides services and education through numerous community health fairs.
- The health center uses social media platforms to provide education to the community.

Structural Barriers

- The health center provides transportation services for patients to their practice. The practice and the critical care access hospital are working jointly to overcome patients' transportation barriers for colonoscopies.
- The health center provides after-hours services for patients unable to come between 8am–5pm.

Outreach and Follow-up

- The health center uses a team-based approach with RN care coordinators to assist with closing loops and gaps in care.
- The day before the visit the care coordinator performs pre-visit planning and reviews the charts for any gaps in care. If any gaps are noted, it is communicated to the patient’s care team via “huddle notes” within the EHR.
- During the visit, the care team reviews and provides the FIT if appropriate, along with education on how to complete the screening.
 - For normal FIT results, a letter is sent to the patient or a message is sent through the patient portal. All normal/negative results are automatically published to the patient portal.
 - The health center follows up with patients immediately upon receiving positive or abnormal FIT results. The patient is contacted by the nurse via phone and the care team determines if the patient must come in for a follow-up appointment. If the health center has been unsuccessful in reaching the patient by phone, a certified letter is mailed to the patient.
 - Kits that have not been returned are identified within the EHR as orders without results, and the nursing staff follows up. Positive or abnormal results are flagged to the provider and are scheduled for a follow-up appointment.
- If a colonoscopy is the appropriate screening method, the provider performs the history and physical at that visit to prevent the patient from having to return for another visit. The appointment is made for the patient’s colonoscopy and the bowel prep instructions are given to the patient at that visit. A staff member from the critical access hospital performs a reminder call the day before the scheduled colonoscopy to review steps with the patient. After the colonoscopy, the results are sent back to the health center with the recommended screening frequency, the reason for increased screening frequency, and the health maintenance module within the EHR is updated.

Navigation for Patients with Positive or Abnormal Results

The care coordinator for each care team navigates patients with positive or abnormal results. The care coordinator is also responsible for updating the patient’s medical record if information was received by an interface, and the provider signs off on it.



Interviewee

Chastity Dolbec, BSN, RN

Director of Patient Care and Innovation
Coal Country Community Health Center

CASE STUDY SPOTLIGHT

East Boston Neighborhood Health Center (EBNHC)



Type

Federally Qualified Health Center

Location

Boston, MA

EHR

Epic

80,744
patients

- 87.5% of patients at or below 200% Federal Poverty Guideline
- 61.2% of patients are best served in a language other than English
- 20.6% of patients are uninsured



Patient Strategies

- Patient education
- Small media
- Patient incentives



Clinician/Staff Strategies

- Provider reminder or recall
- HIT interventions dashboard

Background

In 2017, East Boston Neighborhood Health Center (EBNHC) set a goal to increase its colorectal cancer (CRC) screening rate from a baseline of 38.1%. Then, at the beginning of 2021, EBNHC also prioritized low rates of returned or successfully completed stool-based CRC screening tests (as many as 20% of returned tests had “inadequate” or “incomplete” results).

Results

As a result of changes EBNHC increased their UDS CRC screening rate by more than 20 percentage points to 58.5% by 2019. Further work to improve fecal immunochemical test (FIT) completion reduced returned inadequate or incomplete tests from a rate of 20% in February 2021 to 11% by April 2021.

Evidence-based Strategies and Innovations

To raise CRC screening rates, EBNHC used multiple strategies focused on patients and providers. They credit customization of patient education and patient incentives for FIT return as one part of their success story. Additionally, they achieved success by implementing provider reminders, a dashboard, and a health intervention technology (HIT) intervention to increase rates. EBNHC shared the following solutions and lessons learned from their CRC screening interventions:

Educational Materials

EBNHC developed patient-friendly educational materials, including YouTube videos in English and Spanish and FIT instructions, such as step-by-step pictorial diagrams. QR codes that link to educational materials are also provided to patients in after-visit care summaries.

Patient Incentives

The health center offers a \$25 gift card raffle incentive to patients who return their completed FITs during the month of the raffle.

FIT Kit Customization

The health center customized FIT kits to make them more patient-friendly in the following ways:

- Removing the pen/paper order form provided by the lab company and applying the sticker with the unique order identification number to the FIT; part of the FIT workflow is that the medical assistant enters the order identification number for the card into the electronic order when ordering the test.
- Inserting pictorial instructions along with QR Codes and links to patient instructional videos in English and Spanish.
- Inserting an incentive flyer on how to enter the raffle for a \$25 gift card for returning completed kits to the lab during the month of the raffle.

Patient Reminders

EBNHC created provider alerts within Epic Storyboard.

HIT/Dashboard

- Created one-click pathway within Epic for ease of use for providers.
- Created report within EHR showing inadequate/incomplete tests using specified fields.

Tools Shared

- Patient pictorial instruction sheet with QR codes to access the patient videos on YouTube – [Appendix CS03-1](#).
- Incentive flyer – [Appendix CS03-2](#).
- Listing of fields used from EHR to report on inadequate/incomplete tests – [Appendix CS03-3](#).
- Screenshots of Provider Alert in Epic Storyboard and sample one-click order for FITs – [Appendix CS03-04](#).
- Screenshot of after-visit summary from a test patient portal account that includes patient instructions for FITs – [Appendix CS03-5](#).



Interviewees

Karin Leschly, MD

Medical Director

East Boston Neighborhood Health Center



Heidi Emerson, PhD, MPH

Quality Improvement and Population Health Manager

East Boston Neighborhood Health Center

CASE STUDY SPOTLIGHT

Family and Medical Counseling Service (FMCS)



Type

Federally Qualified Health Center

Location

Washington, D.C.

EHR

eClinicalWorks

3,362
patients

- 81.5% of patients at or below 200% Federal Poverty Guideline
- 1.3% of patients are best served in a language other than English
- 24.0% of patients are uninsured



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media
- Navigator/Community Health Worker
- Automated campaigns



Clinician/Staff Strategies

- Provider assessment & feedback
- Provider reminder or recall
- Care team/team-based approach
- HIT interventions dashboard
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Mailed FIT
- Transportation

Background

In 2017, Family and Medical Counseling Service, Inc. (FMCS) had a colorectal cancer (CRC) screening rate of 34.6%. FMCS faced process and capacity challenges with CRC screenings due to not having a dedicated staff person to assist with these efforts, including follow-up with patients.

Results

By 2020, FMCS increased its CRC screening rate by 12 percentage points to 46.8%. The practice attributes its success in streamlining their processes to having a patient navigator dedicated to CRC screening efforts.

Evidence-based Strategies and Innovations

FMCS used multiple strategies to increase their CRC screening rate. To address structural barriers, they used funding from the DC Primary Care association to provide transportation as well as a mailed fecal immunochemical test (FIT) campaign. Clinicians and patients received reminders, and a team-based approach was used as well as dashboards and a streamlined process for follow-up after positive or abnormal FITs. A variety of patient education was provided too, but their biggest change was hiring and utilizing a patient navigator to assist with CRC screening. The practice shared the following solutions and lessons learned from their CRC screening interventions:

Patient Navigators Consistently Follow Through with Patients

- The practice hired a patient navigator to oversee CRC screening efforts. By having a dedicated patient navigator, the health center ensured consistent follow-through with patients for screening.
- The patient navigator provides education and instructions to patients on FIT kits and follows up with them to return the kits.

Mailed FIT: Postage Issues

During the pandemic, the practice experienced issues with inconsistent postage on FIT kits mailed to patients that made it difficult to fully implement a mailed FIT campaign. Of the FIT kits distributed by mail, approximately 60% of patients returned their testing kits.

Patient Screening Reminders

- The practice uses robo-calls through an automated system to provide reminder calls, texts, and emails for patients overdue for screening. These reminders continue until the screening is completed.
- After giving patients a FIT kit to take home, the navigator creates a “dummy” referral in the EHR and creates actions in the EHR to serve as reminders to follow up with patients to return the FIT kits.
- The practice schedules follow-up appointments with patients to return to the office within a couple of weeks and instructed patients to bring the completed kit with them for the return visit.
- When patients do not return the FITs during a return visit, providers receive notifications via telephone encounters and are encouraged to re-engage the patient at the next visit.

Positive or Abnormal Results Follow-up

The patient navigator flags the result in the system and sends it to the provider as high priority. The provider then calls the patient with the results and alerts the patient navigator if a follow-up colonoscopy is needed. The navigator follows up with the patient and states “I am following up on the results that were shared with you by your doctor”.

Colonoscopy Referral Follow-Through

- The patient navigator schedules the colonoscopy appointment for the patient. Two days before the appointment, the navigator conducts a reminder call. If transportation barriers are noted, the navigator works to set up transportation assistance. Once results are returned, they are attached to the order, and a note is entered in the referral/diagnostic imaging order stating, “the report is attached, please enter results”. It is then assigned to the provider.
- If the patient does not show for their colonoscopy, the navigator tries to reach the patient three times. For those that remain unsuccessful, the navigator sends the order back to the provider, and in the results writes “scheduling unsuccessful”.

Lab Requisitions

To prevent discrepancies with specimens and orders, the patient navigator staples the lab requisition form to the shipping envelope and instructs patients to include their name and date of birth on the kit.

Provider Prompts in the EHR

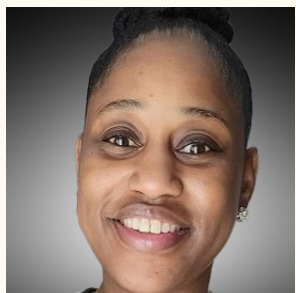
- **Clinical Decision Support System (CDSS) Alerts & Chart Reviews** – CDSS alerts providers and staff if the patient is due for a CRC screening. In addition, the medical assistants conduct chart reviews the day before the visit and will add a note if the patient is due for a screening.
- **Healthcare Effectiveness Data and Information Set (HEDIS) Dashboard** – allows providers to review their individual compliance rates with clinical quality measures. Providers can drill down to view which patients are non-compliant.
- Appropriately attaching results to diagnostic imaging orders is key for the practice to receive performance measure credit for performing the screening. The patient navigator worked to streamline this process and ensure that the proper dates were on the orders. This was a collaborative effort between the navigator, medical records, and medical assistants.

Patient Education

Prior to the COVID-19 pandemic, the patient navigator provided American Cancer Society (ACS) pamphlets to patients and performed face-to-face education. During March, Colorectal Cancer Awareness Month, FMCS also set up a table in the lobby to provide educational talks about CRC. The practice also provides patient education via the patient portal. If the patient navigator was not able to perform in-person education, they would provide education via phone and send an ACS pamphlet via mail.

Structural Barriers

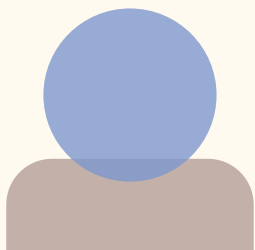
- **Medical Transportation** – Through their partnership with the DC Primary Care Association, the health center received funds to assist some patients with transportation needs to consult appointments. Pre-COVID, the navigator also arranged for transportation for post-op procedures.
- **Courier** – The navigator sometimes picks up specimens directly from patients' homes.



Interviewees

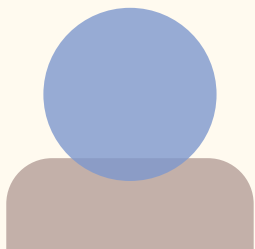
Demetria A-T Premier, MSW

Quality Improvement Health Information Management Coordinator
Family and Medical Counseling Service, Inc.



Michael Serlin, MD

Former Medical Director
Family and Medical Counseling Service, Inc.



Marquita Iddirisu

Former Patient Navigator
Family and Medical Counseling Service, Inc.

CASE STUDY SPOTLIGHT

Mercy Health System



Type

Primary Care Practice

Headquarters

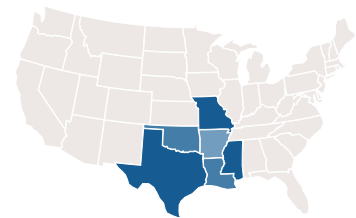
St. Louis, MO

EHR

Epic

3,671,033
outpatient visits in 2020

Practices in



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media



Clinician/Staff Strategies

- Provider reminder or recall
- Provider education
- Provider incentives
- Care team/team-based approach
- HIT interventions dashboard
- Shared decision-making model



Reducing Structural Barriers

- Mailed FIT

Background

Mercy Health System (MHS) examined their colorectal cancer (CRC) screening process and calculated it would need to recruit 32 providers to conduct screening colonoscopies full-time just to address the backlog of colonoscopies. To alleviate this backlog, they implemented a policy of offering fecal immunochemical tests (FITs) as the first line of screening for average-risk patients in what they called their “FIT first” campaign.

Results

Eighty-five percent of MHS patients completed their CRC screening without needing a colonoscopy during the FIT first campaign. The cost savings and reduction in unnecessary burden on the health system were significant. By 2019, the health system had reached an overall CRC screening rate of 60% and increased that to 76% by 2021 among Medicare patients.

Evidence-based Strategies and Innovations

MHS has taken a patient-centered approach to CRC screening, engaging in shared decision-making, while also training staff and providers on how to provide options to the patients. Providers and care teams worked together and received reminders, used an HL7 interface (data processing system) upgrade, and implemented a mailed FIT campaign to increase CRC screening rates.

At the beginning of this process, MHS found that their practices considered FITs easy to dismiss due to the lack of upfront financial reward and the required follow-up after a positive or abnormal test. The COVID-19 pandemic created an opportunity for the health system to use FITs as an appropriate option for CRC screening when screening colonoscopies were paused and the subsequent backlog of patients needing screening ensued. MHS shared the following solutions and lessons learned from the changes they made to their CRC screening strategy:

Mailed FIT Kits

- Obtaining test results can be challenging when the intervention is led by a health system partner and not the practice. The health system partnered with a Medicare Advantage plan on a mailed FIT intervention where FIT kits were mailed directly by the health plan to beneficiaries, rather than distributed by providers to patients. The main challenge that the practice encountered with this intervention is that they were unable to successfully track and follow-up with patients at the system level on completion of the tests, results of the FITs, and follow-up of positive or abnormal results. While the health plan would send the results back to the primary care providers at the practice, there was often a lag of several months before the results were manually logged into the practice EHR. Since there was no mechanism to electronically transmit the results directly from the health plan to the practice EHR, the practice ran into challenges with reliably entering and tracking results. The health system found they require tighter control to ensure receipt of timely results to effectively follow-up with patients on their test results and ensure proper follow-up if needed.
- **Patient Education** – The FIT kit used by their lab (InSure® ONE™) is an at-home test kit that only requires water-based sampling of one bowel movement. The practice is currently going through the process of retooling and implementing new workflows for mailing these FIT kits and ensuring that patient education instructions are included in mailings to refer to the water-based method as opposed to their previous FIT that required the patient to also brush the stool.
- **“Freshness counts”** – The health system found it is necessary to ensure that specimens are sent to the lab before they expire and to be cognizant of expiration dates of test kits. Staff and providers need to communicate to patients the importance of timeliness in returning samples. If specimens are being sent or dropped off at the provider’s office before being sent to the lab, they should be sent to the lab right away to ensure freshness. Labs will not process expired kits either.
 - Postal service issues – during the pandemic, it sometimes took two weeks or more for samples to reach the labs. If mailing specimens, they need to be sent as soon as possible since many samples expire within four to six weeks.

- Best practices/lessons learned:
 - Conduct pilot tests to work out potential kinks with mailed materials
 - Ensure return envelopes are pre-labeled and stamped with appropriate postage
 - Follow-up with patients should occur within a week of distributing test kits

EHR Point of Care (POC) Prompts

The Encounter Guide EHR POC prompt provides alerts used by roomers to begin educating patients and start the conversation about CRC screening. The health system uses patient educational content from Healthwise in the EHR, which can be made available to patients as a printed handout and/or transmitted electronically via the patient portal. FIT kits are provided either during the visit or mailed to the patient.

mt-sDNA (Cologuard) HL7 Interface

For patients whose health insurance covers Cologuard, the health system has a bi-directional interface with EPIC that enables them to order Cologuard and receive the results of the test through the interface. This has been a turnkey solution for the providers. Once the HL7 interface is established, the order gets sent directly to Exact Sciences (the maker of Cologuard) from the EHR, and Exact Sciences follows up with the patient. The resulting report comes back to the EHR electronically through the interface.

Provider Incentives

In July 2021, MHS began a compensation incentive tied to quality achievements, which includes CRC screening as one of those measures. Since they still have colonoscopy backlogs, they are using this opportunity to drive “FIT first”.

Provider/staff Education

MHS is now re-educating staff about the new FIT kit, realizing that the clinical teams, providers, and staff all need reassurance about test reliability and the differences in sample methodology. It is critical that patients hear consistent instructions from everyone that they interact within the health system.

FIT First

By leading with FITs first for average-risk patients and prioritizing patients with positive or abnormal results for colonoscopy, the health system is addressing what it sees as a myth of the reliability of testing options. The health system believes the message should be: “All tests are equally reliable if the tests are followed through” and still takes an informed and shared decision-making approach with patients. The health system also shares information with providers, called “Throw a FIT”, about cost-effectiveness of the stool-based tests to help reduce their bias towards colonoscopy for average risk patients.

Tools Shared

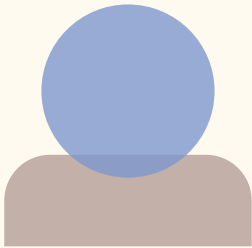
- Encounter Guide – during the rooming process, if the patient is due for CRC screening, a point of care prompt will come up for the provider in the EHR – [Appendix CS05-1](#).
- Sample letters, sample script for campaigns, telephone and text messaging campaigns – [Appendix CS05-2](#).
- Information on how to provide patient-centered, cost-effective CRC options to patients in making the decisions (“Throw a FIT” provider training slides) – [Appendix CS05-3](#).



Interviewees

James Rogers, MD, FACP

Adult Primary Care and Medical Director
Mercy Health System



Debra Barnhart

Director of Operations
Mercy Health System

CASE STUDY SPOTLIGHT

NOELA Community Health Center – Mary Queen of Vietnam (MQVN) Community Development Corporation



Type

Federally Qualified Health Center

Location

New Orleans, LA

EHR

Athena Health

4,904
patients

- 94.0% of patients at or below 200% Federal Poverty Guideline
- 63.2% of patients are best served in a language other than English
- 36.0% of patients are uninsured



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media
- Navigator/Community Health Worker



Clinician/Staff Strategies

- Provider assessment & feedback
- Provider reminder or recall
- Provider education
- Care team/team-based approach
- Clinical champion
- HIT interventions dashboard



Reducing Structural Barriers

- Mailed FIT

Background

NOELA's initial review of colorectal cancer (CRC) screening rates in 2013 revealed a rate of 3%, prompting them to make increasing CRC screening a priority. By 2014, NOELA started work with the American Cancer Society and signed the 80% by 2018 pledge (a commitment to strive toward reaching an 80% screening rate). In 2016, their rates had increased to 70.4% and they were working to further increase their rates.

Results

NOELA's UDS CRC screening rate increased to 80% in 2018, achieving the above-mentioned goal. In 2019 their rate was 73.4% and in 2020 it was 75.5%, remaining consistently high across time, including during the COVID-19 pandemic.

Evidence-based Strategies and Interventions

NOELA employed several different strategies to boost their already high CRC screening rates, including implementation of a mailed fecal immunochemical test (FIT) intervention, patient navigators educating patients about CRC screening, providing training to all staff on how to distribute FIT kits to patients, and use of provider dashboards to promote screening within the practice. NOELA provided the following solutions and lessons learned:

Share Data and Feedback with all Staff

The quality improvement director runs monthly reports on the health center's CRC screening data and conducts provider feedback sessions. During the sessions, the staff review test results and ensure that patients are receiving appropriate follow-up. They also look at missed opportunity reports to understand the number of patients that have completed CRC screening and those that have not, and then try to focus on how to improve their screening rates.

- **CRC data and reports shared with all staff:** cancer screening rates comparison (year-to-date); CRC screening – monthly comparison; CRC screening – trailing year comparison; CRC screening – missed opportunity report; colonoscopy vs. FIT.
- **Data and reports shared with patient navigators:** CRC screening trend report; care coordination – client reminders/patient navigation; FITs distributed vs. FITs returned; FITs distributed tracker.
- **Data and reports shared with providers:** daily huddle notes; provider scorecard; cancer screening provider comparison; data discussed during QI meetings.

Patient Navigators

- Navigators go through the registry of existing patients that are due for FIT and contact them by phone. If they have an upcoming appointment, the navigator informs the patient that during their upcoming appointment they can pick up an FIT kit.
- After distributing the FITs, the navigator calls the patient to remind them to bring back the test within a week or two of giving it out, and then reminds them monthly until the test is returned.
- NOELA found they have a better FIT return rate when the patient navigator distributes the FIT than when the provider gives it out. They found this had more to do with the follow up provided by the patient navigator handing it out as opposed to lack of a consistent follow up when the provider gives it out.

Mailed FITs

During the height of the COVID-19 pandemic, patients often didn't want to come into the health center. When reaching out to remind patients, navigators would ask if patients preferred to pick up or receive mailed FIT kits. If mailed a kit, patients would either return them in the mail or bring them back to the health center, as most do not live very far away.

Mail Postcards to Patients Who Don't Respond to Phone Calls

Reminder postcards are mailed to patients who are not available by phone, asking them to call to schedule an appointment. For patients reached by phone, if they are unable to come into the clinic, they're offered the opportunity to receive the FIT kit by mail.

Train Clinical and Non-clinical Staff to Communicate with Patients About FIT

NOELA trained most staff in the clinic on how the test is performed. Whether it's front desk staff or medical assistants, they all know how to explain the process to patients. If the medical assistant did not cover it with the patient by the time the provider gets in the room, the provider will make the recommendation and then either the provider will give the FIT kit to the patient, or at checkout, they ask the front desk staff to explain to patients how to complete it before they leave. Most of the staff are familiar with the test, how it's conducted, and how to explain it to patients.

More Visits per Year = Better Screening Percentage

NOELA found a strong correlation between the number of visits patients have per year, and whether they were up to date with their screenings or not. Patients who tend to complete the FIT kits are the ones who have at least three or more visits throughout the year.



Interviewee

Keith Winfrey, MD

Chief Medical Officer

New Orleans East Community Health Center

CASE STUDY SPOTLIGHT

North Hudson Community Action Corporation (NHCAC)



Type

Federally Qualified Health Center

Location

Union City, NJ

EHR

eClinicalWorks

58,896
patients

- 96.6% of patients at or below 200% Federal Poverty Guideline
- 76.2% of patients are best served in a language other than English
- 46.3% of patients are uninsured



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Reducing client out-of-pocket costs
- Navigator/Community Health Worker
- Automated campaigns



Clinician/Staff Strategies

- Care team/team-based approach
- Standing orders
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Mailed FIT
- Expanded office hours

Background

In 2017, North Hudson Community Action Corporation (NHCAC) had a colorectal cancer (CRC) screening rate above 71.4%, higher than the national average for FQHCs. They still prioritized reaching a CRC screening rate of 80% or higher in their clinics, which serve over 50,000 predominantly Hispanic/Latino patients.

Results

By 2018, NHCAC's UDS CRC screening rate increased to 87.1%. Like other health centers, the health center experienced a decline in their UDS CRC screening rates to 77.1% during the height of the COVID-19 pandemic in 2020. As of June 2021, the health center reported that their screening rate had started to improve again and was up to 82%.

Evidence-based Strategies and Innovations

NHCAC prioritized increasing CRC screening rates by continually improving screening processes and addressing patient barriers to screening, including hesitancy to complete CRC screening. They provided patient education as well as funding for screening costs if needed. A team-based approach, standing orders, expanded hours, and a mailed fecal immunochemical test (FIT) campaign were also used to increase rates. The health center shared the following key interventions they implemented, and lessons learned:

Outreach to Existing Patients/Patient Reminders

- A data analyst provides a list of patients reaching the initial age of screening in that year to patient navigators who conduct outreach to bring patients in for screening.
- The practice developed a Happy Birthday Letter to remind patients that they are due for CRC screening.

Standing Orders

Standing orders are available so medical assistants can order the test for eligible patients without waiting for an order from a primary care clinician.

Location of FIT/Guaiac-based Fecal Occult Blood Test (gFOBT)

Tests are kept in the clinical area for easy access. Medical assistants provide the education to the patients rather than the patients going to the lab.

Mailed FIT/gFOBT

- The practice mails FIT/gFOBT to patients during telehealth visits with specific instructions on how to return the test. Patients return tests to the practice in-person, they do not mail tests back.
- The practice was able to utilize some of the American Rescue Plan (ARP) COVID-19 funding to assist with implementation.

Test Affordability

For patients without health insurance who cannot afford a FIT, gFOBT is provided. The practice also offers charity care and the CDC-funded [NJ Cancer Education and Early Detection \(NJCEED\)](#) program provides free screenings to patients in need.

Patient Education and Communication

- Most non-compliance arises from patients not wanting to perform the test, so the practice relies upon patient education to address patients' reluctance to screening.
- The practice utilizes the EHR to send out reminder letters, texts, calls, and campaigns. Patient education is sent through the patient portal.

Team-based Approach

- Medical assistants perform chart scrubs the day before every patient visit. They also order the test where appropriate and educate the patient on the testing instructions.
- **Negative/normal FIT/gFOBT results** – once results are received, they're communicated to patients by the provider through the portal within two weeks.
- **Abnormal FIT/gFOBT results** – the provider signs off on any abnormal results within seven days with a plan of care and follow-up. The patient navigator reviews abnormal results and follows up with the patient.
- **Positive FIT/gFOBT results** – Patient navigators follow up with patients who have had positive results to schedule them for an appointment to review the results. Referral navigators follow up on referrals for patients for diagnostic colonoscopies. The referral navigators make appointments for the follow-up colonoscopy and assist patients with the process.

Extended Office Hours

The practice has office hours until 7 p.m. some days and also provides services on Saturdays. This allows patients to return kits outside of normal business hours.

Robo-calls

The practice uses an automated system to send robo-calls to patients overdue for returning lab tests.

Tool Shared

Sample Happy Birthday letter – in English and in Spanish



Interviewees

Rita Knause, MD
Chief Medical Officer
North Hudson Community Action Corporation



Jeannette Sujovolsky, DO
Director of Adult Medicine
North Hudson Community
Action Corporation



Nishie Perez, MA, BSN, RN
Director QI/CRM, Medical
Affairs Department
North Hudson Community
Action Corporation

CASE STUDY SPOTLIGHT

Sanford Health



Type

Primary Care System

Headquarters

Bismarck, ND

EHR

Epic

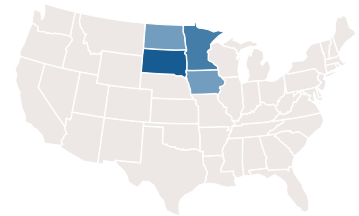
5.2M

outpatient and clinic visits

40%

rural population

Practices in



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Small media



Clinician/Staff Strategies

- Provider education
- Shared decision-making model
- Follow up to abnormal (positive) FIT



Reducing Structural Barriers

- Mailed FIT
- Transportation
- Open scheduling
- Expanded office hours

Background

Sanford Health serves a large rural community with unique challenges related to accessing colorectal cancer (CRC) screenings. Patients may live 100+ miles away from their locations, making fecal immunochemical test (FIT) drop-off and colonoscopy appointments difficult. Furthermore, Sanford serves those on Native American Reservations where regular access to bathrooms is not guaranteed, so prep for colonoscopy may not be feasible.

Results

As of June 2019, twenty-nine of Sanford Health's primary care clinics were exceeding the 80% CRC screening goal, with a system-wide screening rate of 78%, up 9.4 percentage points from 2015. CRC screening rates decreased in 2020 and 2021 due to challenges with COVID, but Sanford Health remains committed to working toward the 80% goal.

Evidence-based Strategies and Innovations

Sanford Health has implemented several FIT and colonoscopy-focused innovations for increasing rural patients' access to CRC screenings. While using a shared decision-making tool, providers and patients were educated about “the best test is the test that gets completed”, focusing on a grant-funded mailed FIT campaign. Patients were empowered to schedule their own colonoscopies and Sanford Health expanded hours and transportation assistance for those who required it. Sanford Health shared the following solutions and lessons learned from their CRC screening interventions:

Provider and Patient Education

The best test is the test that gets completed – focusing on any screening test is better than not screening at all.

Mailed FITs

The health system received a \$10K grant from the North Dakota Department of Health Comprehensive Cancer Control Program to implement a pilot project to mail FIT kits to patients in rural and remote areas. The project involved contacting patients to see if they were interested in participating and mailing FIT kits to their homes.

- **Eliminates transportation barriers** by offering patients who live more than 100 miles from the practice the option of having FIT kits mailed to their homes.
- **Use self-addressed stamped envelopes** for FIT returns to minimize inconvenience and cost to patients.
- **Outreach phone calls to existing patients to assess readiness for intervention** – patients were called to see if they were interested in receiving a FIT by mail. Patients were informed that they were overdue for CRC screening, benefits of screening were explained, the test was described, and then they were asked if they'd be interested in receiving a FIT in the mail to complete the test at home and return it to the health center by mail.
- **Mail and track for follow-ups** – If the FIT was not returned within 30 days, the practice phoned the patient with a reminder to return the kit.

Provide Transportation Assistance

For positive or abnormal FIT results requiring follow-up colonoscopy, the health system provides taxi vouchers, as well as occasional overnight lodging assistance to patients who can't get to their follow-up colonoscopy due to transportation barriers.

Saturday Colonoscopy Screening Days

The practice has conducted several Saturday CRC screening day blitzes over the past few years that were both advertised and directly promoted with letter mailings to patients. They have conducted them in March for CRC awareness month and in November and December as well. They found that the November and December timeframe was much more effective, due to insurance coverage and meeting deductibles for the year. These colonoscopy screening events were so successful that they have increased the frequency from one Saturday in March the first year, to now conducting two dates in November and two in December each year.

Use of a Shared Decision-making Communication Tool

The practice uses an internally developed shared decision-making tool to start the conversation between the staff and the patient about the three CRC screening test options they offer (FIT, mt-sDNA and colonoscopy). Patients are offered a one-page, pocket-card handout that describes available screening options. The shared decision-making tool is also available for patients to download from the patient portal.

Enable Patients to Schedule Their Own Colonoscopy via the Patient Portal

The patient portal automatically displays an alert when patients are of age and overdue based on their screening schedule. Since the practice is part of an integrated health system, the patient can schedule their colonoscopy directly from the patient portal which is then triaged by an RN in the scheduling department. Patients are either scheduled for a procedure based on past history without having to get an order from their primary care physician or are scheduled for a gastroenterology consult. Staff encourage the use of the patient portal at every visit or have them sign up if they're not already connected.

Tool Shared

Homegrown shared decision-making tool – [Appendix CS08-1](#).



Interviewee

Stacey Will, MSB, BSN, RN
Quality Improvement Advisor
Sanford Health

CASE STUDY SPOTLIGHT


Tiburcio Vasquez Health Center



<p>Type Federally Qualified Health Center</p> <p>Location Alameda County, CA</p> <p>EHR OCHIN-Epic</p>	<p>27,492 patients</p>	<ul style="list-style-type: none"> ■ 92.0% of patients at or below 200% Federal Poverty Guideline ■ 60.8% of patients are best served in a language other than English ■ 28.0% of patients are uninsured
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4 locations

Union City | Hayward | San Leandro | Fremont




Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Navigator/Community Health Worker



Clinician/Staff Strategies

- Provider reminder or recall
- Care team/team-based approach



Reducing Structural Barriers

- Open scheduling
- Expanded office hours

Background

Tiburcio Vasquez Health Center (TVHC) placed a focus on increasing colorectal cancer (CRC) screening rates after identifying that in 2016 the health center’s CRC screening rate was below the national average for Federally Qualified Health Centers (FQHCs).

Results

Between 2017 and 2019, the practice increased CRC screening rates from 33% to 40%.

Evidence-based Strategies and Innovations

TVHC used multiple strategies to increase their CRC screening rates, including reducing structural barriers by offering expanded office hours and mailed fecal immunochemical tests (FITs). All staff in the participating clinics were engaged in the CRC screening efforts and educated about the importance and handling of FITs. Patient education and reminders were also essential to success, as well as designating a Medical Assistant (MA) to assist in the process. TVHC shared the following solutions and lessons learned from their CRC screening interventions:

Mailed FITs

- The practice has a dedicated MA who spends four hours per week on mailed FIT processes.
- TVHC adapted successes from different practices, such as putting labels on kits to remind the patient to add the date the sample was completed. The MA also sends reminders to patients to keep the kit in the bathroom for easier access.

The Health Center Sought Ways to “Normalize Poop” with Staff

- TVHC allowed open dialogue with non-clinical staff to discuss concerns and provided education to them on the importance of accepting FIT kits.
- The front office staff were the ones receiving the FIT kits and had to get used to it. The message shared with them was, “This is something that can save someone’s life”. Providers and MAs normalized the process of FIT collection in their practice by creating a supportive and open environment.

Patient Education and Communication

After-visit summaries provided to patients who take home a FIT include an illustrated, wordless instruction sheet developed by the Kaiser Permanente Center for Health Research. The practice then follows up with patients by text message. This is available in [Appendix CS09-4](#).

Birthday Card Reminder Campaign

- TVHC implemented a birthday reminder campaign for existing patients who have both a birthday and an upcoming appointment. They mail FIT kits to these patients and give them a choice to either return their completed kit by mail or bring it with them when they come in for their visit.
 - The key to success with this campaign is that patients are already making an investment in their health. Patients that received these reminders had been in for an appointment within the last 18 months and had an upcoming appointment in six weeks.
 - Patients who had not been in for a recent visit or did not have an upcoming appointment were much less likely to return a completed FIT.
- An alert is placed in the chart and during the reminder call for the visit. The MA encourages the patient to bring in the test or return it via mail.

Addressing Structural Barriers

- In addition to offering same-day and urgent appointments, the practice also provides after-hours appointments, some Saturday appointments, a mobile van, and outdoor wellness clinics where patients can obtain FITs. They also implemented a “poop on-demand” option, which offers patients the opportunity to provide a stool sample for testing while in the office.
- One of the structural barriers the practice encountered was that patients didn’t want to walk upstairs to the lab to drop off their completed FIT kits. Additionally, both the lab and post office would frequently reject mailed FIT kits from patients. To address this issue:
 - The health center worked with the lab supervisor to agree on a process where the patient returns the kit to the clinic’s front desk staff, who then hand-deliver the specimens to the lab.
 - Part of normalizing the FIT kits with front office staff included providing them with gloves and having them agree to deliver the kits daily to the lab (sometimes several times a day). This not only assisted patients who were unable or unwilling to climb stairs, it also eliminated the barrier of both the lab and the post office rejecting mailed kits.

Tools Shared

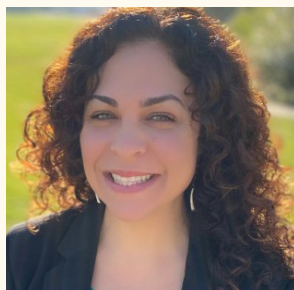
- Photo of FIT colon reminder – the graphic is stuck to all the computers in the adult medicine clinic as a reminder to check CRC screening status – [Appendix CS09-1](#).
- Flyer promoting colorectal cancer screening to African American patients – [Appendix CS09-2](#).
- Mailed FIT workflow (used by MAs until centralized care coordination staff are available), when order is sent it goes to a centralized work queue for mailing – [Appendix CS09-3](#).
- Wordless FIT instructions for patients – the health center uses the Kaiser Permanente Center for Health Research wordless FIT instructions – [Appendix CS09-4](#).



Interviewees

Blair Brown, MD

Senior Director, Population Health and Quality Improvement
Tiburcio Vasquez Health Center



Jessica Jamison, MPH

Former Director, Patient and Community Engagement
Tiburcio Vasquez Health Center

CASE STUDY SPOTLIGHT

Zufall Health Community Health Centers

ZUFALL HEALTH
COMMUNITY HEALTH CENTERS

Type

Federally Qualified Health Center

Location

Dover, NJ

EHR

eClinicalWorks

41,497
patients

- 87.9% of patients at or below 200% Federal Poverty Guideline
- 66.4% of patients are best served in a language other than English
- 51.6% of patients are uninsured



Patient Strategies

- Patient reminder or recall/in reach
- Patient education
- Reducing client out-of-pocket costs
- Navigator/Community Health Worker
- Automated campaigns
- Patient incentives



Clinician/Staff Strategies

- Provider reminder or recall
- Provider education
- HIT interventions dashboard
- Standing orders
- Follow up to abnormal (positive) FIT

Background

In 2015, Zufall Health Community Health Centers' (Zufall Health's) colorectal cancer (CRC) screening UDS rate was 50%. Zufall Health prioritized CRC screening after engaging with the Screen NJ Initiative and identifying a burden on individual providers managing the entire CRC screening process on their own.

Results

By employing CRC screening navigators as additional support for providers, completing follow-up colonoscopies, and provider feedback/assessments, the health center increased its UDS CRC screening rate to 65% in 2019.

Evidence-based Strategies and Innovations

Zufall Health used multiple strategies to improve its CRC screening rates and processes. The health center credits employing six CRC screening navigators who dedicated r time to providing support to the practice in conducting outreach, education, and follow-up of patients due for CRC screening as essential to their success. Additional patient-focused strategies include patient education, reminders, reducing out-of-pocket costs, and patient incentives. Clinician and staff-focused strategies include educating staff and providers and using dashboards to track progress. The health center shared the following summary of solutions and lessons learned while improving CRC screening in their practices:

CRC Screening Navigation

Over the last several years, Zufall Health has been funded to provide CRC screening and navigation at seven of their locations by **Screen NJ**, an initiative between Rutgers Cancer Institute of New Jersey and the New Jersey Department of Health to increase CRC screening rates. Zufall Health's six CRC screening navigators are medical assistants (MAs) who receive special training to conduct outreach, communicate with, and follow up with patients throughout all steps of the CRC screening process. The CRC screening navigators also work very closely with and provide additional support to the primary care providers. Navigators receive specialized training on the importance of CRC screening, current practice guidelines, health center screening rates, and practice workflow for ordering tests, communicating with patients and providers, and following up with patients with their test results.

Reducing Patient Out-of-pocket Costs

The Screen NJ Initiative also helps subsidize the cost of FITs and colonoscopies so that the cost is not a burden to the patient.

FIT Champions

The CRC screening navigators are empowered to remind providers about patients who are due for CRC screening. They reinforce the Clinical Decision Support System (CDSS) alerts in the EHR, which identify patients due for screening. They also remind providers to order the FIT or colonoscopy by entering the standing orders for the providers when rooming the patient.

The CRC screening navigators receive specialized training that enables them to speak with patients about the importance of CRC screening. When the provider meets with the patient, the educational message is reinforced, and that helps patients to better understand why they should complete the screening test.

Peer Learning and Mentoring

The CRC screening navigators meet at least quarterly to discuss how best to encourage patients to return their FITs and follow through with colonoscopy if needed. The more experienced CRC screening navigators facilitate the discussions and are also champions within the practice to ensure that providers and front desk staff are aware of workflows for distributing and receiving FIT kits. The quality improvement process of using Plan-Do-Study-Act (PDSA) cycles of change for implementing evidence-based interventions is discussed. For example, screening navigators might volunteer to test the process of mailing FIT to patients that are due or overdue for screening. During these meetings, the team shares successes and ideas that have worked at their site for implementation at other sites.

Dashboards

Quarterly reviews of the health center's CRC screening dashboards and providing shout-out "gold stars" to teams with the highest results helps to motivate providers and teams to outperform each other and continuously improve their outreach and follow up with patients to complete their screenings.

Text and Voicemail Messaging Campaigns

Zufall Health uses the Luma Health text and voicemail messaging platform, coupled with an EHR-based patient registry, as an initial reminder to encourage patients to schedule their appointments for CRC screening. The messages lead with, "Our records show it is time for your colorectal cancer screening." By using an automated messaging campaign first, it helps reduce the number of calls that the CRC screening navigators need to make to follow up with patients who are due for screening but haven't yet scheduled their appointments.

Front Desk Staff Training

The practice trains the front desk staff on how to greet and assist patients who bring completed kits back to the office and where to drop them off when returning them.

Contactless FIT Drop-off Boxes

During the COVID-19 pandemic, Zufall Health set up several contactless drop-off boxes where patients can return their completed FIT without entering the building.

Patient Incentives

The practice provides \$10 gift cards to all patients who return their completed FITs to the practice. The CRC screening navigators promote incentives to patients when providing them with instructions about how to do the test.

Positive FIT Dashboard

The focus of the Positive FIT dashboard is to enable follow-up with patients who have positive (or abnormal) FIT results. Within one week of receiving positive or abnormal FIT results, CRC screening navigators call patients and assist them in scheduling their follow-up colonoscopy.

Tools Shared

- Contactless FIT drop-off box (photograph provided) – [Appendix CS10-1](#).
- Sample positive FIT dashboard used for quality improvement – [Appendix CS10-2](#).
- Standing order policy for MAs – [Appendix CS10-3](#).
- PowerPoint for MA training – [Appendix CS10-4](#).
- Sample patient text and voicemail reminders – [Appendix CS10-5](#).
- Sample quarterly patient newsletter with an article about FIT incentive – [Appendix CS10-6](#).



Interviewees

Rina Ramirez, MD
 Chief Medical Officer
 Zufall Health Community Health Centers



Kathleen Felezzola, RN
 Director of Nursing
 Zufall Health Community
 Health Centers



Kathy Orchen, PA, MPH, MS
 Quality Assurance
 Program Manager
 Zufall Health Community
 Health Centers

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