Quality Improvement Handbook

A Guide for Increasing Your Colorectal Cancer Screening Rates

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To access this handbook online, please visit Louisiana Cancer Prevention and Control Programs’ website at: https://louisianacancer.org/helpful-information/lcp-materials/
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INTRODUCTION

In 2009, the Institute of Medicine (IOM) released a seminal report, Crossing the Quality Chasm: A New Health System for the 21st Century, which delivered an urgent message that the quality of care patients are receiving in the U.S. falls vastly short of the quality of care they should be receiving. In order to improve quality of care and better meet patients’ needs, health care systems need to focus on six main targets:

- **Safe**—avoiding injuries to patients from the care that is intended to help them
- **Effective**—providing services based on scientific knowledge to all who could benefit
- **Patient-centered**—providing care that is respectful of and responsive to individual patient preferences, needs, and values
- **Timely**—reducing waits and sometimes harmful delays
- **Efficient**—avoiding waste, including waste of equipment, supplies, ideas, and energy
- **Equitable**—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status

Patients should be able to count on receiving the full spectrum of care from which they could benefit, including preventive, acute, and chronic services. Additionally, clinic staff would benefit from the satisfaction of providing better coordinated, higher quality care.¹ Developed with these objectives in mind, this Manual aims to serve as a launch pad for colorectal cancer screening specific Quality Improvement efforts by providing an overview of facts and figures, QI tools, best practices, and real world examples.

Before any Quality Improvement work can begin, it is important to have a big-picture understanding of the problem and to be able to answer the question of “why should we prioritize this?” The answer to this question should always be based on facts. **Recent data shows that colorectal cancer is the second leading cause of cancer death in the United States, eclipsed only by lung and bronchus deaths.**\(^2\) CRC often starts with the development of polyps that may or may not become malignant, and if cancer does develop there are often no symptoms in the earliest stages. Survival rates are quite high (90%) if caught at Stage I, but diminish to 14% at Stage IV.\(^3\) The good news is, this cancer can be found and stopped early with regular screening.

**Louisiana suffers disproportionately with colorectal cancer, ranking 3rd for highest incidence rate in the nation for CRC.**\(^4\) Equity with geographic location is a significant issue in the state, as rural regions are generally impacted at higher rates. Notably, Louisiana’s French-Acadian region, home of the Cajuns, has CRC rates among the highest in the nation. These disproportionately high incidence rates are likely due to genetic or environmental factors.\(^5\)

![](source.png)

The black population in Louisiana has a slightly higher risk of incidence and mortality for CRC than whites, but in general, men of all races are much more likely than females to suffer from CRC. It is a common myth that women do not get colorectal cancer - they certainly do!

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\(^4\) U.S. Cancer Statistics Working Group.

\(^5\) Karlitz, J; Blanton, C; Andrews, P; Chen, V ; Wu, X; Fontham, E. Colorectal Cancer Incidence Rates in the Louisiana Acadian Parishes Demonstrated to be Among the Highest in the United States, Clinical and Translational Gastroenterology: Oct 2014 – Vol 5 - Issue 10 - p e60 doi: 10.1038/ctg.2014.10. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4218930/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4218930/)
Health systems tend to fall short in screening their low income population, as reflected by the state’s aggregate screening rate of 40.8% among Federally Qualified Health Centers (FQHCs) in 2018. The national FQHC screening rate is only 44.1%, further emphasizing the need for improvement in CRC screening not just in Louisiana, but across the country.6

Table 2 shows a significant screening gap in contrast to national benchmarks of Healthy People 2020 (Target: 70.5%) and the National Colorectal Cancer Roundtable (Target: 80% in Every Community).

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GETTING TO SCREENING

The National Colorectal Cancer Roundtable (NCCRT) has found that the primary barriers to CRC screening are procrastination, unpleasantness, perception of cost, and no family history or symptoms.\(^7\) Patients are likely to get screened if they have gastrointestinal issues, if they know someone who was diagnosed with colorectal cancer, or if their doctor insists. Healthcare providers can encourage their patients to follow through with screening by:

- Making the recommendation (most important)
- Providing alternatives to a colonoscopy (FIT test or Cologuard\(^8\))
- Clearly explaining insurance coverage requirements and/or providing information about low-cost stool tests
- Explaining why screening is important

SCREENING GUIDELINES

The United States Preventative Services Task Force (USPSTF) recommends screening for average risk patients starting at age 50. The average age at time of diagnosis for men is 68, and for women is 72.\(^8\) Recent studies show that there is a downward trend in the death rate for CRC, especially among adults ages 55 and older. However, the death rate has started to increase slightly among adults younger than age 55. This emerging trend has prompted the American Cancer Society (ACS) to lower its recommended screening age from 50 to 45 as of 2018.\(^9\) Regardless of the guideline a health system chooses to follow, symptoms in younger patients should not be minimized or ignored.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>50 - 75</strong> Screen for CRC in average risk patients starting at age 50 and continuing until 75 years of age.</td>
<td><strong>45 - 75</strong> Average risk patients with life expectancy of 10+ years should undergo regular CRC screening starting at 45 years of age.</td>
</tr>
<tr>
<td><strong>76 - 85</strong> The decision to screen should be an individual one, taking into account the patient’s overall health and prior screening history.</td>
<td><strong>76 - 85</strong> Clinicians should individualize CRC screening decisions based on patient preferences, life expectancy, health status, and prior screening history.</td>
</tr>
</tbody>
</table>

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\(^7\) National Colorectal Cancer Roundtable. 2019 Colorectal Cancer Screening Messaging Guidebook: Recommended Messages to Reach the Unscreened. [https://nccrt.org/resource/2019messagingguidebook/](https://nccrt.org/resource/2019messagingguidebook/)


RECOGNIZING HIGH RISK PATIENTS

Patients that have a personal or family history of adenomatous polyps or colorectal cancer, should follow the recommendations of their health care provider and/or gastroenterologist. Hereditary syndromes and inflammatory bowel diseases such as ulcerative colitis and Crohn’s also puts patients at a higher risk for developing CRC. **Be aware that colonoscopy is the only recommended screening for most high risk patients, and that screening recommendations are very different for each of these high-risk patient groups.**

COLONOSCOPY VS STOOL BASED TESTS

The most common types of colorectal cancer screenings in the U.S. are either colonoscopy or stool-based. Table 4 outlines the recommended screening intervals for average risk patients.

*Table 4. Screening Intervals for the Most Common Types of CRC Screening (for Average Risk Patients)*

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Performance &amp; Complexity*</th>
<th>Limitations</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual Exam</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Colonoscopy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Examines entire colon</td>
<td>Performance:</td>
<td>• Full bowel cleansing (prep) required</td>
<td></td>
</tr>
<tr>
<td>• Can biopsy and remove polyps</td>
<td>Highest</td>
<td>• Can be expensive</td>
<td></td>
</tr>
<tr>
<td>• Can diagnose other diseases</td>
<td>Complexity: Highest</td>
<td>• Sedation usually needed, will need a ride home</td>
<td></td>
</tr>
<tr>
<td>• Required for abnormal results from all other tests</td>
<td></td>
<td>• Patient may miss a day of work</td>
<td><strong>10 Years</strong></td>
</tr>
<tr>
<td><strong>Stool Tests</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fecal immuno-chemical test (FIT)</strong></td>
<td>Performance:</td>
<td>• Will miss most polyps</td>
<td>Annual</td>
</tr>
<tr>
<td>• No bowel cleansing or sedation needed</td>
<td>Intermediate for cancer</td>
<td>• Colonoscopy necessary if positive</td>
<td></td>
</tr>
<tr>
<td>• Performed at home</td>
<td>Complexity: Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Low cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Can detect blood in stool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FIT-DNA test (Cologuard ®)</strong></td>
<td>Performance:</td>
<td>• Will miss most polyps</td>
<td><strong>3 years</strong></td>
</tr>
<tr>
<td>• No bowel cleansing or sedation needed</td>
<td>Intermediate for cancer</td>
<td>• Colonoscopy necessary if positive</td>
<td></td>
</tr>
<tr>
<td>• Can be performed at home</td>
<td>Complexity: Low</td>
<td>• Higher cost than FIT test</td>
<td></td>
</tr>
<tr>
<td>• No risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Can detect blood in stool along with DNA mutation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Colonoscopies are highly effective screening tests, but do have some potential issues and barriers. Some examples of barriers to colonoscopies are fear of the test itself, having to take time off from work or care-taking responsibilities, and managing bowel prep; all real and significant factors to consider. Health systems must also keep in mind the concern about cost for uninsured patients and also the small risk of perforation during the procedure. Also, there are often a limited number of gastroenterologists providing care to the Medicaid/Medicare population due to low reimbursement rates and high number of no shows.

Other obstacles are the multiple appointments often required with a specialist (the initial assessment and then a separate appointment for the procedure). One effective and patient-centered solution is to set up “direct endoscopy referrals” with gastroenterologists, where the primary care clinic does most of the work assessing a patient for the procedure. The patient then only needs to show up to the specialist for the colonoscopy, making the screening process more efficient.10 This significant structural change requires collaboration between primary care and specialist care, however, which can be challenging.

STOOL BASED TESTING: AN EFFECTIVE ALTERNATIVE

Rather than relying mainly on colonoscopies for CRC screening, providing a take home stool-test option is proven to increase overall screening rates.11 FIT testing can help to alleviate some of the barriers around colonoscopies and “save” colonoscopy referrals for high-risk patients and for the patients with a positive FIT result (see Figure 3). Health systems take different tactics to implement stool-based testing depending on their patient population, provider preference, and other factors.

- **FIT-First**: One popular approach at many FQHCs is a “FIT first” approach, where all eligible patients are automatically given a FIT test. Providers may override this policy and refer to colonoscopy at their discretion. This tactic can be particularly effective in clinics that have a high rate of patient refusal of colonoscopies.
- **Patient Choice**: Allowing patients to choose their preference between colonoscopy and a stool-based test.
- **Backup**: Some individual providers are successful with relying mostly on colonoscopies, but use stool-based testing as a backup in case of patient refusal.

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LIMITATIONS WITH STOOL BASED TESTING

While stool-based tests are an excellent option for CRC screening, there are some limitations. Patients should be informed that positive results must be followed up with a colonoscopy. This follow up may be difficult to accomplish; in most settings, follow-up is not documented in 1 out of 3 positive stool tests. Also, the follow up colonoscopy may be treated as diagnostic at a potential cost to the patient.

Some providers may be tempted to use a FIT test in combination with a Digital Rectal Exam (DRE) which is highly ineffective and not evidence-based. Compared to colonoscopy, stool testing done correctly performs almost as well in detecting colorectal cancer, but not as well at detecting advanced adenomas (polyps). For this reason it is important to remember that stool tests are only appropriate for average risk patients. There is no strong evidence of value in repeating a positive stool test.\(^\text{12}\)

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Table 5. Sensitivity and specificity of invasive compared to non-Invasive CRC tests.

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CRC</td>
<td>Advanced</td>
</tr>
<tr>
<td>Invasive Test</td>
<td>Colonoscopy</td>
<td>Adenoma</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Non-Invasive Tests</td>
<td>FIT</td>
<td></td>
</tr>
<tr>
<td>FIT</td>
<td>70%</td>
<td>22%</td>
</tr>
<tr>
<td>FIT-DNA</td>
<td>92%</td>
<td>42%</td>
</tr>
</tbody>
</table>

Data Source: Colonoscopy and FIT from Zauber, et al., AHRQ (2009); FIT-DNA from Imperiale, et al., NEJM (2014).

FIT Test Tips and Tricks

FIT testing often requires some provider education and workflow changes to be most effective when discussing the screening with patients. According to Renay Caldwell and Tracie Lewis from the Center for Colon Cancer Research at the University of South Carolina, these tips for disseminating stool tests have proven effective:

- Use simple pictures to show patients why they need CRC screening.
- Show patients enthusiasm: “Congratulations on your screening! Let me show you how to do this test.”
- Do not be too matter of fact. Say something like “I know this is crazy,” then show them how simple it is to complete a FIT test.
- Show patient the how-to video (from manufacturer) or keep a “show-and-tell” FIT test handy.
- Tell the patient: “Put it on the back of your toilet seat when you get home. It’s extremely important!”

Poop on Demand

Some clinics have had some success with implementing “poop on demand,” where the patient is given a FIT test to complete in the clinic’s restroom.
The IOM’s report, Crossing the Quality Chasm: A New Health System for the 21st Century, noted a large gap between what we know to be good health care and the health care that people actually receive. How do we attempt to begin to narrow the chasm for CRC? While there is no “right answer” to finding the solution, without some type of systematic approach, improvement work can become chaotic, ineffective, and unlikely to produce the outcomes desired. The Model for Improvement is one effective approach, originating from the work of William Edwards Deming, also known as the founder of continuous QI. The MFI is a change process framework based on three fundamental questions:

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

Any efforts for improvement should result in answers to these three questions. While there can be barriers to implementing the MFI and PDSA cycles in improvement work, it is a “habit” that is very helpful for practices to develop. In addition to the MFI and PDSA cycles, there are a wide variety of QI tools that are helpful in guiding discussion, brainstorming, and making decisions. Some of these are covered in subsequent pages and include workflow mapping and fishbone diagramming. Common roadblocks to significant change are:

- Analysis paralysis. Thinking that continued study and debate will find the perfect solution is an easy trap and one that can continue endlessly.
- Getting stuck in the planning phase instead of moving forward with small tests of change.
- Fear of change because of unanticipated side effects.

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Change can be developed in different ways; you can work to improve an existing system, or create an entirely new system.\(^\text{14}\) Regardless of the chosen approach, once you are able to answer the three questions of MFI and a change idea is agreed upon, it is then time to test, implement, and then spread the improvement.

**TESTING CHANGE**

Keep in mind the wise adage “if it isn’t broken, don’t fix it,” as change can sometimes make matters worse. Initial testing on a small scale can minimize risks and grant time for observation of unintended consequences. The willingness to test and learn will ultimately help in the quest in finding a better solution. There are exceptions, but for the most part the pursuit of improvement should rely on small scale cycles of learning, not on an edict to get it right on a large scale the first time.

**IMPLEMENTING CHANGE**

Once a change is tested and proven, it needs to be fully integrated into the practice workflow. Resistance may be found here, and a balance must be struck between dictating the change and delaying progress until full consensus is reached. Additional learning may be required here, in examining whether the objections are reasonable and/or whether the change needs to be adjusted for implementation.

**SPREADING CHANGE**

Often health systems will implement change in one area of the organization and later spread it to the entire system. This should be a smoother process, as the change concept has already been tested and implemented in other areas. Some minor adjustments may be needed.

FIRST STEP: DATA COLLECTION AND ASSESSMENT

Effective improvement work is data and information driven. Initial assessment of current procedures of the practice and its performance on key measures is used to:

- Compare the practice’s performance to that of others (benchmarking)
- Build a case and create buy-in for improvement work
- Set goals
- Prioritize improvement efforts and activities
- Assess validity of the data to be tracked and improved
- Establish a starting point in which to measure progress

BASELINE DATA COLLECTION

Baseline data collection and validation is necessary before beginning any quality improvement work. If a screening rate problem exists, it is important to correct it before the improvement initiative begins. Quality data is a key factor for success and is mandatory for staff buy-in. Without the data, the improvement work becomes guesswork, and you cannot achieve clinical success by guessing.

Table 6. Example Baseline Screening Rate Collection Questions

<table>
<thead>
<tr>
<th>Date Assessment Collected:</th>
<th>Chart review or E.H.R.?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health System Name –</td>
<td></td>
</tr>
<tr>
<td>(and site location if applicable)</td>
<td>Start date of 12 month measurement period:</td>
</tr>
<tr>
<td>Screening Rate %:</td>
<td></td>
</tr>
<tr>
<td>Denominator to calculate screening rate:</td>
<td>End date of 12 month measurement period:</td>
</tr>
<tr>
<td>Numerator to calculate screening rate:</td>
<td>How confident are you in the accuracy of the screening rate?</td>
</tr>
<tr>
<td>Total # of Clinic Patients:</td>
<td>Measure Used (HEDIS, UDS, etc.):</td>
</tr>
<tr>
<td>% of Clinic patients eligible for screening:</td>
<td>Is there a screening rate problem? If yes, describe.</td>
</tr>
<tr>
<td>Screening rate target:</td>
<td></td>
</tr>
</tbody>
</table>

The baseline data collection should be followed by tracking on a monthly or quarterly basis after the improvement initiative begins. It is important to be consistent with the method of collection (chart review vs EHR, etc.), and to correct any data validity issues that occur during the improvement project as quickly as possible.
QI READINESS ASSESSMENT

To prevent significant surprises or roadblocks during quality improvement work, it is worthwhile to ask some key questions before moving forward with an improvement initiative. A quick assessment can help to avoid much frustration down the road.

Examples of QI readiness questions:

- Is there a clearly defined need for improvement work? (low screening rate, etc.)
- Are there any competing priorities or major changes on the horizon? (opening new sites/leadership changes/EHR transition, etc.)
- Will the organization be able to accurately measure and assess progress?
- Will there be sufficient time, resources, and personnel allocated to the improvement project?
- Can the organization commit to sustaining financial support for successful improvement after the formal QI project ends? 15

(See Appendix A for a complete QI readiness assessment.)

COLORECTAL CANCER SCREENING ASSESSMENT

After a health system has “passed” the QI Assessment questions, the next step is to complete a cancer screening assessment. The purpose of this assessment is to identify what the health system is already doing to address CRC screening. This activity will help to identify next steps and illuminate areas of opportunity for improvement. The assessment should evaluate policies and procedures, information technology, and evidence-based interventions (see Appendix B for an example CRC screening assessment).

GATHERING A TEAM

QI for organizational improvement is meant to be performed as a team. An organization should seek to harnesses the knowledge, skills, experience, and perspectives of different individuals to make lasting improvements.\(^\text{16}\)

A CRC Quality Improvement team should be comprised of at least four people:

1. **Clinical leadership** (authority to test, implement, and problem solve, and understands how changes may affect the clinical care process)
2. **Technical expertise** (knowledge HIT and QI processes)
3. **Day to day support** (often the lead for the team, ensures completion of team’s tasks and data collection)
4. **Project sponsor** (executive authority, will assist but may not participate as frequently)\(^\text{17}\)

CRC CHAMPION ROLE AND RESPONSIBILITIES

Each clinic should have a designated “CRC Champion.” The **main duty of the CRC Champion is to be the driving force behind the implementation of CRC change initiatives**. This person should have a personal interest in colorectal cancer or cancer screenings, be a motivated “do’er,” well respected, and have the backing of leaders within the organization.

A managerial or clinical role is generally preferred, but community health staff, marketing staff, practice administrator, informatics staff, and clinical staff have all served successfully as Champions. The average time commitment for CRC Champions is about 1-2 hours per week.\(^\text{18}\)

The CRC Champion’s scope of work could include the following:

- Attend all meetings with the clinic “CRC team.”
- Ensure that the CRC screening rate is accurate.

\(^\text{16}\) Health Resources and Services Administration. *Quality Improvement. HRSA Quality Toolkit.*


• Work with the CRC Team to develop a yearlong plan that may include: presentations on screening guidelines; development of a screening policy; workflow mapping; small media campaigns; establishing goals for increasing rates.

• Ensure standardization of process regarding CRC policies and procedures – that staff know what to do -- and when and how to do it.

• Educate and communicate with providers and supporting staff on CRC initiatives and interventions. Advocate for change and convince others to accept the innovation.

• Empower frontline staff to address CRC screening related issues as they arise and to escalate more complex problems to management as needed.

• Create a clear, simple data display showing performance of CRC screening rate over time to exhibit in the clinic’s huddle area. Refresh this display at least quarterly.


• Become an expert on up-to-date CRC data reporting instructions (i.e. UDS Manual).
An efficient method to develop improvement ideas is to borrow shamelessly from what has worked for others! The Community Guide is a collection of evidence-based findings of the Community Preventative Services Task Force (CPSTF), which is appointed by the Centers for Disease Control. This guide, as visualized in Table 7, uses a science-based approach to determining efficacy and cost effectiveness of evidence-based interventions (EBIs) for cancer screening.

**Table 7. Evidence Based Interventions for Colorectal Cancer Screening**

<table>
<thead>
<tr>
<th>EVIDENCE-BASED INTERVENTIONS FOR COLORECTAL CANCER SCREENING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient-Oriented Interventions</strong></td>
</tr>
<tr>
<td>Patient Reminders</td>
</tr>
<tr>
<td>Small Media</td>
</tr>
<tr>
<td>One-on-One Education</td>
</tr>
<tr>
<td>Reducing Structural Barriers</td>
</tr>
<tr>
<td>Mass Media</td>
</tr>
<tr>
<td>Group Education</td>
</tr>
<tr>
<td>Patient Incentives</td>
</tr>
<tr>
<td>Reducing Patient Out-of-Pocket Costs</td>
</tr>
<tr>
<td><strong>Provider-Oriented Interventions</strong></td>
</tr>
<tr>
<td>Provider Reminders</td>
</tr>
<tr>
<td>Provider Assessment and Feedback</td>
</tr>
<tr>
<td>Provider Incentives</td>
</tr>
<tr>
<td><strong>Multicomponent Interventions</strong></td>
</tr>
<tr>
<td>Multicomponent Interventions</td>
</tr>
</tbody>
</table>

The National Colorectal Cancer Roundtable states that provider recommendation is the most powerful influence for patients to take action. Two evidence-based provider oriented interventions are provider reminders, and provider feedback and assessment. Except for huddles (a form of provider reminder), these interventions tend to be fairly straight forward and are a good place to start.

**PROVIDER REMINDERS AND RECALL**

The provider is responsible for many chronic care conditions, acute concerns, and preventative measures, and it is impossible for one person to remember everything. By using systems to alert providers that patients are due for screening, a practice can increase their screening rate by more than 7%. Challenges to implementation are often access to records (data sharing / HIE) and manpower. Provider reminders can be either manual or electronic.

**Manual**

- Flagging of medical charts or the outside of an exam room door using stickers or notations to highlight patients due for a cancer screening (don’t be afraid to have fun and be silly)
- Huddles (See Appendix C for huddling “tips and tricks”)

**Electronic**

- Some E.H.R. systems can send screening alerts to providers based on criteria selected

Be sure to gain provider and staff buy-in by including them in the planning and implementation process, and to provide any necessary training. Monitor and adjust as needed.

**PROVIDER ASSESSMENT AND FEEDBACK**

Research shows that giving feedback to providers can increase screenings by 13% for many cancers. This EBI encourages health systems to take a close look at provider practices related to referring patients for screening, and facilitation of constructive suggestions to help increase screening rates. Be mindful that evaluation of how providers recommend and refer patients for screening can be a sensitive topic. It can help to enlist someone appropriate to take ownership of the process. Also, find out from your providers what resources or training they may need.

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20 Centers for Disease Control and Prevention, Screen Out Cancer: Evidence Based Interventions.
Provider reminders, guideline refreshers, updates on new testing procedures, pocket guides, and key messages could all be helpful. Key components:

- Summarize screening rate results for the clinic as a whole and for individual providers. Data should be presented in a simple graphic or report.
- Compare provider performance to national standards and overall clinic screening rates.
- Use findings to initiate regularly scheduled discussions about screening rate barriers and improvement ideas with providers.

Provider Feedback and Assessment “Real World” Example:
New Horizon Family Health Services (South Carolina)

Public Display of Data without Shame
- Intranet available to anyone in the organization, at any time
- Display board in common area to create healthy competition

Private Feedback with Discussion
- Quality Measures tied to provider incentive
- Quarterly discussion of results with CMO
- Open discussion about barriers to meet the quality measure goal
- Address one-on-one with training or share with the Continuous Quality Improvement Team for process review

Celebrate the Wins – No Matter How Small!

PATIENT ORIENTED INTERVENTIONS

The Community Guide recommends Patient (or Client) Oriented Interventions for CRC in the form of patient reminders, one-on-one education, small media, and reducing structural barriers. Other patient oriented interventions have mixed results for colorectal cancer screening: patient incentives, group education, mass media, and reducing out of pocket costs. These are not recommended due to insufficient evidence of effectiveness or sustainability.

PATIENT REMINDERS (OR CLIENT REMINDERS)

Health systems can boost cancer screenings just by reminding patients that it is time to schedule a screening. Studies show that patient reminders can increase colorectal cancer screenings by 10%. To set up a written and/or telephone outreach system for patients who are due for a cancer screening, health systems should consider their options and choose the ones best suited for their patients:

- Written reminders in the form of letters, postcards, email, patient portal messages
- Telephone messages in the form of direct calls, text messages, and automated phone calls

Before implementing, be sure to seek buy-in from staff through their input. It is important to identify staff who will generate and send patient reminders, develop appropriate messaging, and train on proper procedure. Decide how patient responses will be documented and how to handle undeliverable reminders. Establish a plan for regular evaluation and tweaking of the system. 21

SMALL MEDIA

Select small media, either something the patients can take home with them or view at the clinic, can be highly effective. These can be basic educational materials, information on how to access a screening location, or a reminder card for an overdue screening. Targeted messaging is important for success, and NCCRT’s CRC Screening Messaging Guidebook is an excellent resource. Take the time to tailor the messaging to the specific patient population(s), their language needs, and educational level.

______________________________

21 Centers for Disease Control and Prevention, Screen Out Cancer: Evidence Based Interventions.
Some examples of small media (see Appendix D for images):

- Bus route to screening location
- Screening site maps (map of hospital, etc.)
- Educational materials
- Patient-centered flyers
- Push cards / postcards
- Posters

ONE ON ONE EDUCATION

This intervention delivers important information to patients about the importance of cancer screening and ways to overcome barriers, with the intent to motivate them to seek recommended screening. The Community Guide recommends one-on-one education specifically for informing patients about stool-based testing. This information may be supported by “show and tell” (showing a patient a FIT test and explaining how to use it) or supporting materials such as small media (brochures). The messages can be delivered by any healthcare provider or lay health worker, and are delivered by a variety of means.

REDUCING STRUCTURAL BARRIERS

Many barriers can make it difficult for people to follow through with CRC screening. They include distance from screening location, limited hours of operation, lack of daycare for children, and language and cultural factors. These types of interventions seek to increase screening by removing or reducing structural barriers. Examples:

- Reducing distance or time
- Modifying hours of service
- Offering services in alternative or non-clinical settings
- Eliminating or simplifying administrative procedures
- Providing language translation services
- Eliminate or reduce obstacles (e.g. dependent care, transportation, language)

MULTICOMPONENT INTERVENTIONS

Multicomponent interventions combine two or more intervention approaches reviewed by the Community Preventive Services Task Force, or two or more interventions to reduce structural barriers.

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22 Centers for Disease Control and Prevention, Screen Out Cancer: Evidence Based Interventions.
PATIENT NAVIGATION

Patient navigation is highly effective in supporting multiple EBIs and is an excellent example of a multicomponent intervention. Patient Navigators are staff who work with patients to overcome barriers and guide them through the medical system. Their support can help patients get the cancer screenings and follow-up care they need by:

- Scheduling health screenings of new or established patients
- Ensuring understanding of and compliance with test instructions and preparation
- Helping patients understand why they should get screened
- Discussing with patient fear of finding out that they have cancer or fear of procedure
- Helping to address mistrust of the healthcare system
- Assuring that the screening or visit will take place through appointment reminders and other activities to support the patient through the process
- Communicating next steps with healthcare center team

INFORMATION TECHNOLOGY

Azara DRVS, an EHR overlay dashboard, is highly useful for tracking cancer screening rates, creating huddle reports (provider reminders), developing screening registries, and much more. One notable feature is a way to flag a patient who is at high risk for CRC and needing more frequent screenings. Optional modules can be used to track FIT returns and also referrals, two factors that directly affect screening rates. If DRVS is implemented in your clinic, make sure it is being utilized to the fullest to help you meet your CRC goals.

CRC SCREENING POLICIES AND PROCEDURES

It is important to have CRC policies and procedures specifically documented, and reviewed on an agreed-upon schedule. This is not only to serve as a reference point for current staff, but to assist in training new staff. The document should describe the policy, the purpose of the policy, and supporting procedures in detail. Procedures should be as exhaustive as possible to mitigate any potential confusion and answer any questions that may arise from the policy.

---

When creating policies and procedures for CRC screening, be sure to:

- Describe staff responsible
- Describe eligible patients (average risk vs. high risk)
- Include contraindications
- How to discuss the screening with a patient
- What to do if patient refuses
- Explain in detail all necessary documentation in the EMR
- Explain in detail any other necessary documentation (i.e. tracking system)

(See an example CRC Policy and Procedures document in Appendix E.)

**MOTIVATIONAL INTERVIEWING**

Motivational interviewing (MI) is a conversational approach that addresses uncertainty to change. Healthcare providers find this evidence-based approach useful for addressing substance abuse or smoking cessation with their patients, but it can be useful for addressing uncertainty around cancer screening as well. Core MI skills are the ability to ask open ended questions, affirm, listen reflectively, and summarize. First, the provider must request permission to discuss an issue further with a patient. If the answer is yes, MI is designed to do the following:

- Assess readiness, confidence, and motivation to get screened
- Explore their ambivalence about the change
- Elicit “change talk” and enhance motivation
- Discover what other support the patient may need
- Strengthen their commitment to change

Motivational Interviewers must ultimately learn to express empathy, explore ambivalence, roll with resistance, and support self-efficacy. MI is not; a way of manipulating people into doing what you want them to do, an easily learned gimmick to tuck away in one’s toolbox, a form of cognitive-behavior therapy, or a panacea to all clinical problems. This brief introduction to Motivational Interviewing is by no means comprehensive, and only serves to whet interest in and shed some light on the subject.

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GETTING STARTED WITH QUALITY IMPROVEMENT

AIM STATEMENT

To use the Model for Improvement, first you will need to help your practice identify their “aims” or goals for improvement. The AIM Statement is not just a statement of a goal, but helps to answer the questions of what, why, who, when, and how.

- **What** is the goal we are trying to accomplish? (Use the words improve, reduce, increase, etc. and include a target number or rate)
- **Why** is it important to do this right now? Answer the “so what” question.
- **Who** is this for? Is there a specific target population?
- **By when**? Is there a specific timeframe for this improvement project?
- **How** will this be implemented and achieved? Think about how you will achieve your goal and the resources you have to work with.

![Target](image)

**Example AIM Statement**

*We aim to increase CRC screening at ABC Health Center by 10 percentage points (from 35% to 45%). We will accomplish this by May 2021. It is important to work on this now because 1) CRC causes the second highest number of cancer deaths in the nation 2) CRC is an HCCN and UDS quality measure, and 3) our current screening rate is below both the state and national average in comparison to other FQHCs. We will target eligible patients ages 50-75, based on USPSTF guidelines. We will achieve this goal by reviewing our current policies and procedures and identifying areas to improve.*

Tips to keep in mind while creating AIM statements:

**Avoid the temptation of jumping to conclusions about what changes you need to make.** It is important to take the time to understand what’s really happening in your system/ processes before identifying potential changes.

**Be prepared to refocus the aim or to add sub-goals.** If the team’s overall aim is at a system level, team members may find that focusing for a time on a smaller part of the system will help to achieve the desired system-level goal. Just don’t confuse backing away from a stretch goal...
(which usually isn’t a good tactic), with consciously deciding to work on a smaller part of the system (which often is a good tactic).\textsuperscript{25}

**Original AIM:** *Increase CRC screening rate 15 percentage points within 12 months.*

**Refocused AIM** (or sub-goal): *Double the number of FIT tests distributed within 3 months.*

(See Appendix F for an AIM Statement template.)

**ROOT CAUSE ANALYSIS**

A root cause analysis (RCA) is a methodical approach to understanding and identifying system flaws, and is implicit within the planning phase of the PDSA process. RCA uses various tools such as process mapping, fishbone diagrams, and many others. The RCA team should include individuals at all levels of the organization who are close to and have fundamental knowledge of the issues and processes involved. *It is highly important for an RCA to focus on systems rather than individual performance.* Edwards Deming, a leading scholar in Quality Improvement noted that “94% of the problems and opportunities for improvement belong to the system.”\textsuperscript{26}

Dr. Fred H. Rodriguez, Jr., Professor of Pathology at LSUHSC Medical School, uses the following steps to train all of his medical students in RCA: \textsuperscript{27}

1. **Identify The Problem**
   Be sure to start with a problem instead of a solution. It is tempting to assume we know what will fix the problem before it is thoroughly examined.

2. **Collect Relevant Information**
   Identify and request any additional data, documents, or records that need to be reviewed. Organize and further clarify information as needed by creating flowcharts/process maps, fishbone diagrams, etc., to create a picture of what happened and/or the current process. Identify who else should be interviewed by the RCA team.

\textsuperscript{25} Institute for Healthcare Improvement. Science of Improvement: Tips for Setting Aims; Boston, MA. Accessed May 2020. [http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTipsforSettingAims.aspx](http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementTipsforSettingAims.aspx)


\textsuperscript{27} Rodriguez, F H. *Root Cause Analysis.* HealthTeamWorks and Louisiana Cancer Prevention and Control Programs QI Webinar Series. February 19 2019. [https://vimeo.com/317606171/eab3f76ff9](https://vimeo.com/317606171/eab3f76ff9)
3. **Analyze The Evidence**
   This evidence would include any interview discussions, data from primary documents, medical records, insights from the QI tools, and other methods to understand and analyze all aspects of the problem. Be sure to examine both direct causes (most apparent) and contributory factors (indirect) during this process.

4. **List The Facts**
   Produce a list of bullet points, for example:
   - CRC screening rates are significantly below national benchmarks
   - New EHR
   - Providers not documenting in structured fields
   - Nearest hospital > 20 min from CHC
   - Backlog of Colonoscopy referrals at local public hospital (wait time 6mo – 1yr)
   - No registry of patients due for CRC screening
   - No quick reference or EHR alert
   - Patient Reluctance

5. **Develop Causal Statements (Conclusions/Root Causes)**
   Creating causal statements explains how the contributory factors – which are basically a set of facts about current conditions – contribute to bad outcomes for patients and staff. A causal statement has three parts: the cause (“This happened...”), the effect (“...which led to something else happening...”), and the event (“...which caused this undesirable outcome”). Examples:
   - Lack of orientation to new EHR is delaying data entry and extraction
   - Documentation in structured fields lacks provider compliance
   - Lack of CRC patient registry and/or reminder system adversely impacts identifying patients
   - Patients are reluctant or unable to show up for appointments for a variety of reasons
   - The CRC referral process for colonoscopy is inefficient

8 Steps of Root Cause Analysis

1. Identify the Problem
2. Collect Information
3. Analyze the Evidence
4. List the Facts
5. Develop Causal Statements
6. Brainstorm Solutions
7. List Recommendations & Make a Follow-Up Plan
8. Compile Results and Share Findings
6. **Brainstorm Possible Solutions**

   Solutions often fall into one of these categories (this list is not inclusive):
   
   - Ensuring redundancy, such as using double checks or backup systems
   - Using forcing functions that physically prevent users from making common mistakes
   - Changing the physical environment
   - Updating or improving software
   - Using cognitive aids, such as checklists, labels or mnemonic devices
   - Simplifying a process
   - Educating staff
   - Developing new policies/procedures

7. **Make a List of Recommendations and Include a Follow-Up Plan**

   Make a list of recommendations to address the problem(s). A prioritization matrix can be helpful in narrowing down the list, making sure proposed solutions are both achievable and impactful. Do not forget to also develop a follow-up plan. For example (using CRC):
   
   - Schedule orientation to new EHR for all employees who use the EHR (including providers)
   - Validate compliance of provider documentation of structured fields
   - Develop and implement a CRC patient registry
   - Initiate a new RCA to identify root causes of patients reluctance
   - Initiate a new RCA to identify root causes of the referral process inefficiency
   - Follow up: Monitor in three months after recommendations have been implemented

8. **Compile Results and Share Findings**

   This last step is an opportunity to engage key players to help drive the next steps in improvement. Write a report including a list of documents reviewed, exhibits of “tools” used in the analysis, list of findings of fact, conclusions, root causes identified, recommendations of actions, and a follow-up plan. Specifically address what the RCA Team is trying to accomplish and how to measure that a change is an improvement. Clearly state what is to be done, by whom, and when. Share this report with leadership, staff, and any others involved in the event.

   **Note:** If a recommended action cannot be accomplished due to current constraints (e.g. lack of resources), the team should look for other ways of changing the process to address the issue. Doing nothing should not be an option. However, decision for action on any of the recommendations is ultimately the responsibility of leadership.
PROCESS MAPPING

A process map provides a visual representation of a particular workflow, allowing an observer to “walk through” the entire process. **Current State process mapping should represent how work actually gets done, not the protocols that have been established to do the work.**[^28] This analysis is particularly useful in the early phases of improvement work.

Some potential benefits of process mapping:

- Help to identify duplication of efforts, unnecessary work, expense, or bottlenecks
- Provides an effective way to train new and existing employees
- Helps standardize the way tasks are completed

It is critical not to rely on a single person to create the map, but to involve every individual involved in the process. Taking notes on improvement ideas and/or mapping out an “Ideal State” is recommended and should reflect the workflow the group may consider testing. Keep in mind that problems can be hidden outside of the process being mapped.

It is important to allow the process mapping activity to be “messy” in the beginning so team members are not afraid to make changes, but the final process map should be formatted into an easily readable and sharable document. The final step would be using a software program such as Visio (paid Microsoft product) or LucidChart (free), to record the Quality Improvement activity for further study and/or to train clinic staff.

(See Appendix G for an example of a “swim lane” process map, and Appendix H for tips on what to consider when redesigning a process.)

FISHBONE DIAGRAM

A fishbone diagram, also known as an Ishikawa diagram, is a graphical display of cause and effect that assists with brainstorming and identifying potential areas for improvement. Typical categories for the diagram generally fall under Materials, Methods, Equipment, Environment, and People, but can be modified as needed. Another benefit to this tool is it helps teams understand that there are many causes that contribute to an effect (problem), and for this reason it is especially valuable when a team is stuck or tempted to jump to a conclusion.

Figure 4. Fishbone Diagram example using CRC.


AFFINITY DIAGRAM

An affinity diagram is another form of cause and effect study. It is similar to a fishbone diagram in that it helps to motivate and organize brainstorming, but instead of a structured approach of labeling categories in advance, the process is somewhat reversed. As a team brainstorms causes and writes them on cards or sticky-notes, the ideas are continually grouped according to related concepts. Labeling the final concepts, or categories, is a final step. This is a simple, user friendly QI tool that helps to diagnose complex problems and identify common issues.

Figure 5. Shaping brainstorming ideas into an affinity diagram.
5 WHYS

The 5 Whys tool is useful for later in the brainstorming process. It helps to define conclusions and make recommendations. Ask “why” until you find a process that isn’t working well or doesn’t exist. Example:

The Car Won’t Start

Why? – The battery is dead.
Why? – The alternator is not functioning.
Why? – The alternator belt has broken.
Why? – The alternator belt was well beyond its useful service life and not replaced.
Why? – The vehicle was not maintained according to the recommended service schedule. (A root cause)29

What might have happened if they only replaced the battery? What might have happened if they fixed the alternator belt without asking why it broke? Without fixing the system-level root cause - maintaining the car according to the recommended service schedule - the car could continue to have problems. This time it was the alternator, but next time it could be the brakes!

Keep in mind this is a simplified example. In healthcare there is rarely just one “cause” to a problem, so it is often recommended to combine this exercise with fishbone diagramming or other cause and effect tool.

PRIORITIZATION MATRIX

A prioritization matrix is a tool to help prioritize change ideas. It is important for the team to have a conversation about what interventions could give some “quick wins” within the QI project timeframe, what ideas need to be “killed,” and what needs to be held in the “maybe later” parking lot.

Figure 6. Prioritization Matrix

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DRIVER DIAGRAM

A driver diagram is a visual display of a team’s theory of what “drives,” or contributes to, the achievement of a project aim. This diagram shows the relationship between the aim of the project, the primary drivers that contribute directly to achieving the aim, the secondary drivers, and change ideas to test for each secondary driver. This is an excellent tool to use after brainstorming; use it to help formulate a vision and organize change ideas (from root causes).

*Figure 7. Driver Diagram for Increasing CRC Screening Rates.*

Source: Keith Winfrey, MD, of NOELA Community Health Center

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TESTING CHANGE WITH PDSA

Brainstorming and discussing improvement ideas is often seen as the “easy” first step. However, almost anyone who has been involved in a QI project would agree that making the actual change can be difficult. It is important that the team has support of leadership throughout the entire QI process, as change often creates resistance. Start small if at all possible, or in steps, to minimize opposition and lessen the chance of negative consequences if a change is unsuccessful. Then make adjustments as necessary. These small tests of change are often called “PDSA cycles.”

*Figure 8. Linked PDSAs for Tests of Change.*

Plan-Do-Study-Act cycles are a cyclical method for continuous improvement of process with the intended output of learning and informed action. A PDSA cycle is intended to test a hypothesis, not necessarily promise that a user will achieve their desired outcome. They are to be used as part of a comprehensive suite of QI tools and methods; successful application of PDSA may enable users to achieve their QI goals more efficiently or to reach QI goals they would otherwise not have achieved. Be warned: PDSA cycles can sometimes identify new problems to tackle!31

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[https://qualitysafety.bmj.com/content/25/3/147](https://qualitysafety.bmj.com/content/25/3/147)
Plan

It is important to plan your PDSA project wisely. First, define the problem and conduct a Root Cause Analysis. This means reviewing best practices, collecting and examining data, conducting interviews, and completing a cause and effect analysis. Once your team has prioritized a process to test, further plan the PDSA cycle by describing:

- What is the SMART goal? (SMART: specific, measurable, attainable, relevant, and timely)
- What is the intervention? Who, what, when, where, and how? Explain the process.
- How will you measure the success of this test?
- What is your prediction? Explore why it will work and why it might not work.

Get your plan in writing as detailed as possible. If feasible, start small and then expand if successful, rather than starting big and having to retract. If this is a pilot for a much larger system-wide change, explain the plan for spreading the change if the pilot PDSA is successful and how the effectiveness of spreading the change will be studied. **It is extremely important to consult key stakeholders in the planning phase.**

Do

Test the change, collect data, and take notes of any observations.

Study

The study phase is a time to compile results. A run chart can be useful to visualize data (see Figure 9). Did the results match your predictions? What did you learn? You may have identified some remaining gaps in process or performance. Document all of your findings and decide if any adjustments are needed to improve data collection.

Act

Based on the results of the study, you then make a decision to:

- **Continue** testing (change was good, but needs improvement; further testing is needed to increase staff buy-in; testing is needed under different conditions)
- **Implement** change and work on plan to spread or maintain
- **Scrap** change and “go back to the drawing board”
Figure 9. Control Chart Example.

Image source: Health Catalyst

To conclude, PDSA cycles should be legitimate (clearly linked to identified root causes), prioritized (potential for high payoff), and SMART (specific, measurable, achievable, realistic, and timed). Run charts or control charts can be used to track results. If the change is successful, these can be used to prove the value of implementing the process into standard workflow or spreading the improvement. 32

32 This section was largely adapted from: HealthTeamWorks, Louisiana Cancer Prevention and Control Programs. Plan Do Study Act Cycle. QI Webinar Series. April 12 2019. https://vimeo.com/330116299/d437421ecd
SUSTAINABILITY

Sustainability may also be referred to as maintenance, or Quality Control. However, this is not the “Quality Control” of regulatory systems of inspection and accreditation, but in the daily work of leaders in guiding the provision of excellent care by frontline staff. It is the presence of structures and processes that allow the maximization or resources to successfully implement and maintain evidence-based policies and activities. Quality Improvement and Quality Control are not entirely separate entities, but integrated elements of a high performing health system.

According to the Institute for Healthcare Improvement, the most promising path to sustainability has six main drivers:

- **Standardization** – Detailed standard procedures exist, are disseminated, and kept up to date.
- **Accountability** – A process is in place to review and maintain standard work processes.
- **Visual management tracking** – Key data tracking displays are available for all staff to easily view.
- **Problem solving (continuous QI)** – Time and tools are available for staff to solve problems as they arise.
- **Escalation** – Staff are encouraged to bring issues forward and management is empowered to resolve them (or further escalate).
- **Integration** – Goals, QI initiatives, and standard work are fully integrated and coordinated across the organization.  

It is ultimately the responsibility of senior leadership to make sure the necessary drivers for sustainability are effectively in place. This maintenance can be difficult; when a QI team takes its focus off a particular measure best practice procedures can easily backslide. Having a strong sustainability framework in place can help prevent this lapse and maintain QI goals over the long term. (See Appendix I for information on practical application of the sustainability drivers.)

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We know that the improvement of colorectal cancer screening rates is important to the health and welfare of the residents of Louisiana, and that higher quality preventative care is integral to narrowing the overall healthcare quality gap. By applying the Model for Improvement, Evidence-Based Interventions, and other Quality Improvement tools, health systems can get closer to reaching their goals in providing safer, more effective, patient-centered, timely, efficient, and equitable care for all. Use this CRC Screening Quality Improvement Manual, with the included case studies (Appendix J) and project checklist (Appendix K) to help you get started. We are confident these will give you enough practical approaches and change ideas to help you reach your colorectal cancer screening goals for your health system.
# APPENDIX A. QI READINESS ASSESSMENT

**Health System:** 

**Name of Person Completing Assessment:**  

**Title:**  

**Email:**  

**Date of Assessment:**  

**Target Cancer for Quality Improvement (choose one):**  
- [ ] Colorectal Cancer Screening  
- [ ] Breast Cancer Screening  
- [ ] Cervical Cancer Screening

<table>
<thead>
<tr>
<th>DEFINED NEED</th>
<th>YES</th>
<th>NO</th>
</tr>
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<tbody>
<tr>
<td>1. Have you clearly defined the need that is driving your organization to improve your cancer screening rates?</td>
<td>☐YES</td>
<td>☐NO</td>
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<tr>
<th>READINESS FOR CHANGE</th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>3. Is now the right time for implementing a cancer screening rate improvement project (e.g., it will not compete with other major changes/priorities)?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>If your organization is experiencing several changes, it may not be an ideal time to begin.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>- Plan to change EHR?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>- Opening new sites?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>- Big staffing changes?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>- Ownership changes?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>- Financial issues?</td>
<td>☐YES</td>
<td>☐NO</td>
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<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>4. Will your organization’s leaders (CEO, CMO, CNO, CFO, CIO) support cancer screening changes and the effort required to implement and sustain the quality improvement initiative?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>It is essential that the leaders within your organization actively support and champion the project, and be willing to participate in ongoing communication with the practice facilitator.</td>
<td>☐YES</td>
<td>☐NO</td>
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<th></th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>5. Is there consensus throughout your organization that this quality improvement initiative aligns with your organizational goals?</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
<tr>
<td>It is important that clinicians and other staff support the initiative and understand its value, and enjoy working in a collaborative working environment. Team members are willing to meet regularly as a quality improvement team, and members follow through with this plan.</td>
<td>☐YES</td>
<td>☐NO</td>
</tr>
</tbody>
</table>
### TIME, RESOURCES, PERSONNEL

6. Will your organization provide sufficient staff with the necessary time and resources to support active project participation?
- ✓ A clinic champion who will be the practice facilitator’s point person, and lead efforts within your organization.
- ✓ A staff person who has access to quality data on services and rates who can provide data to project staff and QI practice facilitator.
- ✓ QI staff with protected time for to engage in this quality improvement work.

7. Will your organization be able to measure and assess progress and continuously improve processes?
- ✓ Team members will gather and report data on practice performance on key metrics.
- ✓ AZARA or other data solution in place to make rates and related data easy to report.
- ✓ Staff who knows how to use HIT, and are committed to regularly checking and sharing with QI team.
- ✓ Data validation process in place.

### SUSTAINMENT OF CHANGE

8. Will your organization be able to reinforce and reward positive teamwork behaviors and improvements in processes?
Positive teamwork behaviors and improvements in processes and outcomes need to be reinforced and rewarded to become accepted practice. They need to be integrated into job descriptions, workflows, new employee training, and professional education. Leaders, champions, instructors and coaches should be willing to provide ongoing feedback to others within the organization. Successes need to be formally recognized and publicized throughout the organization.

9. Will your organization commit to sustaining financial support for successful improvements your work with LCP ends?
When funding permits, LCP provides clinic’s with mini-grants for one-time expenses to support participants’ QI work. However, clinics must not rely on these funds for long term funding.

Sources


# APPENDIX B. CRC SCREENING ASSESSMENT

## Colorectal Cancer Screening Assessment

### Health System

| Organization name | Contact person including e-mail, phone number, and other contact information |
---|---|
| | |

| Number of providers | Number of patients |
---|---|
| | |

Describe the health system. Is it a hospital, an FQHC, or private practice?

### Information Technology

Is your health system collecting and tracking CRC rates? And if applicable, for each site? Per provider?

| How often is it reviewed? | What data is used? (CQM, HEDIS, etc.) |
---|---|
| | |

### Policies and Procedures

What screening guidelines are in place for CRC? ACS / USPSTF / Other ______

Is there written policy and procedure guidance for CRC? Yes or No

### Evidence Based Interventions – Patient Reminders

Is there a patient reminder system? Yes or No

If yes, is it used to promote CRC screening? Yes or No

What types of patient reminders systems are in use? (phone calls, post cards, text messages, etc.)

### Evidence Based Interventions – Provider Reminders

Is there a provider reminder system? Yes or No

If yes, does the health system use it to promote CRC screening? Yes or No

What types of provider reminder systems are in use? (huddles, flags on charts, EMR prompts, etc.)

Does the EMR support the provider by prompts or pop up boxes? Yes or No

### Evidence Based Interventions – Provider Assessment and Feedback

Is there regular assessment of provider performance of CRC screening rates? Yes or No

Is there regularly scheduled time to elicit feedback from providers on what they think could be implemented to improve screening rates and/or what they might need as resources?

### Evidence Based Interventions – Small Media

Are there posters and brochures in the exam and waiting rooms? Yes or No

Could the small media use improvement? (lower literacy level, Spanish language option, etc.)

### Provider Education

Does the health system have health provider education about CRC screening? Yes or No

Would the health system like a CME on CRC screening for their health providers? Yes or No
APPENDIX C. HUDDLE REPORTING “TIPS AND TRICKS”

The goal of huddles is for everyone to feel calm: It is better to plan ahead and anticipate problems as a team rather than dealing with them in the midst of seeing patients. In the beginning, huddles will require daily discipline, a champion, and a structured agenda. It is best if that champion is a physician, office manager, or both. Once the huddles gain momentum, usually within 2 days to 2 weeks, the benefits are self-evident and the huddle will run itself.

What is needed for a successful huddle?

- **Keep it brief.** A good huddle can be done in as little as 10 minutes.
- **All team members present** (typical teams include the provider, MA, and Nurse) and added benefit to have other members: team receptionist, pharmacist, nutrition, covering PA/NP, behavioral health.
- **Everyone is on time!** If your first appointment is at 8:30 am everyone on the patient care team must show up at 8:15 am to begin the huddle.
- **A place for the team to meet** with a couple of computers available for the team to use.
- **Intense and purposeful focus.** No interruptions! Do not be distracted by phone calls, emails, or other staff.
- **Proximity!** A team shouldn’t spread out in a room sitting in chairs to huddle. Imagine how sports teams huddle. They get up close, heads together, and speak to each other with focus and energy. Try to mimic this kind of huddle.

What do you talk about? You discuss the patients that are coming in that day for their appointment and people you may need to worry about:

1. Patients with chronic disease: administering PHQ-9’s for depression, Asthma questionnaire/Peak Flow, or removal of shoes and socks for Diabetics
2. Patients who are often late, problematic or have high service needs
3. Canceled appointments
4. Patients who need follow-up from the hospital or ED
5. Team communicates about future/standing immunization, lab, and radiology orders
6. Confirm which patients may need an interpreter for their visit
7. Population Health: those who will need FIT tests, mammography, pap smear, PSA

**It is also important to do a quick check in with everyone.** Know the status of each team member because everyone is critical to the success of the team: How is everyone feeling today? Is anyone leaving early? Is anyone out today? How can we support each other through the session?

Three factors that determine a “successful huddle” are that everyone contributes, the team anticipates as much as it can, and strategies are developed to handle potential problems or scenarios.

APPENDIX D. SMALL MEDIA EXAMPLES

Low Literacy Decision Aid Brochure for Average Risk Patients (Outside and Inside)

Are you 50 or older?
Call your doctor today!

Visit us at LouisianaCancer.org for more info

If you're 50 or older, it's time to check for colorectal cancer.

People who live in Louisiana are more likely to get colorectal cancer than people in most other states. Regular colorectal cancer screenings can help find cancer early when it's easier to treat.

FIT Test
- Every year
- At-home test
- No prep
- No risk
- Low-cost or free

Steps: ➜ ➜ ➜ =

Colonoscopy
- Every 10 years
- At doctor's office
- Some prep
- Need a ride home
- Doctor looks for cancer

Steps: ➜ ➜ ➜ ➜ ➜ =

Talk to your doctor about what colorectal cancer test is right for you.
Remember, the best test is the one you get!
Example of Hospital Map

180 Woman’s Way, Baton Rouge, LA 70817
For Mammograms Only

Imaging (Non-Diagnostic)
Hospital 1st floor, next to the main entrance
Outpatient hours: Monday thru Friday 7:30 AM until 5:00 PM
Inpatient hours: Services provided 24 hours a day seven days a week

Advanced Imaging (Diagnostic)
Physician Office Building, Suite 110, adjacent to the lab
Advanced Imaging hours: Monday thru Friday 7:00 AM until 4:30 PM

Poster Example

BE A BFF
TO YOURSELF AND SOMEONE YOU LOVE

What’s a BFF?
Someone who:
1) Gets a breast cancer screening (mammogram)
2) Gets a flu shot
3) Does an at-home test to check for colorectal cancer

BFF = Best Friends Forever

Talk to us about being a BFF!
We want to keep you and yours healthy.
**APPENDIX E. CRC SCREENING POLICY AND PROCEDURES EXAMPLE**

**Policy:** Standing Order Colorectal Cancer Screening and Documentation.

Under this standing order medical assistants and RNs with proper training may order a fecal immunochemical test (FIT) to screen for colorectal cancer for clients who meet the criteria for average risk clients. For clients found to be high risk, the provider will provide additional assessment and referral for colonoscopy.

**Purpose:** To improve colorectal cancer screening and surveillance at [Clinic Name]

Colorectal cancer often begins as polyps, which are small growths inside the lining of the colon. While most polyps are harmless, some may turn into cancer. Colorectal cancer is the third most common cancer found in men and women in the United States. The lifetime risk for developing colorectal cancer is roughly 1 in 20.

The main purpose of colorectal cancer screening is to detect occult or hidden blood that may be present in the stool. The presence of blood may or may not be a sign of cancer. If blood is found, a colonoscopy is needed to detect the cause of bleeding. 9 out of 10 colorectal cancer deaths can be prevented through regular screening.

Research shows that a recommendation from a health care provider is the most powerful single factor in a patient’s decision about whether to obtain cancer screening, specifically colorectal cancer breast cancer and cervical cancer. In fact, lack of a doctor’s recommendation is actually experienced as a barrier to screening.

Therefore, let this policy demonstrate that the health care providers serving this clinic believe so strongly in colorectal cancer screening that we assure, through this standing order, each and every client between the ages of 50 and 75 are offered this screening.

**Procedure:**

1. Healthcare provider, Nurse or Medical Assistant identifies patient meeting screening eligibility for colorectal cancer:
   a. **Average risk clients:** Perform FIT test annually. If positive, diagnosis by colonoscopy
      i. Clients aged 50-75 with no symptoms. (No change in bowel habits, no visual blood in stool, no dark or tarry stool)
      ii. No family history of colorectal cancer or adenomatous polyps
      iii. No colonoscopy in the last 10 years or FIT in the last year
   b. **High risk clients:** Refer to provider for closer evaluation and colonoscopy
      i. Clients with family history of colorectal cancer or adenomatous polyps diagnosed at age 60 or younger: screening colonoscopy starting at age 40 or 10 years younger than the earliest diagnosis in the family. Repeat screening colonoscopy every 5 years.
         (Consider additional testing such as genetic testing or additional cancer screening)
      ii. Personal history of Adenoma, CRC or Irritable Bowel Disease: Surveillance colonoscopy.

2. Screen for contraindications
   a. Active hemorrhoid bleeding, wait until bleeding has stopped to perform test
   b. Menstrual bleeding, wait until bleeding has stopped to perform test
   c. Short life expectancy or too frail to do colonoscopy, check with clinician before screening
   d. Symptoms suggesting colorectal cancer, refer to clinician

3. Record the reason(s) for non-receipt of the test [identify EMR location]

4. If clients refuse testing, provide education and then document.

5. Administer FIT hemoccult test:
   a. Provide client with test kit and written instructions in client’s preferred language
   b. Review instructions on how to complete test with client
   c. Explain diet or medication restrictions if necessary
      i. **FIT test:** no diet or medication restrictions
ii. FOBT test: avoid for 3 days before the test: broccoli, turnips, red meat, horseradish, vitamin C supplements and pain relievers, such as aspirin, ibuprofen (Advil, Motrin, others)

d. Explain procedure to return completed test kit to clinic or laboratory in postage stamped envelope provided for this purpose.

e. Close the loop: have client tell back the information, correct misinformation

6. Document that kit was given to client and date give in client EMR.

7. Document that kit was given to client in tracking system
   a. If FIT test is not returned within 2 weeks, activate the reminder system:
      i. Client should be contacted with reminder letter at 2 weeks post visit
      ii. Client should be contacted with reminder letter at 4 weeks post visit
      iii. Client should be contacted with reminder phone call at 6 weeks post visit

[Suggested intervals: adapt as needed]

8. Clinic staff will document all colorectal cancer screening (CRCS) tests in the electronic medical record (EMR) as a procedure code appropriate to the testing method used. [May choose to list the codes here. If multiple testing methods exist (FOBT, FIT) then more than one code may be required.]

9. Upon return of test kit, document results in EMR [Identify location in the EMR]

10. Enter CRCS due date into EMR as a deferred order when completed CRCS is documented.

[Clinic may choose to add billing procedure here]

Medical Director

Printed Name                                             Signature

<table>
<thead>
<tr>
<th>Effective Date:</th>
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<tbody>
<tr>
<td>Date Reviewed:</td>
<td></td>
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<tr>
<td>Date Revised:</td>
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Source: Great Plains Quality Innovation Network, the Medicare Quality Improvement Organization for Kansas, Nebraska, North Dakota and South Dakota, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.
APPENDIX F. AIM STATEMENT TEMPLATE

HEALTH SYSTEM NAME: _______________________________________________________

We aim to: (What are we trying to accomplish? Use words like improve, reduce, and increase to identify the overall goal. Make it specific, measurable, achievable, and relevant.)

______________________________________________________________________________
______________________________________________________________________________

because: (Why is it important? Answer the “so what” question and describe the rational and reasons to work on this improvement project.)

______________________________________________________________________________
______________________________________________________________________________

for: (Who is your specific target population/customer?)

______________________________________________________________________________
______________________________________________________________________________

by when: (specific time frame, ie, month/year in which you intend to complete the improvement)

______________________________________________________________________________

We will achieve this by: (How will you carry out the work and reach your overall aim? Think of the resources at your disposal.)

______________________________________________________________________________
______________________________________________________________________________

Example: I aim to reduce the amount of time it takes my family to get up and out of the house during the week by 50 percent. We will accomplish this by May 2010. This is important because my husband and I want to get to work on time. I will achieve this by reviewing our current morning routine and identifying areas to eliminate or improve.

Source: University of North Carolina Gillings School of Global Public Health. QI AIM Template.
APPENDIX G. PROCESS MAPPING EXAMPLE

New Patient Process at MD Anderson Head and Neck Center

APPENDIX H. PROCESS MAPPING REDESIGN REFLECTION QUESTIONS

- Is there a problem with current performance? Do you need better results?
- Have you been skipping any critical steps?
- Are all steps necessary? Are there areas of unnecessary duplication or redundancy?
- How often do you have to do each step?
- Are there areas that rely on an individual to “remember” to do something? Any process that relies on memory is prone to error.
- What happens if the process breaks down? Do you need a fail-safe mechanism?
- Can some steps be done simultaneously?
- Is there a more logical way to sequence the steps?
- What skills are necessary to perform each step?
  - If more skills are required, can current staff be trained or do duties need to be shifted to more qualified staff?
  - Could someone with fewer skills perform this step? Would they need training or support?
  - Could someone be hired to perform this step?
  - Could this step be outsourced?
- Is there any technology that would make this process more efficient or easier to do?
- Are you thinking outside the box? Is there an entirely different way to get this done?
- Who do you know that handles this task very well (an exemplar)? Can you study their workflow?

### APPENDIX I. DRIVERS FOR SUSTAINABILITY

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<thead>
<tr>
<th>DRIVERS FOR SUSTAINABILITY</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>1. Standardization</strong></td>
<td>Specific, detailed, documented standard procedures exist, are disseminated, and are kept up-to-date. &lt;br&gt;• Minimizes confusion and duplication, and ensures that staff know what to do - and when and how to do it. &lt;br&gt;• These processes, and any changes in process, are communicated appropriately. &lt;br&gt;• <em>i.e. policy; training &amp; education; process or work-flow mapping</em></td>
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<td><strong>2. Accountability</strong></td>
<td>A process is in place to review implementation of standard work, and maintaining staff attention to standard work processes. &lt;br&gt;• Understanding what staff training needs may exist, or identifying processes that do not work well. &lt;br&gt;• Managers use this information as the basis for analysis and improvement of the work unit. &lt;br&gt;• <em>i.e. &quot;champions&quot;; appropriate supervision/support; huddles</em></td>
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<td><strong>3. Visual Management Tracking</strong></td>
<td>The use of clear, simple data displays accessible to all staff that show performance on key quality measures over time, and track problems the team is currently addressing. &lt;br&gt;• <em>i.e. data dashboard/Azara DRVS; poster displays in huddle areas; provider assessment and feedback</em></td>
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<td><strong>4. Problem Solving (Continuous QI)</strong></td>
<td>Methods and tools are available for developing frontline improvement skills so staff can address issues as they arise. &lt;br&gt;• Time is consistently allotted for raising and triaging quality problems, and solving simple ones. &lt;br&gt;• Complex problems that require a formal QI project are escalated appropriately. &lt;br&gt;• <em>i.e. flow charts; run charts; root cause analysis; cause-and-effect diagrams; testing change with PDSA, etc.</em></td>
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<td><strong>5. Escalation</strong></td>
<td>Escalation is not seen as a dirty word and becomes part of the standard work for frontline staff and managers alike. &lt;br&gt;• Employees are encouraged to be specific when presenting issues and to suggest a potential solution. &lt;br&gt;• Managers are empowered to address, or further escalate, the issues that require system adjustments beyond the control of frontline staff. &lt;br&gt;• <em>Many QI projects do not yield sustainable improvement because the changes needed in support systems such as labs, purchasing, HR, or IT are never implemented.</em></td>
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<tr>
<td><strong>5. Integration</strong></td>
<td>Goals, standard work, and QI project aims are integrated across organizational levels and coordinated among units and departments. &lt;br&gt;• A formal system is in place for coordinating strategic intent with frontline quality goals, prioritizing, initiating, and managing improvement initiatives. &lt;br&gt;• Improvement projects are integrated into daily work. &lt;br&gt;• Technology is appropriately integrated to improve team functioning, foster collaboration, and improve patient care.</td>
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Changing The Way We Look At Colorectal Cancer
Access Health Louisiana

Raising Colorectal Rates
Access Health Louisiana spans the largest geographical area for Federally Qualified Health Centers (FQHCs) in the state. In 2017, the Kenner site implemented evidence-based interventions and success there led to those interventions quickly spreading system-wide by 2018. Improvements included:

- Implementing a system-wide Electronic Health Record (EHR) software overlay, Azara DRVS, to aid care transformation, drive quality improvement, reduce costs, simplify mandated reporting, and identify patients who need screening.
- Providing basic colorectal cancer (CRC) education and screening methods (CRC 101).
- Completing monthly provider assessment and feedback.
- Using Azara’s Pre-Visit Planning Report (huddles) to identify patients who need screening (provider reminders).
- Creating standardized order sets for CRC screens (Electronic Medical Record modifications).

Process Mapping: A Picture Is Worth A Thousand Words
Access Health Louisiana led their staff in process mapping in order to identify areas that needed improvement. A process map is a planning and management tool that visually describes the flow of work.

Some improvement initiatives spearheaded by process mapping include:

- Stocking FIT tests in every exam room.
- Opening the FIT test and reviewing with the patient how to use it.
- Training new medical assistants on FIT testing.

For more information, contact LCP’s Randi Kaufman at 504-569-5889
How One Small Clinic Beat National CRC Screening Rates
New Orleans East Louisiana Community Health Center

Tripling Screening Rates in New Orleans
In four years, the New Orleans East Louisiana Community Health Center (NOELA) raised the colorectal cancer (CRC) screening rate from 22% to 62%. This is no small feat for a FQHC provider that treats 3,600 patients annually, 42% who are 45 years or older. With a grant from the Centers of Disease Control (CDC), NOELA was able to take a system-wide approach that overcame barriers that contributed to low CRC screening rates, such as patients being afraid of driving over the I-10 interstate bridge for colonoscopy appointments.

Working with partners, NOELA:
- Initiated FIT, where patients who qualify for a CRC screening are sent home with a FIT test at the time of their annual flu shot.
- Helped patient navigators achieve a 95% FIT return rate (76% returned within 2 weeks.)
- Optimized their health information technology (HIT) by creating registries and taking advantage of Azara DRVS, an electronic health record overlay software.
- Increased provider assessment and feedback from quarterly to monthly.

NOELA CRC Screening Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<tbody>
<tr>
<td>%</td>
<td>22%</td>
<td>55%</td>
<td>62%</td>
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*Percentage of Federally Qualified Health Center patients ages 50-75 years up-to-date with CRC screenings, 2010-2014 Data System Table 1 Report

Tackling A Screening Problem
Dr. Keith Winfrey saw each clinic visit from his patients as an opportunity to talk about colorectal cancer. In 2012, only 3% of patients were being screened for CRC. This led Dr. Winfrey and NOELA to bring a patient navigator on board to provide care coordination focused on screenings. His team offered FIT tests to keep costs down and stressed the importance of returning the test as soon as possible.

“"The most important lesson was taking this system-wide approach."
- Dr. Keith Winfrey

For more information on how NOELA achieved this success, email Randi Kaufman at rkaufm@louhcc.edu

American Cancer Society
LOSP Louisiana State University/PPM
LPCA Louisiana Primary Care Association Inc.
Raising CRC Screening Rates
Outpatient Medical Center

A Smarter Approach to Screening

In just four years, Outpatient Medical Center (OMC), which has locations across Louisiana, raised their colorectal cancer (CRC) screening rates to 53% in 2018, from 3% in 2014. They accomplished this by:

- Incorporating a process map into their screening policy, and using it to train new staff on the CRC screening process.
- Providing "CRC 101" professional education to staff at all clinic locations, on-site and via conference line.
- Administering a FIT test for those reluctant to undergo a colonoscopy.
- Implementing a system-wide EHR overlay software, Azara DRVS, to facilitate care transformation, drive quality improvement, aid in cost reduction and simplify mandated reporting.

One Clinic’s Experience: FIT Test Follow-Up

OMC Natchitoches raised its CRC screening rate 63% in four years. This feat was accomplished with increased distribution and an aggressive follow-up schedule to remind their patients to return FIT tests.

- Patients are educated on how to complete their FIT tests and are instructed to return tests the next day.
- Patient navigator makes follow-up calls if tests were not turned in.
- FIT tests were distributed through the mobile mammography bus.
- In addition, the "Poop on Demand" program was used to reduce transportation barriers for patients returning their FIT test.

OMC System

50% Screening Rate Improvement (2014-2015)

For more information on how OMC achieved this success, email LCP’s Randi Kaufman at kaufman@louisianahealth.org.
## APPENDIX K. COLORECTAL CANCER SCREENING QI PROJECT CHECKLIST

**Colorectal Cancer Screening QI Project Checklist**

### BASELINE DATA AND INITIAL ASSESSMENTS

- [ ] Pull Baseline Data
- [ ] Complete QI Readiness Assessment
- [ ] Complete CRC Screening Assessment

### CRC TEAM

- [ ] Gather an appropriate CRC Team and name a CRC Champion
- [ ] Assign Roles and Responsibilities to Team
- [ ] Become familiar with best practices for CRC screening
- [ ] Set up regular meeting times and intervals for reviewing data

### THE MODEL FOR IMPROVEMENT

**What do we want to change and how will we measure if the change is an improvement?**

- [ ] Create an Aim Statement

**What change(s) will result in an improvement?**

- [ ] Collect information about “current state” (any relevant documents, data, interviews, etc.)
- [ ] Analyze the evidence and make a bulleted list of “the facts”
- [ ] Brainstorm root-cause solutions and choose a few recommendations
- [ ] Decide what change(s) to test first by prioritizing any “easy wins”
- [ ] Compile a report and identify next steps

### Testing Change

- [ ] Decide on a timeframe and train staff as needed
- [ ] Pilot the change, collecting relevant data and observations along the way
- [ ] Review and act on results. Will you implement the change, improve it, or toss it out and start over?

### IMPLEMENTING AND SUSTAINING CHANGE

- [ ] Fully integrate the change into clinic workflow. Update any relevant training curriculum/policies/procedures.

### IMPORTANT NOTES

Remember it is ultimately the responsibility of leadership to implement change and to ensure it is sustained. Frontline staff and managers may be able to spearhead some change ideas, but they often get stuck when the root cause involves involve IT, HR, purchasing, etc.

**Quality Improvement without data is just guesswork**, and you can’t achieve success by guessing.