Objectives

• Understand the key elements of high-quality colorectal cancer screening programs.

• Be aware of and avoid ineffective colorectal cancer screening practices.

• Incorporate evidence-based interventions in their practice to increase screening rates.

• Become familiar with the Evidence-Based Toolbox and Guide to Colorectal Cancer Screening, and incorporate tools from the Guide into their practice to increase screening rates.
Incidence of Colorectal Cancer (CRC)

- 3rd most common cancer in both men and women
  - 145,600 new cases expected in 2019 (US)
  - 1,680 new cases (MS)

- 2nd leading cause of cancer death (Men & Women combined)
  - Estimated 51,020 deaths are expected in 2019 (US)
  - Estimated 650 deaths (MS)

- Incidence and Mortality rates decreasing over the past 20 years
Geographic Variation in Colorectal Cancer Incidence (2009-2013) and Mortality (2010-2014) Rates by Sex, US

Rates are age adjusted to the 2000 standard population. Minnesota, Nevada, and New Mexico did not meet NAACCR high-quality incidence data standards for one or more years during 2009-2013. Incidence rates for Nevada and New Mexico are for 2009-2010 and 2009-2012, respectively.


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Figure 4. Long-Term Trends in Colorectal Cancer Incidence (1930-2010) and Mortality (1930-2010) Rates by Sex, United States.
CRC Screening Rates in CHC’s
Cancer Prevention Opportunity

Two major developments in medicine have provided us with the opportunity to prevent cancer:

- Elucidation of the natural history of colorectal cancer
- Development of fiber-optic techniques which permitted the exploration of the body’s cavities

Other major developments include:

- Advancements in technology
- The emergence of evidenced-based population health strategies to improve CRC rates
How to Increase Colorectal Cancer Screening Rates in Practice:
A Primary Care Clinician’s* Evidence-Based Toolbox and Guide
2008

*Including Family Physicians, General Internists, Obstetrician-Gynecologists, Nurse Practitioners, Physician Assistants, and their Office Managers

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The Manual Includes Four Important Steps:

Step #1 Make a Plan
Step #2 Assemble a Team
Step #3 Get Patients Screened
Step #4 Coordinate Care across the Continuum
Step 1: Make A Plan

• Determine Baseline Screening Rates

• Design Your Practices Screening Strategy
Determine Baseline Screening Rates

- Identify your patients due for screening
- Identify patients who received screening
- Calculate the baseline screening rate
- Improve the accuracy of the baseline screening rate
2019 UDS Definition = CMS130v7

• **Numerator:** Pts with one or more screenings for colorectal cancer. Age appropriate screenings are defined by any one of the following criteria:
  - Fecal occult blood test (FOBT?) during the measurement period
  - Flexible sigmoidoscopy during the measurement period or the four years prior to the measurement period
  - Colonoscopy during the measurement period or the nine years prior to the measurement period
  - FIT DNA during the measurement period or the two years prior to the measurement period
  - CT Colonography during the measurement period or the four years prior to the measurement period

• **Denominator:** UDS initial population: Patients 50-75 years of age with a visit during the measurement period
Design Your Practice’s Screening Strategy

• Risk Status
  • Average Risk (80%)
  • Increased Risk = Colonoscopy
    • Individual with a personal or FH of colorectal cancer or adenomatous polyps
  • High Risk = Colonoscopy
    • Those with hereditary colorectal cancer syndromes

• Test Options
Choose A Screening Method (Average Risk)

Options for Average risk adults age 50 and older:

Tests That Detect Adenomatous Polyps and Cancer

- Colonoscopy every 10 years, or
- Flexible sigmoidoscopy (FSIG) every 5 years, or
- Double contrast barium enema (DCBE) every 5 years, or
- CT colonography (CTC) every 5 years

Tests That Primarily Detect Cancer

- Guaiac-based fecal occult blood test (gFOBT) with high test sensitivity for cancer, or
- Fecal immunochemical test (FIT) with high test sensitivity for cancer, or
- Stool DNA test (sDNA), with high sensitivity for cancer
Choosing A Screening Method

- **Colonoscopy**
  - Perforation risk (0.2%)
  - Bowel prep
  - Access can be challenging

- **Flexible Sigmoidoscopy**
  - Performed by a variety of providers (PCP, GI, Surgeons, Nurse endoscopist, NP, and PAs)
  - Performed in procedure room w/o anesthesiologist
  - Substantial falloff in office procedures performed by PCPs
  - Marked drop in reimbursement rates for FS
  - Pt referred to GI for FS may be advised to have a colonoscopy
  - Proximal distributed adenomas and cancers more common in African-Americans and Women

- **Stool Test (MUST repeat annually)**
  - Guaiac-based
  - Fecal Immunochemical
  - Stool DNA (EVERY 3 YRS)

- **CT colonography**
  - Risk of radiation exposure (small)
  - “Image only” test
  - Requires bowel preparation and dietary restrictions
  - Polyps of significant size (>10mm) or other abnormalities detected on CTC will require colonoscopy
    - Same day if coordination exist between medical specialist and radiologic facilities
  - Specialized CT software
  - Specialized training required for radiologist
  - Available more in urban areas
  - Most insurance plans do not pay for CTC

- **Double Contrast Barium enema**
  - The # of DCBE examinations performed for screening are decreasing such that high-quality screening DCBE may now be hard to access
  - Option for direct imaging when optical colonoscopy and CTC are limited
Colonoscopy vs FIT

The 2 most commonly used screening strategies for average risk pts.

- Colonoscopy every 10 years or
- An annual high-sensitivity guaiac-based fecal occult blood test (FOBT) or
- Fecal immunochemical test (FIT) has been shown to decrease incidence and mortality of colorectal cancer.

- There is no evidence from randomized controlled trials that one screening method is the “best”

- Based on modeling studies that assume 100% patient adherence for stool testing and colonoscopy, years of live saved through an annual high-quality stool-based screening program are COMPARABLE to a high-quality colonoscopy-based screening program when positive stool tests are followed by colonoscopy
Colonoscopy vs FIT (NEJM 2012;336:697-706)

- Subjects in the FIT group were more likely to participate in screening than were those in the colonoscopy group.

- On the baseline screening examination, the numbers of subjects in whom colorectal cancer was detected were similar in the two study groups, but more adenomas were identified in the colonoscopy group.
Colonoscopy vs FIT perceptions

• In a survey of 180 clinicians,
  • 92% of survey respondents viewed colonoscopy as “highly effective”
  • only 25% assessing FIT as “highly effective” and
  • less then 10% perceived guaiac-based FOBT as “highly effective”

• Colonoscopy was preferred despite the fact that
  • 51% of providers reported colonoscopy was not readily available for their patients, and
  • 82% felt that many of their patient had financial barriers to screening colonoscopy.

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

• 2004 CDC study
  • sufficient capacity to screen the entire risk-eligible population in the U.S. within one year
  • using a stool-based test, reserving colonoscopy for patients with positive screens

• Use a high sensitivity stool-based test

• **Ensure high-quality screening**
  • In-Office Stool Testing and Digital Rectal Exams **NOT** appropriate methods of screening for colorectal cancer.
  • In office stool test missed 90% of cancers found at subsequent colonoscopy in one study
Stool-Based Method

• Calculate the clinic’s need for colonoscopy
  • Ex. 1,000 pts between ages 40-75 y/o and
    • 750pts btwn 50-75y/o
  • 15% of population >40 y/o are at increased risk and require colonoscopy

• A= # pts at increased risk requiring colonoscopy in a given year
  • A = 1,000 x 0.15 = 150
  • For planning purposes unlikely able to screen 150 pts in the first year
  • If you spread the 150 pts over 3 yrs = 50 pts/year (4-5pts/month, 1-2/wk)

• B= # of pts at average risk with a positive stool test
  • B = (750 x 0.85) x 0.05 = 32

• A+B = 50 + 32 = 82 pts/year
Colonoscopy-Based Method

• Effectiveness of Colonoscopy-Based
  • Understand insurance complexities

• Partner w/Colonoscopists

• Consider a direct endoscopy referral system
Step 2: Assemble A Team

- Internal Champion
- Patient Navigator
Internal Leadership Team

• Clear organizational structure needed early in the process

• Must include:
  • *Internal Champion*
    • Can have a medical or administrative background or a combination
  • *Patient Navigation*

• Can include:
  • Medical Director, Clinic manager, Providers, Medical Assistants, Nurses, Quality Improvement leaders, and other staff
Internal Champion

- Personal interest in colorectal cancer or cancer screenings
- Motivated “do er” and is respected in the organization
- Can have two champions
  - one medical and one administrative
- Consider community health staff, marketing staff, practice administrator, IT staff, and clinical staff
Internal Champion Role

Set-up introductory meeting w/health center staff

Become familiar with the guide *How to Increase Colorectal Cancer Screening Rates in Practice: A Primary Care Clinicians Evidence-Based Toolbox and Guide*

Work with health center staff to develop a year-long plan that includes presentations on current guidelines, development of a screening policy, workflow analysis, small media campaigns, and establishing goals for increasing rates
Internal Champion Role

• Health center spokesperson

• Point of contact for staff
  • meet via phone at least monthly, and face to face quarterly.

• Commit to an average of one to two hours per week,
  • 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
Patient Navigator

• **Stool-Based programs (22% difference)**
  Provide patient w/ FIT kit
  • After 2 weeks (2 months) send pt reminder with phone call, text, or letter
  • Repeat the reminder every 2 weeks for up to 2 months
  FIT completion:
  • 42% vs 25% Harlem, NY
  • 31% vs 9% Somerville, MA
  • 33.6% vs 20% MA

**Colonoscopy-based programs**
• Scheduling appointments
• Arranging patient transportation
• Reduce No-Show rate to 0-1%
• Reduce Inadequate prep: 1-5%
• Completion rate: 54% vs 13% Boston
• Completion rate: 66% vs 34% NY
8 Keys to Effective Navigation

• Reminded patients they were due for screening, motivating, and supporting patients
• Provided CRC screening education (e.g. FOBT, colonoscopy) targeted to specific patient populations (i.e. culture- and age-appropriate educational materials and methods)
• Teaching patients how to prepare for and complete the screening test
• Assessed patient barriers to CRC screening
• Counseling patients to overcome barriers
• Providing translation assistance
• Scheduling appointments
• Arranging transportation
Patient Navigator- Colonoscopy Focused

- Explain and request referrals
- Arrange appointments
- Use a direct line to 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 diagnosed patients to hospital patient navigation
- Document interventions and number of people reached
Navigation Time Spent

- Average contact: 3 – 4
- Average time spent: 107 minutes
- Call Time
  - Initial: 17 minutes
  - Subsequent: 14 minutes
- Cost Effectiveness: $43.13 pre completed FOBT
- Concern:
  - Continued funding to subsidize costs for colonoscopy preparation and transportation
Step 3: Execute Plan (Get Patients Screened)

A. Prepare the Clinic
B. Prepare the Patient
Prepare the Clinic

• **Staff**
  - Educate all staff on colorectal cancer and the office screening strategy.
  - “Opportunistic Approach”
  - Appropriate screening intervals
  - Risk stratification
  - Workflow suggestions
**Algorithm**

**Figure 5. Screening Algorithm for Average-risk Patients**

1. **Assess Risk**
   - Personal + Family

2. **Average Risk**
   - No personal/family history of CRC or adenomatous polyp

3. **< 50 years**
   - Do not screen

4. **50 - 75 years**
   - HsGF0BT/FIT
     - If positive, colonoscopy
     - If negative, screening schedule:
       - Colonoscopy every 10 years
       - Annual HsGF0BT/FIT
       - Flexible sigmoidoscopy every 5 years with HsGF0BT/FIT every 3 years

**CRC** = colorectal cancer

**HsGF0BT** = high-sensitivity fecal occult blood test

**FIT** = fecal immunohistochemical test

*Note: Additional recommendations for screening exist by ACS, which are available at: www.cancer.org/Healthy/FindCancerEarly/CancerScreeningGuidelines
**Algorithm**

Figure 6. Screening Algorithm for Increased- and High-risk Patients

- Assess Risk
  - Personal + Family
    - Increased Risk
      - Adenoma
      - CRC
      - Family History
        - Surveillance Colonoscopy
    - High Risk
      - HNPCC
      - FAP
      - IBD
        - Colonoscopy, genetic testing, other cancer screening if appropriate
        - Colonoscopy, specialty referral

CRC = colorectal cancer
HNPCC = Hereditary non-polyposis colorectal cancer
FAP = Familial adenomatous polyposis
IBD = Inflammatory bowel disease

*Note: Additional recommendations for screening exist by ACS, which are available at: www.cancer.org/Healthy/FindCancerEarly/CancerScreeningGuidelines*
Workflow Suggestions

Examples of possible changes to a visit:

1. While in the waiting room:
   • Provide patient w/questionnaire on risk status, screening history, and attitudes.
   • Place informative and attractive office posters or fliers in the waiting room or exam rooms as cues to action.
   • Customize the use of educational materials and reminder tools to suit your practice needs.

2. At patient check-in:
   • Ask about preventive care and highlight services that are needed or past due.
   • Use preventive care flow sheets and reminder chart stickers.

3. During the visit:
   • Ask about FH and previous screening.
   • Inform patients that CRC screening prevents cancer & save lives.
   • Schedule screening before the patient leaves the office.

4. At checkout:
   • Have patients fill out reminder cards. File reminder cards by the month and year of planned notification.

5. Communication beyond the office:
   • Contact patients in need of preventive services for the following month.
   • Send patients a stool blood test in the mail in anticipation of a visit.
Provider Recommendation

- State telephone survey of people 50 years and older
  - 90% with health provider recommendation had been screened
  - 17% without health provider recommendation

- Another statewide survey
  - 67% with recommendation completed stool test compared to 5% without recommendation
  - 85% with endoscopy recommendation completed it compared to 25% without recommendation
Why patients aren’t getting screened (according to Physicians)

Table 4 Perceived barriers by primary care physicians in Arizona to ordering CRC screening tests

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Ranked #1</th>
<th>Ranked #2</th>
<th>Ranked #3</th>
<th>Total votes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient reluctance to undergo screening procedures</td>
<td>501</td>
<td>229</td>
<td>83</td>
<td>813 (83)</td>
</tr>
<tr>
<td>Patient fear of procedure or results</td>
<td>183</td>
<td>279</td>
<td>180</td>
<td>642 (65)</td>
</tr>
<tr>
<td>Patient lacks insurance coverage for screening procedure</td>
<td>188</td>
<td>147</td>
<td>173</td>
<td>508 (52)</td>
</tr>
<tr>
<td>Time constraints</td>
<td>42</td>
<td>55</td>
<td>107</td>
<td>204 (21)</td>
</tr>
<tr>
<td>Logistical problems for the patient</td>
<td>20</td>
<td>55</td>
<td>118</td>
<td>193 (20)</td>
</tr>
<tr>
<td>Lack of reimbursement for ordering or performing procedures</td>
<td>38</td>
<td>45</td>
<td>53</td>
<td>136 (14)</td>
</tr>
<tr>
<td>Decreased availability of screening tests</td>
<td>36</td>
<td>22</td>
<td>51</td>
<td>109 (11)</td>
</tr>
<tr>
<td>Other</td>
<td>27</td>
<td>7</td>
<td>17</td>
<td>51 (5)</td>
</tr>
<tr>
<td>Your familiarity with current guidelines</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>9 (1)</td>
</tr>
</tbody>
</table>

Cancer Causes Control., 2011
Why patients aren’t getting screened
(according to Patients)

“My doctor never talked to me about it!”
Clinician Reminders

- **ALL** provider focused intervention strategies are effective.

- Efforts to improve screening rates by focusing efforts on physicians will be worth the effort.

- All providers should be aware of the most recent guidelines for colorectal cancer screening for pts at average risk, increased risk, and high risk.

### What Strategies Directed at Providers Can Achieve:

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Screening Rate Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of “behavioral” innovations like reminders or office system prompts</td>
<td>13.2%</td>
</tr>
<tr>
<td>Use of “cognitive” approaches to produce feedback to physicians, such as audits, or providing focused education after assessing knowledge</td>
<td>18.6%</td>
</tr>
<tr>
<td>Use of “sociologic” strategies to better use nurses or change staff roles</td>
<td>13.1%</td>
</tr>
<tr>
<td>Use of a combination of both cognitive and behavioral approaches</td>
<td>21%</td>
</tr>
</tbody>
</table>

Clinician Reminder Types

- Chart Prompts
  - Previsit Planning
  - Problem lists
  - Screening schedules
  - Integrated summaries

- Alerts – “Flags” placed in chart

- Follow-Up Reminders
  - Tickler System
  - Logs and Tracking

- Audits and Feedback

- EMR Registries, Reminders
Prepare the Patient

- Provide Patient Reminders
- Determine individual risk level
- Assess insurance coverage
- Consider patient preference
- Effective Communication
Patient Education

Cues to Action

**gFOBT/FIT Follow-up Phone Script for Average-Risk Individuals**

**Introduction:**
Good morning/afternoon. May I speak with ____________________________?
(Note: Due to HIPAA regulations, the conversation should not proceed unless speaking directly with the patient.)
My name is ____________________________ and I am calling from ____________________________.

You recently received a stool test for colon cancer screening.
Did you have any questions about the test?
We are calling everyone who received one of these to see if there is any way we can help you complete the test.

1. “Have you had the chance to complete and mail your kit?”
   - **If the answer is YES,** get the approximate date to ensure that the test will be valid, and get the approximate date of receipt. Thank the participant and let him or her know that you will mail them the results.
   - **If the answer is NO,** ask the following question.

Education

Get Tested For Colon Cancer: Here’s How.”
An 7-minute video reviewing options for colorectal cancer screening tests, including test preparation.
Available as DVD, or you can refer patients to the URL to view from their personal computer.
Effective Communication

Address Potential Barriers to Screening*

1. **Affordability**
   - “I do not have health insurance and would not be able to afford this test. I do not feel the need to have it done.”

2. **Lack of symptoms**
   - “Doctors are seen when the symptoms are evidently presumed, not before.”

3. **No family history of colon cancer**
   - “Never had any problems and my family had no problems, so felt it wasn’t really necessary.”

4. **Perceptions about the unpleasantness of the test**
   - “I do not think it is a good idea to stick something where the sun don’t shine. The yellow Gatorade I cannot stomach.”

5. **Doctor did not recommend it**
   - “I fear it will be uncomfortable. My doctor has never mentioned it to me, so I just let it go.”

6. **Priority of other health issues**
   - “I just turned 50 and I am dealing with another health issue, so it’s on the back burner.”

*Based on 2014 consumer surveys
Evaluate and Adjust Plan

• Ensure Quality Screening for Stool-based Screening Program
  • Every patient, every year

• Track Return Rates and Follow-up

• Discuss your screening program during regular staff meetings and make adjustments as needed.

• Identify strengths and weaknesses, barriers, opportunities to improve efficiency

• Measure and Improve Performance
  • “FluFIT”
  • “Poop on Demand”
  • “Incentives”
Step 4: Coordinate Care Across The Continuum

- Coordinate follow-up after a colonoscopy
- Establish a medical neighborhood
Coordinate Care across the Continuum

- Documentation of screening date, test, result, and recommended follow-up

- Coordinate follow-up after a colonoscopy

- Establish a medical neighborhood

---

Table 5. 2012 Recommendations for Surveillance and Screening Intervals in Individuals at Average Risk

<table>
<thead>
<tr>
<th>Most advanced finding(s) on baseline colonoscopy</th>
<th>Recommended surveillance interval (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No polyps</td>
<td>10</td>
</tr>
<tr>
<td>Small (&lt;10 mm) hyperplastic polyps in rectum or sigmoid</td>
<td>10</td>
</tr>
<tr>
<td>1-2 small (&lt;10 mm) tubular adenomas</td>
<td>5-10</td>
</tr>
<tr>
<td>3-10 tubular adenomas</td>
<td>3</td>
</tr>
<tr>
<td>&gt; 10 adenomas</td>
<td>&lt;3</td>
</tr>
<tr>
<td>One or more tubular adenomas 10 mm</td>
<td>3</td>
</tr>
<tr>
<td>One or more villous adenomas</td>
<td>3</td>
</tr>
<tr>
<td>Adenoma with high grade dysplasia*</td>
<td>3</td>
</tr>
<tr>
<td>Serrated lesions</td>
<td></td>
</tr>
<tr>
<td>Sessile serrated polyp (&lt; 10 mm with no dysplasia)</td>
<td>5</td>
</tr>
<tr>
<td>Sessile serrated polyp with dysplasia OR</td>
<td>3</td>
</tr>
<tr>
<td>Traditional serrated adenoma</td>
<td></td>
</tr>
<tr>
<td>Serrated polyposis syndrome*</td>
<td>1</td>
</tr>
</tbody>
</table>


*The recommendations assume that the baseline colonoscopy was complete and adequate and that all visible polyps were COMPLETELY removed. Based on the World Health Organization definition of serrated polyposis syndrome, with one of the following criteria: (1) at least 5 serrated polyps proximal to sigmoid, with 2 or more 10 mm; (2) any serrated polyps proximal to sigmoid with family history of serrated polyposis syndrome; and (3) 20 serrated polyps of any size throughout the colon.
The Manual Includes Four Important Steps:

Step #1 Make a Plan
Step #2 Assemble a Team
Step #3 Get Patients Screened
Step #4 Coordinate Care across the Continuum
Thank You!