Colorectal Cancer Screening: State of the Science

LA Academy of Family Practice Convention
July 9, 2016
Sandestin, FL

Durado Brooks, MD, MPH
Director, Prostate and Colorectal Cancers

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Colorectal Cancer (CRC)

- 2nd most common cause of cancer death in US
  - 132,700 new cases expected in US in 2015
  - 49,700 US deaths
- 1.2 million Americans living with CRC
- Incidence and death rates have fallen steadily past 20 years

Cancer Facts and Figures 2015
Overall CRC death rate decline in the US

CRC mortality decline per decade:

- 4% (1970-1980)
- 11% (1980-1990)
- 15% (1990-2000)
- 27% (2000-2011)

Siegel et al, CEBP 2015
Decline in CRC Mortality

- Decline due to:
  - Improvements in treatment
  - **Screening** → earlier cancer detection and improved outcomes

<table>
<thead>
<tr>
<th>Stage of Detection</th>
<th>Survival Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>90.3%</td>
</tr>
<tr>
<td>Regional</td>
<td>70.4%</td>
</tr>
<tr>
<td>Distant</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

5-yr Survival
Decline in CRC Incidence

- Decline due to:
  - Screening → polyp removal → prevention

- Recent study estimates that screening has prevented approximately 550,000 cases of colorectal cancer in the US over the past three decades

Yang, Cancer 2014
80% Colon Cancer Screening Rate By 2018
CRC mortality under 2 screening scenarios

80% screening rate by 2018 yields:
• 43,000 averted cases and 21,000 averted cancer deaths/yr
• 277,000 cases averted and 203,000 total averted deaths from 2013 through 2030

Meester, Cancer 2015
80% by 2018
Hospitals
working together to save lives

Colorectal cancer is the leading cause of cancer death in the United States among men and women combined, yet it’s one of the most preventable.

Estimated costs for one patient with metastatic colorectal cancer are as high as $500,000 estimated annual cost of treatment. When adults are screened for colon cancer through the detection of precancerous polyps or when treatment is needed, health care costs can be reduced.

Reduce health care costs. Help save lives.

THE OFFICIAL SPONSOR OF BIRTHDAYS®

80% by 2018
Primary Care Physicians
working together to save lives

Colorectal cancer is the second leading cause of cancer death in the United States among men and women combined, yet it’s one of the most preventable.

The number of colorectal cancer cases is dropping thanks to screening. We are helping save lives. We can save more.

THE OFFICIAL SPONSOR OF BIRTHDAYS®

In 2012, 65.1% of US adults were up to date with screening.

- The percentages of blacks and whites up-to-date with screening were equivalent.
- Lower rates for Hispanics and Native Americans
- Lowest rates among the uninsured
In 2012, 59.8% of Louisiana adults were up to date with screening.

- Racial and ethnic differences persist
- Lowest rates in low education level and uninsured groups
Who’s Not Screened?

Testing status of adults aged 50–75 years

- Up-to-date CRC testing: 65%
- Tested but not up-to-date: 28%
- Never tested: 7%

Insurance status of never tested adults aged 50–75 years

- Insured: 76%
- Uninsured: 24%

Barriers to Effective Screening

- Medical practice is demand (patient) driven
- Practice demands are numerous and diverse
- Few practices currently have mechanisms to assure that every eligible patient gets an appropriate recommendation for screening.
- Opportunistic vs organized screening
## Characteristics of High Performing Practices

### Table 2. Strategies to Achieve High Performance in Colorectal Cancer Screening

<table>
<thead>
<tr>
<th>Improvement Model</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritize performance</td>
<td>Commit to practice changes needed to improve.</td>
</tr>
<tr>
<td></td>
<td>Have regular practice meetings to review improvement approaches and their impact.</td>
</tr>
<tr>
<td></td>
<td>Offer patients choice of recommended CRC screening options.</td>
</tr>
<tr>
<td>Delivery system design</td>
<td>Adopt and publicize recommendation for regular health maintenance visits.</td>
</tr>
<tr>
<td></td>
<td>Remind patients of needed health maintenance visits.</td>
</tr>
<tr>
<td></td>
<td>Standing orders for CRC screening.</td>
</tr>
<tr>
<td></td>
<td>Review CRC screening status at all patient visits.</td>
</tr>
<tr>
<td>Electronic medical record tools</td>
<td>Maintain accurate information in the health maintenance tables.</td>
</tr>
<tr>
<td></td>
<td>Empower all staff to review health maintenance table at all patient contacts.</td>
</tr>
<tr>
<td></td>
<td>Use reports to identify and contact patients not current with CRC screening.</td>
</tr>
<tr>
<td>Patient activation</td>
<td>Repeat messages to patients who do not initially agree to screening.</td>
</tr>
<tr>
<td></td>
<td>Provide patient education materials about CRC screening.</td>
</tr>
<tr>
<td></td>
<td>Contact patients that have not completed ordered screening.</td>
</tr>
</tbody>
</table>
- Compilation of evidence based interventions for chronic disease
- Identified through systematic review of the medical literature
## CRC Screening: Provider-Oriented Interventions

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider assessment and feedback</td>
<td>Recommended</td>
</tr>
<tr>
<td>Provider reminders/recall</td>
<td>Recommended</td>
</tr>
<tr>
<td>Provider incentives</td>
<td>Insufficient Evidence</td>
</tr>
</tbody>
</table>
CRC Screening:
Client-Oriented Interventions

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client reminders</td>
<td>Recommended</td>
</tr>
<tr>
<td>Small media</td>
<td>Recommended</td>
</tr>
<tr>
<td>Reducing structural barriers</td>
<td>Recommended</td>
</tr>
</tbody>
</table>
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

Mona Sarfaty, MD

EDITORS
Karen Peterson, PhD
Richard Wender, MD

American Cancer Society
Colorectal Cancer Roundtable
Thomas Jefferson University
Eight page guide introduces clinicians and staff to concepts and tools provided in the full Toolkit

Contains links to the full Toolkit, tools and resources

Not colorectal-specific; practical, action-oriented assistance that can be used in the office to improve screening rates for multiple cancer sites (colorectal, breast and cervical)

Available at http://nccrt.org/about/provider-education/crc-clinician-guide/
Improve Cancer Screening Rates
Using the Four Essential Strategies

1. Make a Recommendation
   The primary reason patients say they have not gotten screened is because a doctor did not advise it.
   A recommendation from you is vital.

2. Develop a Screening Policy
   Create a standardized course of action.
   Engage your team in creating, supporting, and following the policy.

3. Be Persistent with Reminders
   Track test results, and follow up with providers and patients.
   You may need to remind patients several times before they follow through.

4. Measure Practice Progress
   Establish a baseline screening rate, and set an ambitious practice goal.
   Seeing screening rates improve can be rewarding for your team.

Communicate with your staff to make screening more effective.

Measure your progress to tell if you are doing as well as you think.
Create a simple tracking system that will help you follow up as needed.
Staff Involvement

- Key Point.....the clinicians cannot do it all!
- Time that patients spend with non-clinician staff is underutilized
- Standing orders can empower nurses, intake staff, etc. to distribute educational materials, schedule appointments, etc.
- Involve staff in meetings to discuss progress in achieving office goals for improving the delivery of preventive services
#1: Make a Recommendation

Assess a patient’s risk status and receptivity to screening.
Sample Screening Algorithm

Assess Risk: Person & Family

Average Risk = no family hx of CRC or adenomatous polyp

- < 50 yrs: Do Not Screen
- ≥ 50 yrs: Screen*

Increased or High Risk = + family or personal hx of CRC or adenomatous polyp, IBD or HNPCC related cancer

- + Personal History:
  - Adenoma: Surveillance Colonoscopy
  - CRC: Childhood Screening
  - IBD**: Screen 10 yrs before youngest relative or age 40

- + Family History:
  - Germline Syndrome
  - Adenoma or Cancer

If + Diagnosis by Colonoscopy

* Options
  - FOBT at home qyr
  - Flex sig q5yr
  - FOBT + flex sig
  - DCBE q5-10 yrs
  - Colonoscopy q10 yrs

** IBD refers to inflammatory bowel disease for eight years
Who Should NOT Be Screened?

Guidelines:

- **ACS**
  - *End screening at a point where curative therapy would not be offered due to life-limiting co-morbidity (e.g. < 10 year life expectancy)*

- **USPSTF (2008)**
  - *The USPSTF recommends screening for CRC ...in adults, beginning at age 50 years and continuing until age 75 years.*
  - *Routine screening between ages 76-85 is not recommended.*
Co-Morbidities and Screening

How guidelines are often operationalized:

Charlson index and approximate life expectancy in a 75 year old man:

- 0  >10 yrs
- 1-3  5-10 yrs
- ≥4  <5 yrs

Fig 2 Screening at age 75 v age 76 (n=21,499)

Saini et al. BMJ 2014
#1: Make a Recommendation

Assess a patient’s risk status and receptivity to screening.

Be clear that screening is important. Ask patients about their needs and preferences.

Determine screening messages you and your staff will share with patients.
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.”

*Based on 2014 consumer surveys
Address Potential Barriers to Screening*

**#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*

#1 reason among Black/African Americans; #3 reason among Hispanics
Activating Messages that Motivate

- Most successful communications campaigns relay 3 messages to allow consumers to comprehend what is being asked to motivate action.

- We recommend utilizing these messages, or similar messaging, to educate your constituents around options to help achieve our goal.

There are several screening options available, including simple take home options. Talk to your doctor about getting screened.

Colon cancer is the second leading cause of cancer deaths in the U.S., when men and women are combined, yet it can be prevented or detected at an early stage.

Preventing colon cancer, or finding it early, doesn’t have to be expensive. There are simple, affordable tests available. Get screened! Call your doctor today.
What it is:
Summarizes research findings and provides guidance on how to communicate CRC screening recommendations to core unscreened audiences

What’s in it:
Tools and resources including:
- Infographics
- Press release template
- Social media messages
- Web banner ads
- Cobranded inter-office TV slides
- 80X 2018 core messaging
- “Ways to Get Involved” tools
New! Hispanics and Colorectal Cancer Companion Guide

Market research among Spanish-speakers
--Perceptions
--Barriers
--Recommendations
--Tested Messages
--Sample Collateral

#2: Develop a Screening Policy

Create a standard course of action for screenings, document it, and share it.

Ensure patient education & follow-up
Recommended Screening Tests
ACS and USPSTF

- Colonoscopy
- High Sensitivity Fecal Occult Blood Testing
  - High Sensitivity Guaiac Tests
  - Fecal Immunochemical Tests
- Flexible Sigmoidoscopy (FSIG)*
- CT colonography*
- Stool DNA*

*Highly limited utilization in US at present
Colonoscopy

- Allows direct visualization of entire colon lumen
- Screening, diagnostic and therapeutic
- 10 yr interval
- The most common screening test in US (>80%)
Why Colonoscopy is NOT gold standard

- Evidence does not support “best test” or “gold standard”
  - Colonoscopy misses ~ 10% of significant lesions in expert settings
  - More costly on a one-time basis
  - Higher potential for patient injury than other tests
  - Wide variation in quality (when data are captured and available)
Adenoma Detection Rate (ADR)

- ADR – rate of detection of adenomatous polyps at screening colonoscopy in population age 50+
- At least one adenoma should be found 30 percent of the time in men, and 20 percent of the time in women (25 percent composite)
- Studies indicate wide variation in ADR, even among clinicians in same practice
- ADR inversely associated with adverse outcomes in a number of studies
ADR and Outcomes: Kaiser

- Data from 314,872 colonoscopies performed between January 1, 1998 and December 31, 2010
- 136 gastroenterologists
  - To be included GI had to have completed > 300 colonoscopies and 75 or more screening examinations during the study period
- ADRs ranged from 7.4% to 52.5%.

Corley et al. NEJM 2014: 370: 1298-1306
ADR and Risk of Interval Cancer

Quintile 1 – ADR < 20%
Quintile 5 – ADR > 33%

Corley et al. NEJM 2014: 370: 1298-1306
ADR and Risk of Fatal Cancer

Quintile 1 – ADR < 20%

Quintile 5 – ADR > 33%

Corley et al. NEJM 2014: 370: 1298-1306
Why Colonoscopy is NOT gold standard

- Greater patient requirements for successful completion
  - Requires a bowel prep and facility visit, and often a pre-procedure specialty office visit

- Access
  - Limited by insurance status, local resources

- Patient preference
  - Many individuals don’t want an invasive test or a test that requires a bowel prep
Types of Stool Tests*

A) Tests that detect aberrant DNA
   - One test (Cologuard) available in U.S.
   - Combines DNA mutation test with FIT
   - Very limited use at present

B) Tests that detect blood (Fecal Occult Blood Tests)
   - Two types
     - Guaiac-based FOBT
     - Immunochemical (FIT)

*Appropriate only for those at average risk for CRC
Guaiac Tests

- Most common type in U.S.
- Solid evidence (3 RCT’s)
- 30 year f/u (NEJM Oct 2013)
- Need specimens from 3 bowel movements
- Non-specific
- Results influenced by foods and medications
- Better sensitivity with newer versions (Hemoccult Sensa)
- Older forms (Hemoccult II) not recommended!
Fecal Immunochemical Tests (FIT)

- Specific for human blood and for lower GI bleeding
- Results not influenced by foods or medications
- Some types require only 1 or 2 stool specimens
- Higher sensitivity than older forms of guaiac-based FOBT
- Costs more than guaiac tests (but higher reimbursement)
PCP Perceptions of Screening Tests

- FOBT/FIT used, but:
  - Effectiveness questioned by many clinicians
  - Lack of knowledge re: performance of new vs. older forms of stool tests, other quality issues

- Colonoscopy viewed as the best screening test, but many patients face barriers or not willing
  - Often recommended despite access or other challenges
  - Focus on colonoscopy associated with low screening rates in a number of studies
  - Patient preferences rarely solicited
Patient Preferences

Inadomi, Arch Intern Med 2012
Many Patients Prefer FOBT/FIT

- Diverse sample of 323 adults given detailed side-by-side description of FOBT and colonoscopy (DeBourcy et al. 2007)
  - 53% preferred FOBT
  - Almost half felt very strongly about their preference

- 212 patients at 4 health centers rated different screening options with different attributes (Hawley et al. 2008)
  - 37% preferred colonoscopy
  - 31% preferred FOBT

- Nationally representative sample of 2068 VA patients given brief descriptions of each screening mode (Powell et al. 2009)
  - 37% preferred colonoscopy
  - 29% preferred FOBT
FOBT/FIT: Accuracy

Annals of Internal Medicine

Accuracy of Fecal Immunochemical Tests for Colorectal Cancer
Systematic Review and Meta-analysis

Jeffrey K. Lee, MD, MAS; Elizabeth G. Liles, MD, MCR; Stephen Bent, MD; Theodore R. Levin, MD; and Douglas A. Corley, MD, PhD

Background: Performance characteristics of fecal immunochemical tests (FITs) to screen for colorectal cancer (CRC) have been inconsistent.

Purpose: To synthesize data about the diagnostic accuracy of FITs for CRC and identify factors affecting its performance characteristics.

Data Sources: Online databases, including MEDLINE and EMBASE, and bibliographies of included studies from 1996 to 2013.

Study Selection: All studies evaluating the diagnostic accuracy of FITs for CRC in asymptomatic, average-risk adults.

Data Extraction: Two reviewers independently extracted data and critiqued study quality.

Data Synthesis: Nineteen eligible studies were included and meta-analyzed. The pooled sensitivity, specificity, positive likelihood ratio, and negative likelihood ratio of FITs for CRC were 0.79 (95% CI, 0.69 to 0.86), 0.94 (CI, 0.92 to 0.95), 13.10 (CI, 10.49 to 16.35), 0.23 (CI, 0.15 to 0.33), respectively, with an overall diagnostic accuracy of 95% (CI, 93% to 97%). There was substantial heterogeneity between studies in both the pooled sensitivity and specificity estimates. Stratifying by cutoff value for a positive test result or removal of discontinued FIT brands resulted in homogeneous sensitivity estimates. Sensitivity for CRC improved with lower assay cutoff values for a positive test result (for example, 0.89 [CI, 0.80 to 0.95] at a cutoff value less than 20 μg/g vs. 0.70 [CI, 0.55 to 0.81] at cutoff values of 20 to 50 μg/g) but with a corresponding decrease in specificity. A single-sample FIT had similar sensitivity and specificity as several samples, independent of FIT brand.

Limitations: Only English-language articles were included. Lack of data prevented complete subgroup analyses by FIT brand.

Conclusion: Fecal immunochemical tests are moderately sensitive, are highly specific, and have high overall diagnostic accuracy for detecting CRC. Diagnostic performance of FITs depends on the cutoff value for a positive test result.

Primary Funding Source: National Institute of Diabetes and Digestive and Kidney Diseases and National Cancer Institute.

For author affiliations, see end of text.
Figure 2. Pooled sensitivity and specificity for fecal immunochemical tests for the detection of colorectal cancer for all included studies.

<table>
<thead>
<tr>
<th>Author, Year (Reference)</th>
<th>Sensitivity (95% CI)</th>
<th>Specificity (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sohn et al, 2005 (14)</td>
<td>0.25 (0.05–0.57)</td>
<td>0.99 (0.98–0.99)</td>
</tr>
<tr>
<td>Levi et al, 2011 (15)</td>
<td>1.00 (0.54–1.00)</td>
<td>0.88 (0.86–0.90)</td>
</tr>
<tr>
<td>Allison et al, 1996 (31)</td>
<td>0.69 (0.50–0.84)</td>
<td>0.94 (0.94–0.95)</td>
</tr>
<tr>
<td>Allison et al, 2007 (32)</td>
<td>0.86 (0.57–0.98)</td>
<td>0.97 (0.96–0.97)</td>
</tr>
<tr>
<td>Levi et al, 2007 (33)</td>
<td>0.67 (0.09–0.99)</td>
<td>0.83 (0.73–0.91)</td>
</tr>
<tr>
<td>Cheng et al, 2002 (34)</td>
<td>0.88 (0.62–0.98)</td>
<td>0.91 (0.90–0.92)</td>
</tr>
<tr>
<td>Morikawa et al, 2005 (35)</td>
<td>0.66 (0.54–0.76)</td>
<td>0.95 (0.94–0.95)</td>
</tr>
<tr>
<td>Nakama et al, 1999 (36)</td>
<td>0.56 (0.31–0.78)</td>
<td>0.97 (0.96–0.97)</td>
</tr>
<tr>
<td>Nakama et al, 1996 (37)</td>
<td>0.83 (0.52–0.98)</td>
<td>0.96 (0.95–0.96)</td>
</tr>
<tr>
<td>Launoy et al, 2005 (38)</td>
<td>0.86 (0.67–0.96)</td>
<td>0.94 (0.94–0.95)</td>
</tr>
<tr>
<td>Itoh et al, 1996 (39)</td>
<td>0.87 (0.78–0.93)</td>
<td>0.95 (0.95–0.95)</td>
</tr>
<tr>
<td>Nakazato et al, 2006 (40)</td>
<td>0.53 (0.29–0.76)</td>
<td>0.87 (0.86–0.88)</td>
</tr>
<tr>
<td>Park et al, 2010 (41)</td>
<td>0.77 (0.46–0.95)</td>
<td>0.94 (0.92–0.95)</td>
</tr>
<tr>
<td>de Wijkerslooth et al, 2012 (42)</td>
<td>0.75 (0.35–0.97)</td>
<td>0.95 (0.93–0.96)</td>
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<tr>
<td>Parra-Blanco et al, 2010 (43)</td>
<td>1.00 (0.77–1.00)</td>
<td>0.93 (0.91–0.94)</td>
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<tr>
<td>Chiu et al, 2013 (44)</td>
<td>0.85 (0.55–0.98)</td>
<td>0.92 (0.91–0.92)</td>
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<td>Chiang et al, 2011 (45)</td>
<td>0.96 (0.82–1.00)</td>
<td>0.87 (0.85–0.88)</td>
</tr>
<tr>
<td>Brenner and Tao, 2013 (46)</td>
<td>0.73 (0.45–0.92)</td>
<td>0.96 (0.95–0.96)</td>
</tr>
<tr>
<td>Brenner and Tao, 2013 (46)</td>
<td>0.60 (0.32–0.84)</td>
<td>0.95 (0.94–0.96)</td>
</tr>
</tbody>
</table>

Combined

Q = 57.05; P = 0.00

$\hat{I}^2 = 68.45\%$ (95% CI, 53.48%–83.42%)

Q = 1200.46; P = 0.00

$\hat{I}^2 = 98.50\%$ (95% CI, 98.21%–98.79%)
FOBT/FIT: Efficacy (USPSTF 2015)

Draft: Figure. Benefits, Harms, and Burdens of Recommended Screening Strategies Over a Lifetime*†

A. Benefit: Life Years Gained, per 1,000 Screened

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Life Years Gained (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIT 1y</td>
<td>244 (231-260)</td>
</tr>
<tr>
<td>gFOBT 1y</td>
<td>247 (232-261)</td>
</tr>
<tr>
<td>SIG 10y + FIT 1y</td>
<td>256 (246-270)</td>
</tr>
<tr>
<td>COL 10y</td>
<td>270 (248-275)</td>
</tr>
</tbody>
</table>

B. Benefit: Colorectal Cancer Deaths Averted, per 1,000 Screened

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Colorectal Cancer Deaths Averted (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIT 1y</td>
<td>22 (20-23)</td>
</tr>
<tr>
<td>gFOBT 1y</td>
<td>22 (20-23)</td>
</tr>
<tr>
<td>SIG 10y + FIT 1y</td>
<td>23 (22-24)</td>
</tr>
<tr>
<td>COL 10y</td>
<td>24 (22-24)</td>
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Advantages of Stool Tests

- Less expensive
- No bowel preparation.
- Done in privacy at home.
- No need for time off work or assistance getting home after the procedure.
- Non-invasive – no risk of pain, bleeding, perforation
- Limits need for colonoscopies – required only if stool blood testing is abnormal.
Making the Best Use of Scarce Resources: Screening colonoscopy vs. FIT

- Represents 20 patients

**Screening colonoscopy (refer 1,000 patients)**

- Eligible population, referred
- Patient refusal, no shows
- 1 cancer in 400-1000 colonoscopies

**FIT testing (2,000 patients)**

- Eligible population
- Patients with a positive FIT
- 1 cancer in 20 colonoscopies

*Slide courtesy of Dr. G. Coronado*
FOBT/FIT Quality Issues

- Appropriate only for average risk
- CRC screening by FOBT should be performed with *high-sensitivity* FOBT - either FIT or a highly sensitive gFOBT (such as Hemoccult SENSA).
  - Older, less sensitive guiaic tests (such as Hemoccult II) should not be used for CRC screening.
  - All FITs are not created equal (variable performance has been documented b/w brands)
- In-office FOBT is essentially **worthless** as a screening tool for CRC and should **never** be used.
  - Missed *19 of 21* cancers in largest study
- Annual testing
- All positives must be evaluated by colonoscopy
Clinicians Reference: FOBT

One page document designed to educate clinicians about important elements of colorectal cancer screening using fecal occult blood tests (FOBT).

Provides state-of-the-science information about guaiac and immunochemical FOBT, test performance and characteristics of high quality screening programs.

Available at www.cancer.org/colonmd
#3: Be Persistent with Reminders

Determine how your practice will notify patient and physician when screening and follow up is due.

Ensure that your system tracks test results and uses reminder prompts for patients and providers.

Be Persistent with Reminders
Track test results, and follow up with providers and patients.
You may need to remind patients several times before they follow through.

Create a simple tracking system that will help you follow up as needed.
Clinician Reminder Types

- EMR Registries, Reminders
- Chart Prompts
  - Pre-visit chart reviews
  - Chart alerts
  - Problem lists, integrated summaries
- Health Plan data
  - Provider population info and prompts
  - Direct-to-patient prompts
- Follow up and Tracking
Follow up Reminders

- Track test completion, reports, appropriate follow up for positives
  - EMR
  - “Tickler” System
  - Logs and Tracking

*Note: Endoscopy reports and pathology reports are critical!

- Requires staff time and commitment
- Ideal role for navigators/community health workers
#4: Measure Practice Progress

Discuss how your screening system is working during regular staff meetings and make adjustments as needed.

Have staff conduct a screening audit.

Measure Practice Progress

Establish a baseline screening rate, and set an ambitious practice goal.

Seeing screening rates improve can be rewarding for your team.

Measure your progress to tell if you are doing as well as you think.
Tracking Practice Progress

- Determine your baseline
- Set realistic goals
- Track and report physician/team specific feedback on performance
  - Chart audits or other tracking measures (i.e. EHR reports)
  - At least quarterly; monthly is optimal
- Health Plan data can be extremely valuable
- Identify strengths and weaknesses, barriers, opportunities to improve efficiency
- Track progress and periodically reassess goals
Improve Cancer Screening Rates
Using the Four Essential Strategies

1. **Make a Recommendation**
   - Be clear that screening is important. Ask patients about their needs and preferences.
   - The primary reason patients say they have not gotten screened is because a doctor did not advise it.
   - A recommendation from you is vital.

2. **Develop a Screening Policy**
   - Involve your staff to make screening more effective.
   - Create a standardized course of action.
   - Engage your team in creating, supporting, and following the policy.

3. **Be Persistent with Reminders**
   - Measure Practice Progress
   - Establish a baseline screening rate, and set an ambitious practice goal.
   - Seeing screening rates improve can be rewarding for your team.
   - You may need to remind patients several times before they follow through.

4. **Communication**
   - Create a simple tracking system that will help you follow up as needed.
   - Measure your progress to tell if you are doing as well as you think.
Stool DNA Test (sDNA)

- Fecal occult blood tests detect blood in the stool – which is intermittent and non-specific
- Colon cells are shed continuously
- Polyps and cancer cells contain abnormal DNA
- Stool DNA tests look for abnormal DNA from cells that are passed in the stool*
Stool DNA Test

- One test currently available (Cologuard)
- Combines tests for stool DNA markers assos w/ cancers and adenomas plus FIT
Table 1. Sensitivity and Specificity of the Multitarget Stool DNA Test and the Fecal Immunochemical Test (FIT) for the Most Advanced Findings on Colonoscopy.

<table>
<thead>
<tr>
<th>Most Advanced Finding</th>
<th>Colonoscopy (N=9989)</th>
<th>Multitarget DNA Test (N=9989)</th>
<th>FIT (N=9989)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no.</td>
<td>no.</td>
<td>%</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any</td>
<td>65</td>
<td>60</td>
<td>92.3 (83.0–97.5)</td>
</tr>
<tr>
<td>Stage I to III*</td>
<td>60</td>
<td>56</td>
<td>93.3 (83.8–98.2)</td>
</tr>
<tr>
<td>Colorectal cancer and high-grade dysplasia</td>
<td>104</td>
<td>87</td>
<td>83.7 (75.1–90.2)</td>
</tr>
<tr>
<td>Advanced precancerous lesions†</td>
<td>757</td>
<td>321</td>
<td>42.4 (38.9–46.0)</td>
</tr>
<tr>
<td>Nonadvanced adenoma</td>
<td>2893</td>
<td>498</td>
<td>17.2 (15.9–18.6)</td>
</tr>
<tr>
<td>All nonadvanced adenomas, non-neoplastic findings, and negative results on colonoscopy</td>
<td>9167</td>
<td>1231</td>
<td>86.6 (85.9–87.2)</td>
</tr>
<tr>
<td>Negative results on colonoscopy</td>
<td>4457</td>
<td>455</td>
<td>89.8 (88.9–90.7)</td>
</tr>
</tbody>
</table>

* These stages of colorectal cancer, as defined by the system recommended by the American Joint Committee on Cancer, are associated with an increased rate of cure.
† Advanced precancerous lesions include advanced adenomas and sessile serrated polyps measuring 1 cm or more.
Cologuard

- FDA has cleared it for marketing as CRC screening test
- Every 3 year testing interval approved by FDA
- CMS has agreed to cover Cologuard for **average risk** Medicare beneficiaries age 50 – 85 yrs
  - Medicare will reimburse ~ $500 q 3 yrs for the test (price includes “navigation” component)
  - Private insurance coverage – limited
- All positive tests must be evaluated by colonoscopy
- Included in current ACS guideline
- USPSTF ambiguous
Cologuard

- No long term data on CRC outcomes
- No evidence for 3 year screening interval
- Some DNA mutations associated with non-CRC cancers
- Management of patients with positive Cologuard test and normal colonoscopy is uncertain
- Eligible for “no cost sharing” screening benefit – but if test is positive patient is subject to cost sharing for follow up colonoscopy
Select References


