Colorectal Cancer Screening: 
Role of the Primary Care Provider 
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Burden of Disease

- Second leading cause of cancer death in US
- American Cancer Society estimates in 2005:
  - 145,290 new cases
  - 56,290 deaths
- Affects both women and men
- Affects people of all races
Who Is at Risk?

Cancers of the Colon and Rectum: Average Annual Age-Specific SEER Incidence and U.S. Mortality Rates By Gender, 1993-1997

Effective Screening Options

- Fecal Occult Blood Test (FOBT) annually
- Flexible sigmoidoscopy every 5 years
- FOBT + flexible sigmoidoscopy
- Double-contrast barium enema (DCBE) every 5-10 years
- Colonoscopy, every 10 years
FOBT Screening Programs

You will need:

♦ FOBT kits

♦ Assigned roles for office staff
  • Instructing and encouraging patients
  • Developing cards
  • Recording results
  • Notifying patient and clinician
FOBT: Counseling Your Patients

- Explain exactly what to expect
- Don’t rely solely on instructions in kit
- Consider patient educational materials
- Reminder systems increase adherence
Flexible Sigmoidoscopy

Fiberoptic sigmoidoscope
To Begin an Office Flexible Sigmoidoscopy Screening Program

You will need

♦ Trained clinician(s)

♦ Equipment
  • Flexible sigmoidoscope
  • Light source
  • Suction device
  • Videoscreen preferable

♦ Procedure room with bathroom nearby

♦ Assigned roles for office staff
  • Patient scheduling and instruction
  • Equipment setup, cleaning, and maintenance
  • Assistance with procedure

♦ Informed consent policy
To Begin a Program of Referring to Another Facility for Flexible Sigmoidoscopy or Colonoscopy

You will need

♦ Identified partner site
♦ Mechanism for direct referral for the procedure
  • Includes pre-procedure testing and risk assessment
♦ Method for communicating results
Flexible Sigmoidoscopy: Counseling Your Patients

- Use patient education material
- Expect moderate discomfort (like gas pain)
- Most patients report that it’s not as bad as they thought it would be
- Sedation not routinely used
- Exam lasts approximately 20 minutes
- Patients able to return to work and don’t need a ride
To Begin a Barium Enema Screening Program

You will need
- Identified, experienced radiology site
- Assigned tasks for office staff
  - Patient education
  - Scheduling
- Plan for communicating results and arranging follow-up testing with colonoscopy
DCBE: Counseling Your Patients

- Use patient education material
- Expect moderate discomfort
- Requires patient to change position during exam
- Sedation is not used
- Exam lasts about 20 to 30 minutes
- Patient could return to work but will have frequent barium stools or constipation
Colonoscopy: Counseling Your Patients

- Use patient education material
- Expect moderate discomfort with preparation, but actual procedure performed under sedation
- Some patients experience discomfort during recovery
- Exam lasts approximately 30 to 45 minutes
- Patient requires ride home after procedure and usually misses 1 work day
Which tests should I offer?

♦ Determine local resources
  • Tests offered
  • Infrastructure for follow-up

♦ Decide as a practice whether to emphasize one test or offer a menu of tests

♦ Identify process for patients to determine coverage and co-payment information

♦ If offering options, need to be able to assess patient preferences and help patients obtain their preferred test
Developing an office strategy for improving colon cancer screening
Predictors of CRC screening

- Provider recommendation*
- Age
- Education
- Health insurance
- Usual source of care
- Most unscreened patients (64-72%) were unaware of need for testing and over 90% had not received a recommendation from their provider

Wee Preventive Medicine 2005
National Health Interview Survey
Primary care providers

- Are busy
- Have multiple responsibilities
- Endorse colon cancer screening
- Overestimate their performance
- Fail to screen half of eligible adults
- Often lack systems resources
Patient Barriers

- Lack of knowledge about CRC
- Lack of perceived susceptibility
- Lack of awareness of screening options
- Lack of access to care
- Out-of-pocket costs
- Competing demands
- Concerns about discomfort or hassle
Provider Barriers

- Low provider knowledge and interest
- Competing demands
- Perception that patients don’t want screening
System Barriers

- Lack of appropriate information systems (e.g. no reminder system)
- Inconsistent / unclear insurance coverage (e.g. multiple payers, lack of clear information on co-payments)
- Missed opportunities for communication
Improving screening - office practice

- Educational approaches
- Audit and feedback
- Reminder systems
  - Provider
  - Patient
- Decision aids
- Practice reorganization
- Combinations
Educational approaches

- Easiest to implement
- Lectures alone have little or no effect
- Interactive workshops have mixed results
- Few good examples for CRC screening
- Dietrich 1992 found no effect of CME on FOBT screening
Audit and feedback

- Systematic collection and reporting of provider or practice-specific performance measures (e.g. screening rates)
- Modest effect (5-10%) in previous trials
- Limited when not tied to specific patients
- Effect may wane over time
Reminders to providers

- Balas reviewed the effect of reminders to physicians about preventive care
- Overall, reminders increased preventive care performance by 13%
- Effect on FOBT was 14%
- Method of prompting did not appear to affect results
Reminders to patients

- Tested in a large number of studies
- Effect variable - may be related more to population and method of test ordering
- Meta-analysis by Stone and colleagues found OR = 2.75 (1.9, 4.0) for increase in screening rates
- Often coupled with education
Practice reorganization

♦ Potentially powerful approach

♦ Includes:
  • Separate clinic for screening
  • Planned screening visits
  • CQI strategies
  • Designation of responsibility to non-physician

♦ Meta-analysis by Stone found increased odds of CRC screening by 17 (12-25)
Belcher (1990) performed a 5 year, three arm randomized trial in the Seattle VA:

- provider education and feedback
- patient education
- nurse-led prevention clinic

Only the nurse-led prevention clinic increased screening (22% to 78% for FOBT)
Patient-directed Decision Aids

- CRC screening a good topic for informed or shared decision making because of the multiple options for screening
- Several trials have examined the effect of patient-directed decision aids
- Effect of screening rates inconsistent
### CRC screening decision aid trials

<table>
<thead>
<tr>
<th>Study</th>
<th>Modality</th>
<th>Effect on screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnas</td>
<td>Videotape</td>
<td>+ 3%</td>
</tr>
<tr>
<td>Pignone</td>
<td>Videotape</td>
<td>+ 14%*</td>
</tr>
<tr>
<td>Wolf</td>
<td>Verbal script</td>
<td>No change in interest</td>
</tr>
<tr>
<td>Dolan</td>
<td>Interview</td>
<td>- 3%</td>
</tr>
</tbody>
</table>

* Statistically significant
Randomized Controlled Trial of a Patient Education Video to Improve Colon Cancer Screening

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Making Prevention Work
Lineberger Cancer Center
UNC Div. of General Internal Medicine
Methods

♦ site = three primary care practices in NC
♦ eligibility criteria:
  • 50-75 years of age
  • no personal or family history of colon cancer
  • no recent testing
♦ eligible subjects randomized to:
  • intervention (CRC video + targeted brochure)
  • control (auto safety video + standard brochure)
Results

♦ 1240 potential participants contacted
♦ 651 participated (52%)
♦ 249 patients (39%) randomized
Eligible Subjects

- Mean age = 63
- 61% female
- 87% White; 13% African-American
- 86% high school graduates or GED
- all insured (52% Medicare, 3% Medicaid)
Intent to Ask for Screening

- Baseline: Colon Cancer video 2.2, Control video 2.2
- After Video: Colon Cancer video 3.1, Control video 2.5

Legend:
- Colon Cancer video
- Control video
Choice of Brochure Among Intervention Subjects (n=124)

- Green: Ready To Be Tested = 53%
- Yellow: Wants More Information = 22%
- Red: Does Not Want Testing Now = 23%
- data missing = 2%
Conversations about CRC screening

♦ Patient self-report, collected immediately after visit with provider
♦ 69% of intervention patients reported a conversation about CRC screening, compared with 43% of controls
♦ Having a conversation strongly predictive of test ordering (OR =21) and completion (OR =6)
Tests Ordered - Patient Self-Report

- Intervention = 47%
- Control = 26%
- Difference 21% (95% CI 9%, 33%)
Proportion with a test ordered by choice of brochure

- Intervention - Green Brochure = 69%
- Intervention - Yellow Brochure = 41%
- Intervention - Red Brochure = 7%
- Control = 26%
Proportion Completing A Test

- Chart review done 3-6 months after visit
- Proportion of patients who completed either FOBT or flex sig:
  - intervention group = 37%
  - control group = 23%
  - difference 14% (95% CI 3%, 25%)
Proportion with a test completed by choice of brochure

♦ Intervention - Green Brochure = 55%
♦ Intervention - Yellow Brochure = 33%
♦ Intervention - Red Brochure = 4%
♦ Control = 23%
Conclusions

♦ A patient-directed colon cancer video and targeted brochure significantly increases:
  • intent to ask for screening
  • conversations about screening
  • proportion of patients having screening tests ordered (absolute difference = 21%)
  • proportion of patients completing screening tests (absolute difference = 14%)
Next Steps

- Developed updated version of decision aid that includes colonoscopy and barium enema
- Available in VHS, DVD, or computer-based formats
- Performed usability testing
- Tested new version in single-site, uncontrolled trial
Stool test for blood (FOBT)
Results

- 80 patients
- Mean age 60; 41% female
- 69% White, 21% African-American
- 64% have HS education or greater
- 45% with previous history of screening
- 90% preferred to play a major role in deciding how to be screened
Results

♦ Mean viewing time = 19 minutes
♦ Intent to be screened increased from 2.8 to 3.2 on 4-point Likert scale
♦ Stage after viewing:
  • 60% ready to be screened
  • 18% considering
  • 22% didn’t want screening at that time
♦ Chart review: 48% had tests ordered, 43% completed a test
Test preferences

- 42% preferred colonoscopy
- 20% FOBT alone
- 18% FOBT + sigmoidoscopy
- Only 28% of patients had their preferred test ordered
Screening reduces incidence of and mortality from CRC

Persons aged 50 years and older should generally be screened; high-risk individuals may need to begin earlier

Several effective screening options are available

Effective techniques are available to increase screening in office practice