
Colorectal Cancer Screening

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What is clinical integration?

AMA Definition



"The means to facilitate the coordination of patient care across conditions, providers, settings, and time in order to achieve care that is safe, timely, effective, efficient, equitable, and patient-focused."

Clinical Integration

- Culture
- IT infrastructure
- Financial incentives



Colorectal Cancer Screening

- Provides an example of a targeted approach towards clinical integration
 - Coordinated efforts at screening results within offices
 - Coordination across specialties
 - Coordination between providers, nurses, and support staff
 - Culture of excellence and continuous improvement
 - IT infrastructure
 - Robust analytics

Colorectal Cancer Screening

- National average: 65%
- Michigan average: 68%

Colorectal Cancer Screening

- MidMichigan Health 2015 data: 48%

Colorectal Cancer Screening

- MidMichigan Health 2016 data: 63%

Colorectal Cancer Screening

- MidMichigan Health 2017 goal: 72%
- 2018 goal: 80%!

Colorectal Cancer Epidemiology

- In the U.S. colon cancer is the 2nd leading cause of cancer death
- Lifetime risk is 1/20
- At diagnosis 40% are classified as localized, 36% as regional involving local lymph nodes, and 20% are associated with distant metastasis, primarily the liver

Epidemiology

- It is generally felt that it may take up to 10 to 15 years for the progression of adenomatous cells to cancer.
- Delay in diagnosis is unfortunate
 - 5 year survival rates are 90% for local disease, 71% for regional disease, and 13% for metastatic
 - Removal of colonic adenomas has been shown to reduce incidence of CRC
 - There is direct evidence from randomized controlled trials that both endoscopic evaluation and fecal occult blood tests reduce mortality from CRC

Current Screening Recommendations

- Most adults should be screened starting at age 50, and continuing until age 75 (possibly longer)
- Some need to start younger, at age 40 or ten years younger than the age at which the youngest affected relative was diagnosed with CRC, whichever comes first
- Screening should start even earlier in some populations
 - Inherited syndromes such as Familial Adenomatous Polyposis (FAP) or Hereditary Non-polyposis colon cancer (HNPCC or Lynch Syndrome), Inflammatory Bowel Disease

Screening Options

- Invasive vs Noninvasive
 - Invasive screening tests include colonoscopies and sigmoidoscopies
 - Noninvasive tests include stool-based tests for blood or cancerous DNA
 - Less invasive tests include CT colonography and double-contrast barium enema (rarely done)

Colorectal Cancer Screening—giving patients options matters!



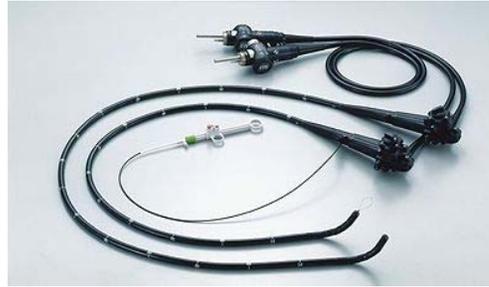
- When selecting screening it is important to consider patient preference, likelihood of compliance, access to testing, out-of-pocket costs, and sensitivity and specificity of the tests
- Patient barriers to screening are reduced when a choice of noninvasive tests or colonoscopy is presented and providing choice has been shown to nearly double the annual screening rate compared to colonoscopy alone!

Colorectal Cancer Screening



- Coverage for CRC screening is a required preventive health benefit under the ACA (Affordable Care Act or 2009)
 - However, some costs such as bowel prep kits, pathology, anesthesia, may not be covered under individual plans
 - Medicare pays for all recommended CRC screening tests included in USPSTF guidelines and the FDA-approved multi-target sDNA test (Medicare does not cover the CT colonography)

Colonoscopies—Pros



- Generally agreed as being the reference standard for CRC screening
- Used as the diagnostic test to follow up on abnormal results from any other CRC screening test
- Identifies and removes polyps during the same session, potentially preventing CRC
- Frequency of screening--if negative needs to be repeated every 10 years

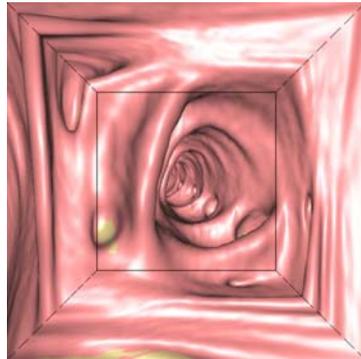
Colonoscopies--Cons

- Requires bowel prep
- Cost
- Convenience (requires transportation to and from the test)
- Potential for bowel perforation (ranges from 0.016% to 0.2%, or about 1/1,000)

Sigmoidoscopies

- Allows direct visualization, but limited to descending colon and rectum (almost 40% of colon cancers occur proximal to the reach of a sigmoidoscope)
- Requires bowel prep (but usually just enemas the day of procedure)
- Risk of perforation is very low
- No sedation required
- If done for screening, 5 year intervals are suggested

CT Colonography



- Still requires bowel prep
- Requires tube inserted in the rectum to insert air
- Positive findings require a follow up colonoscopy
- Not as sensitive as colonoscopy for detecting small lesions (<6 mm)
- If done for screening 5 year intervals are suggested

Stool blood testing (immunochemical test, or FIT)

- FIT is superior to guaiac testing in that it detects the human globin portion of hemoglobin
- No medication or dietary restrictions prior to testing (as opposed to guaiac testing)
- Digital rectal exam with testing is not adequate, stool testing must take place on passed stool to reduce both false positive and false negative rates
- If done for screening, annual testing is suggested

Multi-target stool DNA test (sDNA)



- Tests for multiple DNA alterations known to be associated with bleeding and nonbleeding CRC and precancerous lesions and hemoglobin in the stool
- One is currently on the market, Cologuard (tests for a total of 11 biomarkers, giving a composite score that is either positive or negative)
- Cologuard has shown superior sensitivity compared to FIT testing; Cologuard testing for screening purposes should be done every 3 years
- Not widely available, and not yet accepted as a screening modality by all organizations (not yet endorsed by the USPSTF)

Comparison of tests

	Sensitivity CRC	Sensitivity Adenomas
Colonoscopy	95%	95%
FIT	70%	22%
Hemoccult II	40%	12%
sDNA (Cologuard)	92%	42%

*Number needed to screen to detect one cancer are 154 with colonoscopy, 166 with sDNA, 208 with FIT.

Comparison by different societies

- USPSTF (adults age 50-75)
 - Colonoscopy every 10 years
 - Flexible sigmoidoscopy every 5 years
 - FIT or High Sensitivity gFOBT every year
- American Cancer Society (start at age 50, end age not specified)
 - Colonoscopy every 10 years
 - Flexible sigmoidoscopy every 5 years
 - CT Colonography every 5 years
 - Double-contrast barium enema every 5 years
 - FIT or High sensitivity gFOBT every year
 - Multi-target sDNA every 3 years
- Canadian Task Force on Preventive Health
 - Age 60-74: FIT or gFOBT every 2 years or flexible sig every 10 years (Strong recommendation)
 - Age 50-59: FIT or gFOBT every 2 years or flexible sig every 10 years (Weak recommendation)
 - Recommend NOT using colonoscopy as a screening test for colorectal cancer (Weak recommendation)

What's up with the Canadians?



- Canadian Task Force on Preventive Health
 - Relies on randomized controlled trials, of which there are very few comparing colonoscopies with other tests, like FIT
 - No recommendations are made regarding sDNA or other modalities, as randomized controlled trials studying mortality benefit are lacking
 - Wait lists in Canada are long for colonoscopies (up to two years)
 - Cost of colonoscopies to the Canadian system is a concern

Colonoscopy vs FIT

- Ongoing trial in Spain (Quintero et al.)
- 52,000 patients randomly assigned to FIT vs Colonoscopy; Intention to treat study design
- Rate of participation was higher in FIT group
 - 34.2% FIT group vs 24.6% colonoscopy group
- 33 cancers found in FIT group; 31 cancers in colonoscopy group
- Advanced adenomas discovered: 514 in colonoscopy group vs 231 in FIT group
- Nonadvanced adenomas discovered: 1109 in colonoscopy group (4.2% of patients) vs 119 in FIT group (0.4% of patients)
- Conclusions: Subjects in FIT group were more likely to participate in screening. Rate of detection of cancer was similar in both study groups. More adenomas were discovered in colonoscopy group
- Ongoing 10 year follow up to determine mortality outcomes

Population Health

- In the last decade CRC incidence rates have dropped 30%
- In 2002 the national rate of screening=56%
- In 2010 the national rate of screening=65%
- Some top health systems are screening >80%
- For every 1% improvement in screening, there is a 3% drop in CRC mortality!
- If the national average for screening can be increased to 80% by 2018, this will save 203,000 lives by the year 2030!

National Efforts to Improve CRC Screening

- National Colorectal Cancer Roundtable (NCCRT)
 - Goal set to improve CRC screening rates to 80% nationwide by 2018
 - NCCRT published a 2016 Communications Guidebook for recommended messaging to reach the unscreened

Who are the unscreened?

- In 2014 the ACS and CDC conducted market research to study the “unscreened”
- Demographics of the unscreened
 - More likely to be younger (50-59) than the screened, more likely to be uninsured, more likely to have slightly lower income, more likely to be Hispanic, slightly more likely to have less than a 4-year college degree, less likely to be a cancer survivor or have a close friend/family member with cancer

Who are the unscreened?

- Emotional Profile of the unscreened
 - Think they already are taking care of their health
 - Fearful of the unknown
 - Fearful of preparation/procedure
 - Focused on more immediate health concerns
 - Procrastinators
 - Rationalize reasons for not being screened
 - Lack sense of urgency around the issue
 - Have an “I know best” attitude

Top Barriers To Screening

- Rationalized avoidance
 - Many are aware of screening but fail to recognize its importance
- Lack of affordability
 - Cost barriers are the number one issue given for not being screened
- No symptoms or family history
 - Many feel the screening does not apply to them
- Negative Connotation
 - Many have some preconceived notion of colonoscopies, and regard it as being invasive, unpleasant, or embarrassing
- No doctor recommendation
 - Many cite that their doctor has never recommended screening; this is the number one reason for African Americans and the number three reason among Hispanics
- No personal connection
 - The unscreened are less likely to have a personal connection to cancer
- Low levels of healthy behavior
 - The unscreened have low indices of healthy behavior metrics, such as caring about their health, visiting the doctor, or talking to their doctor about screening

How to reach the unscreened through improved messaging?

- Personalized messages must make the case for early detection, eliminate real and perceived barriers, and align systems to reinforce messages

Examples of Improved Messaging, Top Rated Market Research Results

- “There are several screening options available, including simple take-home options. Talk with your doctor about getting screened.”
- “Colon cancer is the second-leading cause of cancer death 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.”
- “Most health insurance plans cover lifesaving preventive tests. Use the health benefits you are paying for to get screened for colon cancer. Call your doctor today.”

Loveyourbutt.org



COLON CANCER IS THE **2ND** LEADING CAUSE OF **DEATHS**
CANCER-RELATED IN MEN AND WOMEN COMBINED
WHY WOULDN'T YOU GET SCREENED?

MidMichigan Health 2016 Colorectal Cancer Screening Initiative

- Increase our screening rates to 72% by 2017, and 80% by 2018
 - Capture data
 - One-on-one physician education and data transparency; offer options to patients
 - Online health risk assessment
 - Enhanced office workflows with clinical decision support aids
 - Enhanced use of non-physician clinical staff for patient counseling and engagement

Colorectal Cancer Screening Initiative

- Through the work of our population health management team, our HRAs, and the efforts of many others, we have increased our rates from 48% to 63% from 2015 to first quarter 2016—enhanced data capture
- HRAs “mine the data” every 6 months and contact patients that are overdue for recommended testing

Colorectal Cancer Screening Initiative

- One-on-one physician education
 - Primary care physician leads are meeting with individual offices to discuss workflows, goals, and data transparency
 - Data transparency drives behavioral change. Our top physicians have screening rates of 85%, our lowest have rates around 40%

Colorectal Cancer Screening Initiative

- Online Health Risk Assessment



- Online tool for any person, need not be a patient of MidMichigan Health
- Individuals deemed high risk are contacted and offered a fecal test kit, for free. Results are sent to their physician.

Colorectal Cancer Screening Initiative

- Enhanced office workflows with clinical decision support aids
 - Offices are encouraged to use the data registry for every patient, every visit. The computer flags which patients are due for colorectal cancer screening.
 - Nurses are encouraged to begin the conversation about colorectal screening while rooming patients, and use a CDC clinical decision guide as needed

The golden polyp!



- Awarded to the physician/nurse team that improves their colorectal screening rates the most, each quarter

The Golden Polyp!



Clinical integration and colorectal cancer screening

- Clinical integration goes far beyond just screening for colon cancer. The rubber hits the road when the patient is diagnosed. From coordinated care between PCPs and specialists, to nurse navigators, to tracking of quality data, to incorporation of best practices—this is the fruit of clinical integration. All in an effort to prevent disease, treat disease when found, and provide compassionate care and relieve suffering when cure is not possible.

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