Challenges and Solutions

COLORECTAL CANCER SCREENING IN ADULTS EXPERIENCING HOMELESSNESS

MARCH 15, 2017

NATIONAL HEALTH CARE for the HOMELESS COUNCIL

Disclaimer

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Learning Objectives

- After viewing webinar participant will be able to:
  - Describe one type of colorectal cancer (CRC)screening test.
  - Identify at least one challenge health centers face when trying to conduct CRC screenings in adults experiencing homelessness.
  - Name one method that may be used to increase CRC screenings among adults experiencing homelessness.

Managing Director, Cancer Control Intervention

American Cancer Society

Atlanta, GA

Dr. Durado Brooks

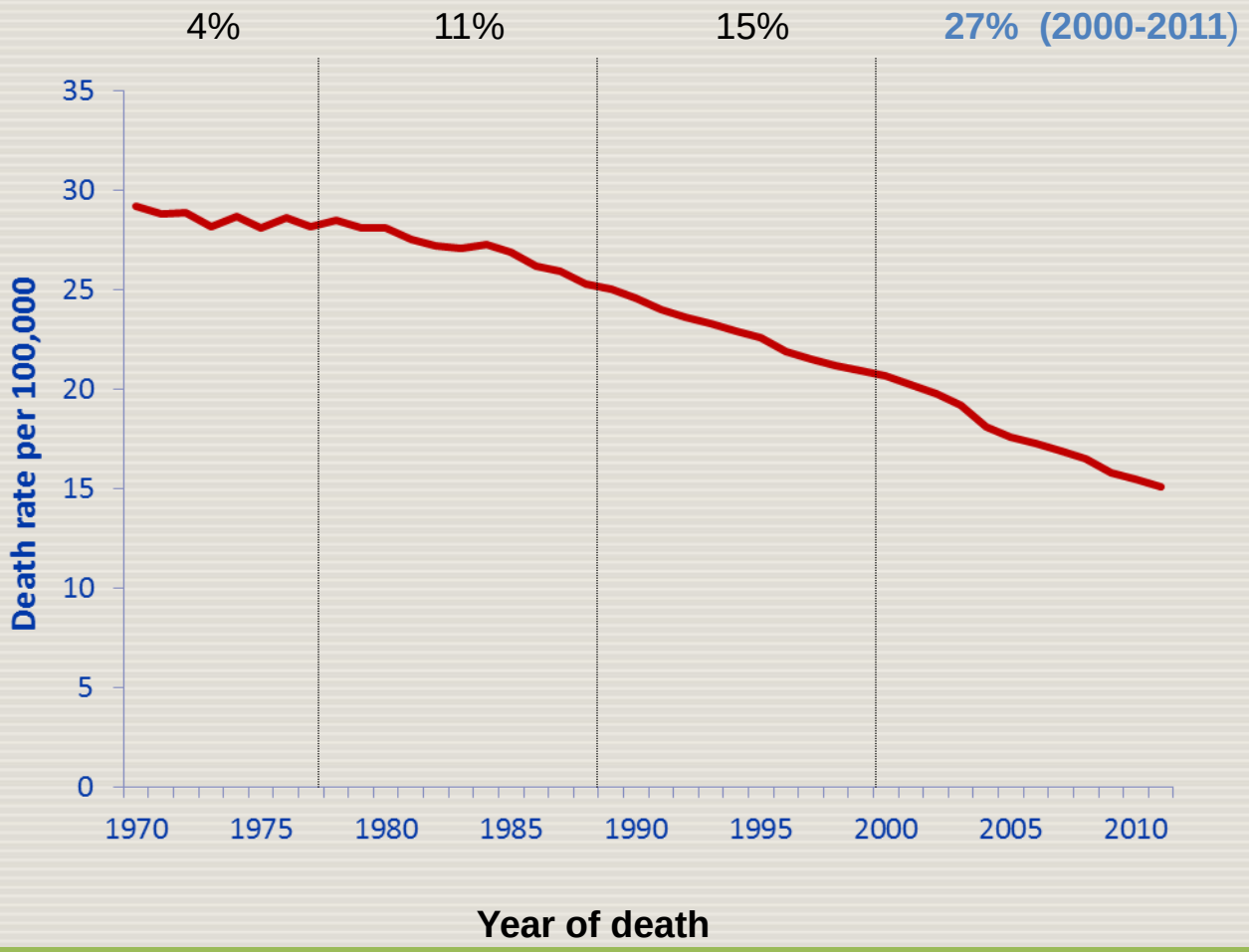
Colorectal Cancer (CRC)

- **2nd** most common cause of cancer death in US
  - 135,430 new cases expected in 2017
  - 50,260 deaths
- Nearly 1.5 million Americans living with CRC
- Incidence and death rates have fallen steadily past 30 years

Cancer Facts and Figures 2017

Overall CRC death rate decline in the US

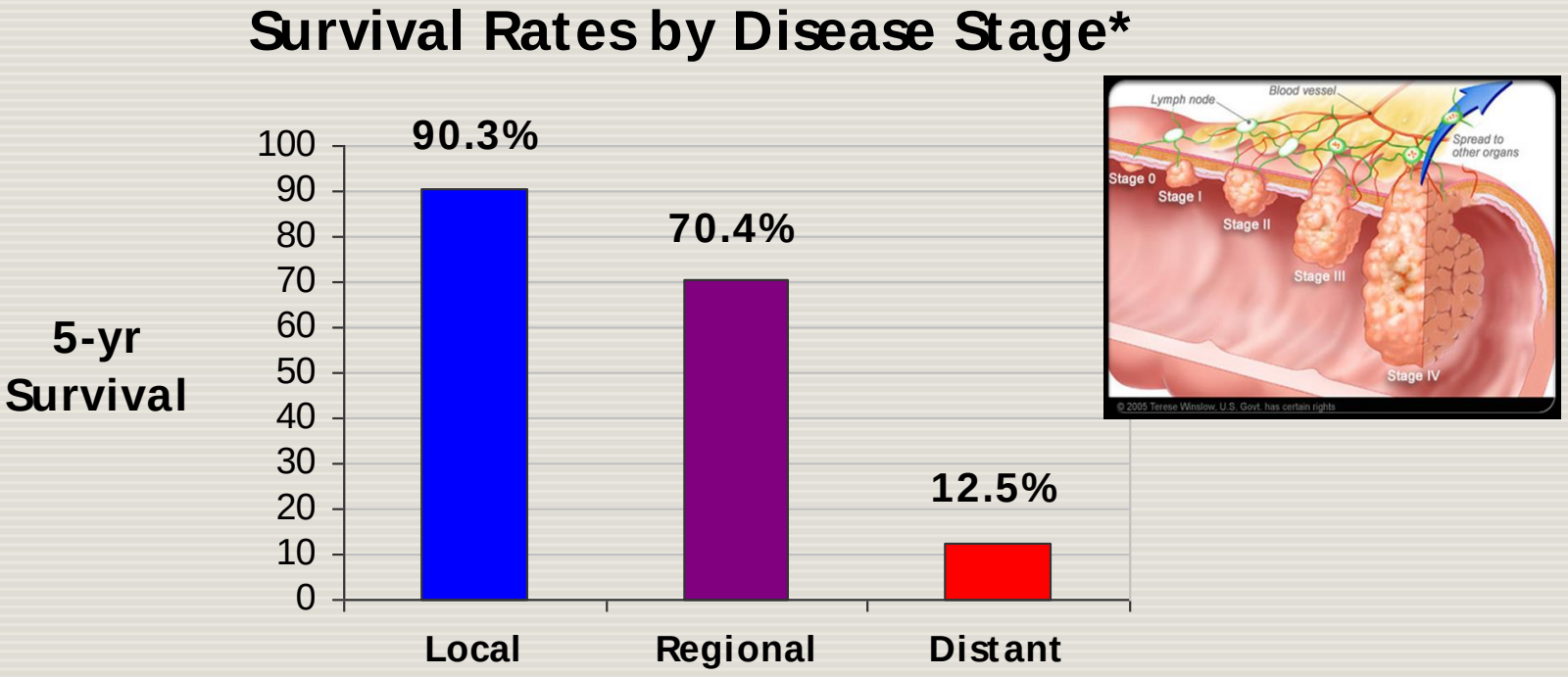
CRC mortality decline per decade:



Siegel et al, CEBP 2015

Decline in CRC Incidence and Mortality

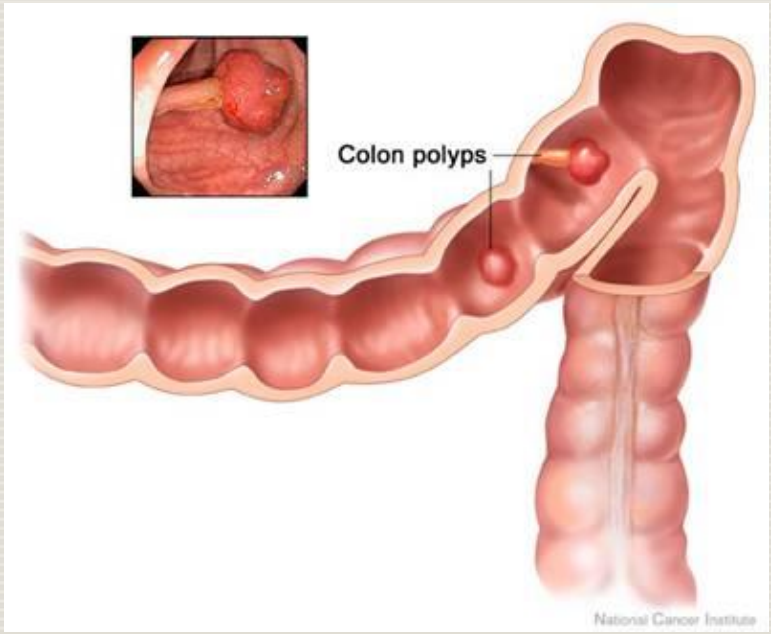
- Decline due to:
  - Improvements in treatment
  - **Screening** → earlier cancer detection → improved survival



Risk Factor - Polyps

Types of polyps:

- Hyperplastic
  - minimal cancer potential
- Adenomatous
  - Approximately 90% of colon and rectal cancers arise from adenomas
  - Transition to cancer usually slow (~8-10 yrs or more)

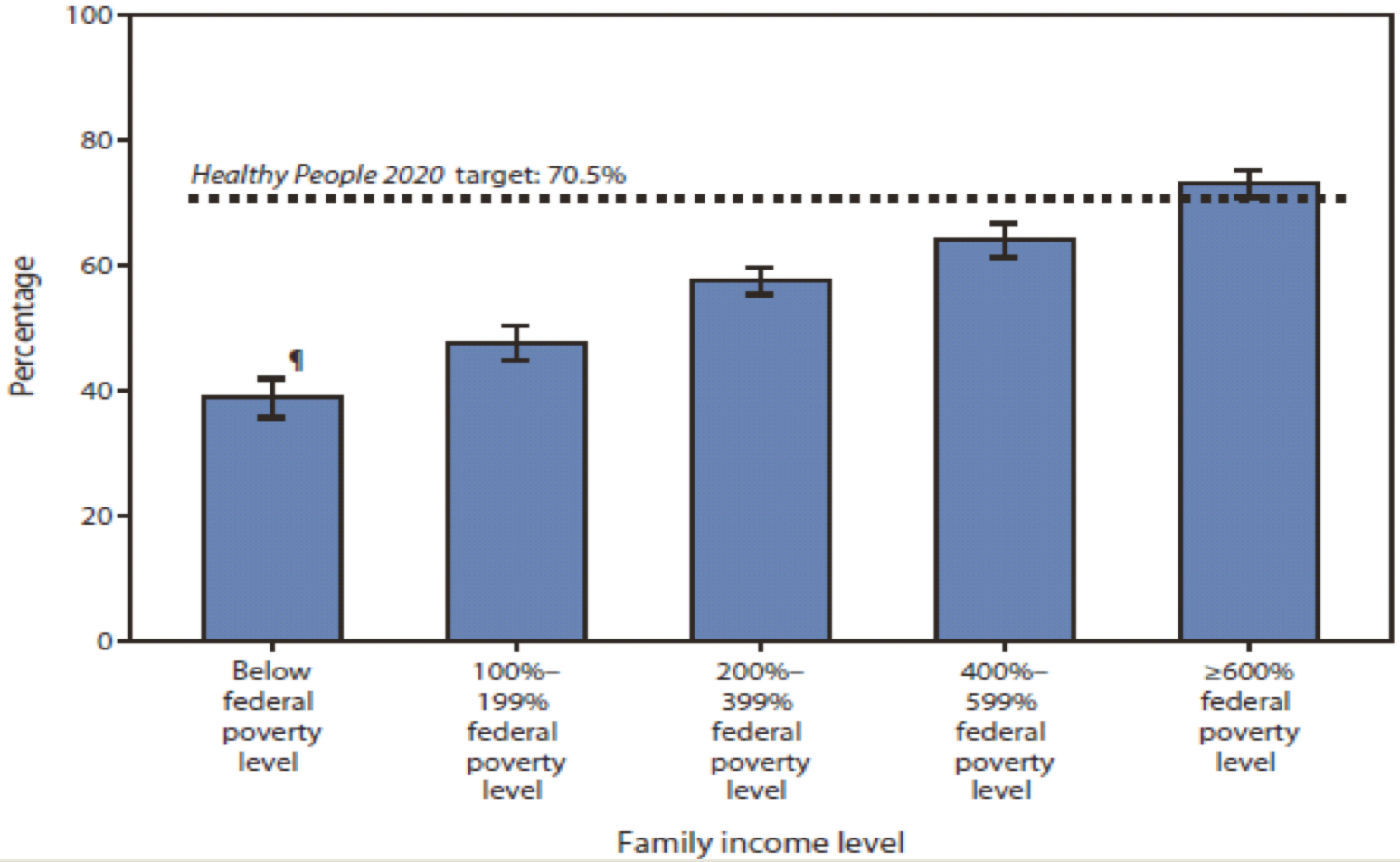


Decline in CRC **Incidence**

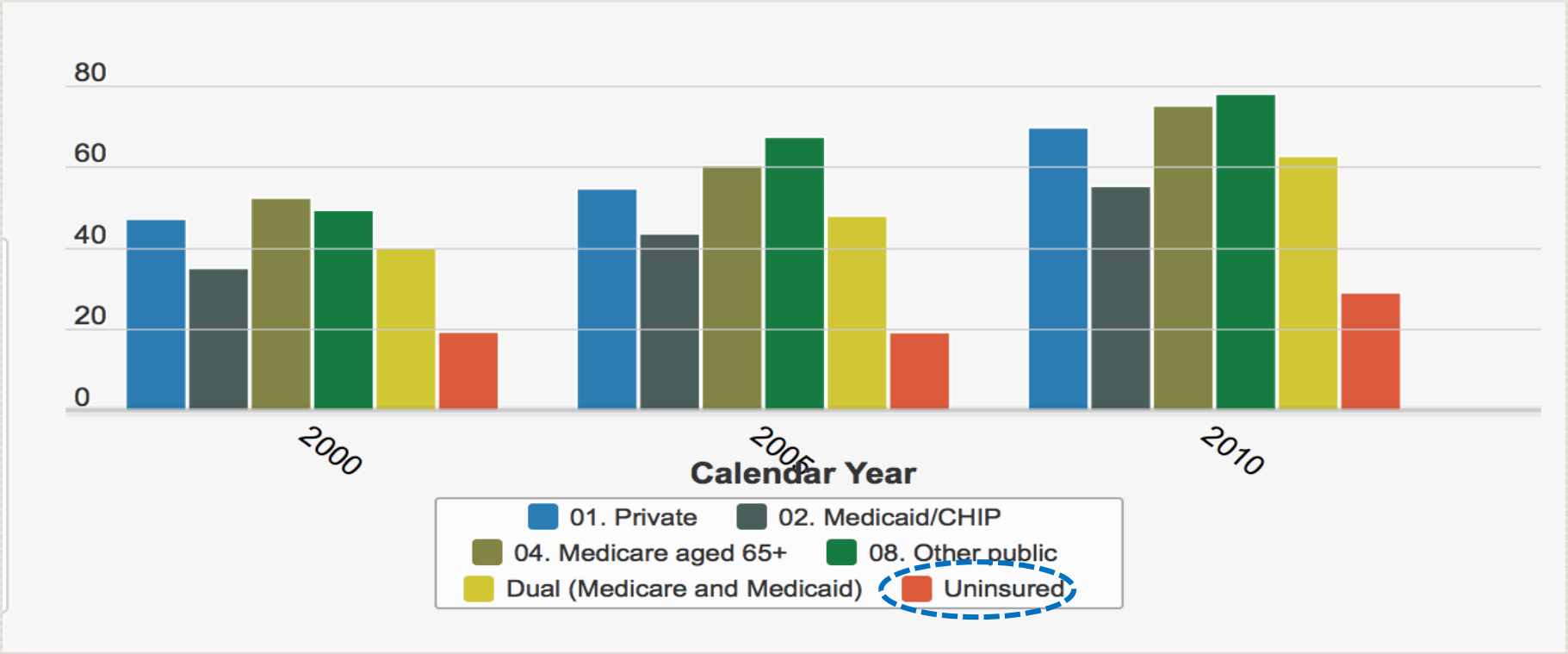
- Incidence dropping due to:
  - **Screening** → polyp removal → prevention
- Estimated that screening may have prevented **550,000** cases of colorectal cancer in the US over the past three decades

Yang, Cancer 2014

CRC Screening Rates by Income (2012)

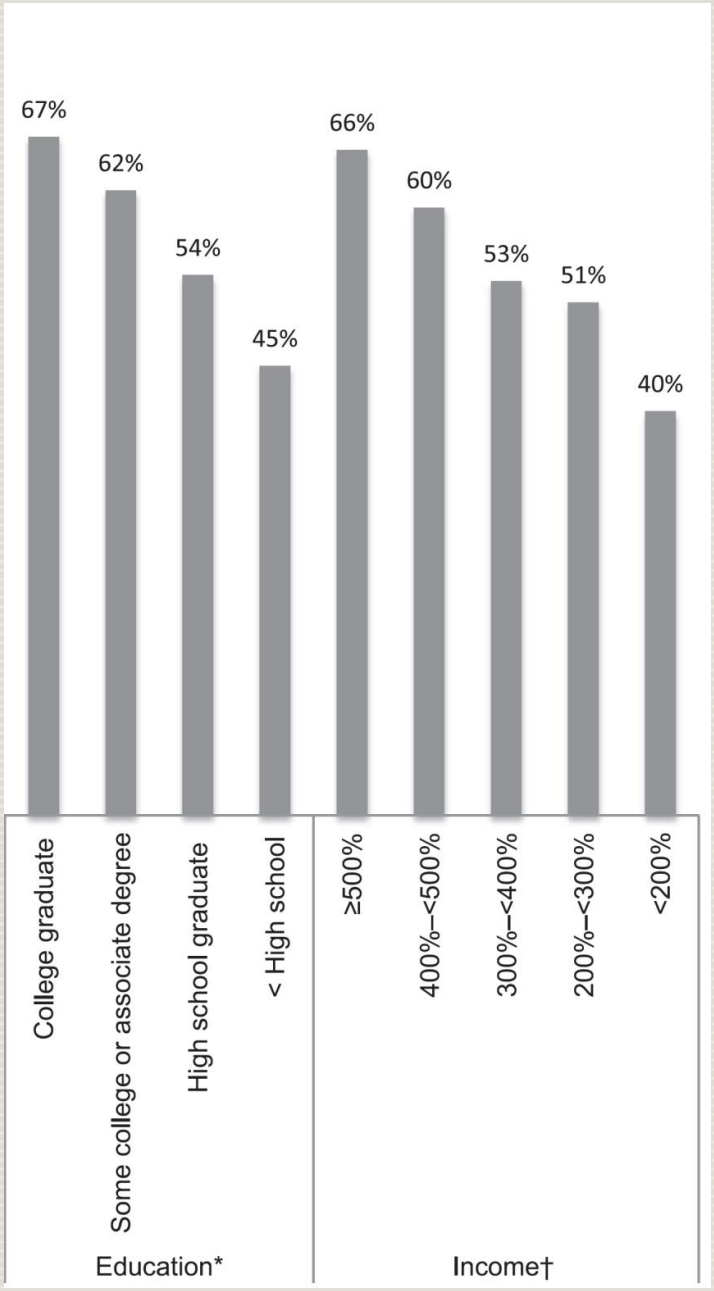


CRC Screening Rates: Insurance



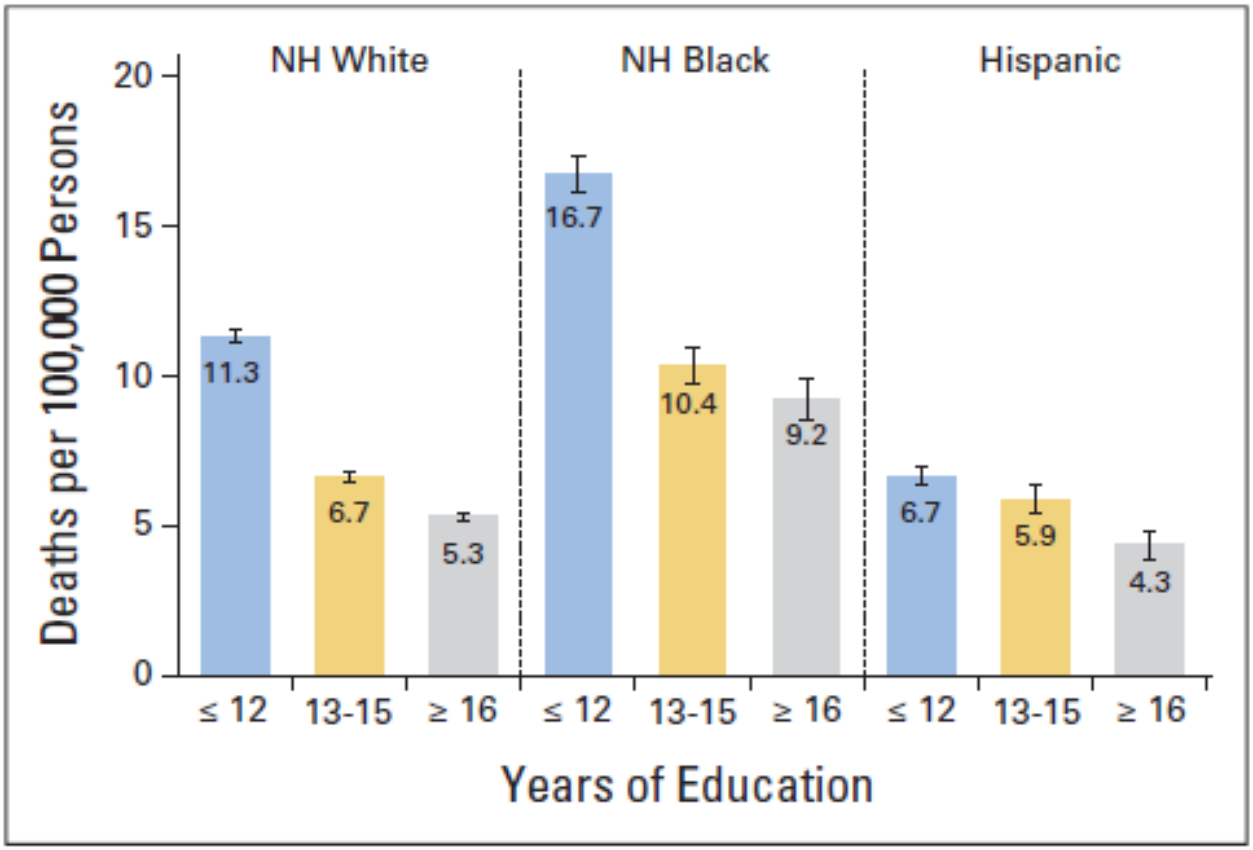
Who's not getting screened?

CRC screening rates education and income (NHIS 2010)



Gupta JNCI 2014

Annual CRC death rates by educational attainment and race/ethnicity, United States, 2008 to 2010

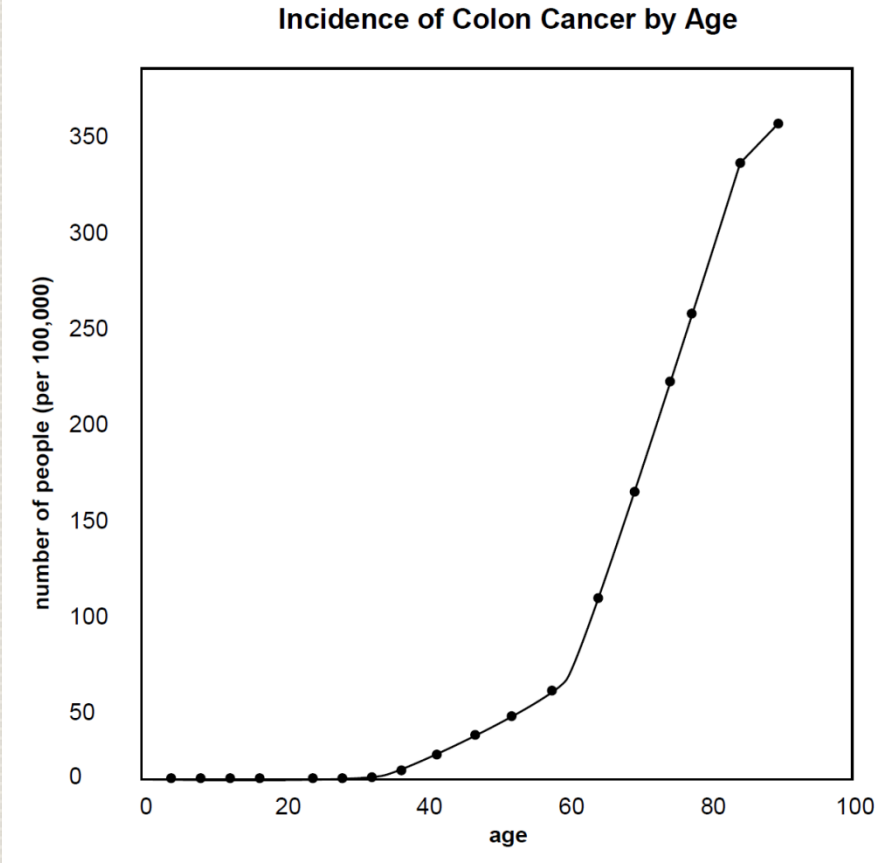


Delayed- versus early-stage CRC by demographics, 2004-2008

	Stage 0-I count	Stage II-IV count	OR (II-IV/0-I)	*P*-value‡ for χ^2
Age, yrs				
0–39	282	1,317	2.55	
40–49	1,250	3,730	1.63	
50–74	12,557	23,022	1	
75+	7,993	16,655	1.14	<.001
Total	22,082	44,724		
Sex				
Female	10,213	22,158	1.14	
Male	11,869	22,566	1	<.001
Female and male	22,082	44,724		
Race/ethnicity				
Asian/other	2,880	5,701	1.01	
NH black	1,475	3,337	1.15	
Hispanic	3,195	7,121	1.13	
NH white	14,532	28,565	1	<.001
All race/ethnicities	22,082	44,724		
SES				
1 (lowest)	2,760	6,179	1.22	
2	3,937	8,494	1.18	
3	4,686	9,688	1.13	
4	5,175	10,256	1.08	
5 (highest)	5,524	10,107	1	<.001
All SES	22,082	44,724		

Who Should Be Screened

- CRC usually develops after age 50.
- Risk continues to rise with advancing age.
- Near-unanimous recommendation across guidelines to begin screening at age 50 for individuals at average risk.



http://science.education.nih.gov/supplements/nih1/cancer/guide/pdfs/ACT3M.PDF.

Increased and High Risk

- Personal history of
  - Adenomatous Polyps
  - Colorectal cancer
  - Inflammatory bowel disease
    - Ulcerative colitis
    - Crohn's disease
- Family history
  - Colorectal cancer or adenomas
  - Hereditary syndrome (FAP, Lynch Syndrome,…)

For people with these conditions

- *Begin screening earlier (10 yr before age at dx of index case*
- *Colonoscopy is the only recommended screening test*

CRC Under Age 50

- While CRC rates are falling steadily in the over age 50 population, diagnosis before age 50 is increasing
  - Majority of the increase is in those age 40-49, but also rising among those in their 30s and even 20s
- Rectal cancer rates rising faster than colon
- Numbers remain too small to justify starting screening at earlier age (i.e. 40) for the entire US population – but work underway to identify sub-groups that may benefit from earlier screening

CRC Under Age 50

Causes for this rise are not known.
Potential contributors –

- Increasing rates of:
  - Obesity
  - Type II diabetes
  - Antibiotic use (humans and livestock)
  - Hormone use in livestock
- Decreased use of aspirin in the young (Reye's)
- Unidentified environmental risk factors (pesticides,…)

Impacting CRC Under Age 50 years

- Imperative to recognize those needing screening before age 50 based on family history or other risk factors)
- Need increased awareness among clinicians and young adults of symptoms and the need to take action to facilitate earlier detection
  - Rectal bleeding
  - Abdominal pain
  - Change in bowel habits
  - Weight loss

Remember: Guidelines are for screening only!
***Not** relevant for symptomatic patients – regardless of age*

CRC Screening Strategies (USPSTF June 2016)

Table. Characteristics of Colorectal Cancer Screening Strategies[a]

Screening Method	Frequency[b]	Evidence of Efficacy	Other Considerations
Stool-Based Tests			
gFOBT	Every year	RCTs with mortality end points: High-sensitivity versions (eg, Hemoccult SENSA) have superior test performance characteristics than older tests (eg, Hemoccult II)	Does not require bowel preparation, anesthesia, or transportation to and from the screening examination (test is performed at home)
FIT[c]	Every year	Test characteristic studies: Improved accuracy compared with gFOBT Can be done with a single specimen	Does not require bowel preparation, anesthesia, or transportation to and from the screening examination (test is performed at home)
FIT-DNA	Every 1 or 3 y[d]	Test characteristic studies: Specificity is lower than for FIT, resulting in more false-positive results, more diagnostic colonoscopies, and more associated adverse events per screening test Improved sensitivity compared with FIT per single screening test	There is insufficient evidence about appropriate longitudinal follow-up of abnormal findings after a negative diagnostic colonoscopy; may potentially lead to overly intensive surveillance due to provider and patient concerns over the genetic component of the test
Direct Visualization Tests			
Colonoscopy[c]	Every 10 y	Prospective cohort study with mortality end point	Requires less frequent screening. Screening and diagnostic followup of positive results can be performed during the same examination.
CT colonography[e]	Every 5 y	Test characteristic studies	There is insufficient evidence about the potential harms of associated extracolonic findings, which are common
Flexible sigmoidoscopy	Every 5 y	RCTs with mortality end points: Modeling suggests it provides less benefit than when combined with FIT or compared with other strategies	Test availability has declined in the United States
Flexible sigmoidoscopy with FIT[c]	Flexible sigmoidoscopy every 10 y plus FIT every year	RCT with mortality end point (subgroup analysis)	Test availability has declined in the United States Potentially attractive option for patients who want endoscopic screening but want to limit exposure to colonoscopy

Most Commonly Used Screening Tests

- Colonoscopy
- High Sensitivity Fecal Occult Blood Testing
  - High Sensitivity Guaiac Tests
  - Fecal Immunochemical Tests

Fecal Immunochemical Tests (FIT)

- Specific for human blood and for lower GI bleeding
- Results not influenced by foods or medications
- Higher sensitivity than guaiac-based FOBT
- Some types require only **1 or 2 stool specimens**

FOBT/FIT: Accuracy

Annals of Internal Medicine | REVIEW

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 $\mu g/g$ vs. 0.70 [CI, 0.55 to 0.81] at cutoff values of 20 to 50 $\mu g/g$) 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.

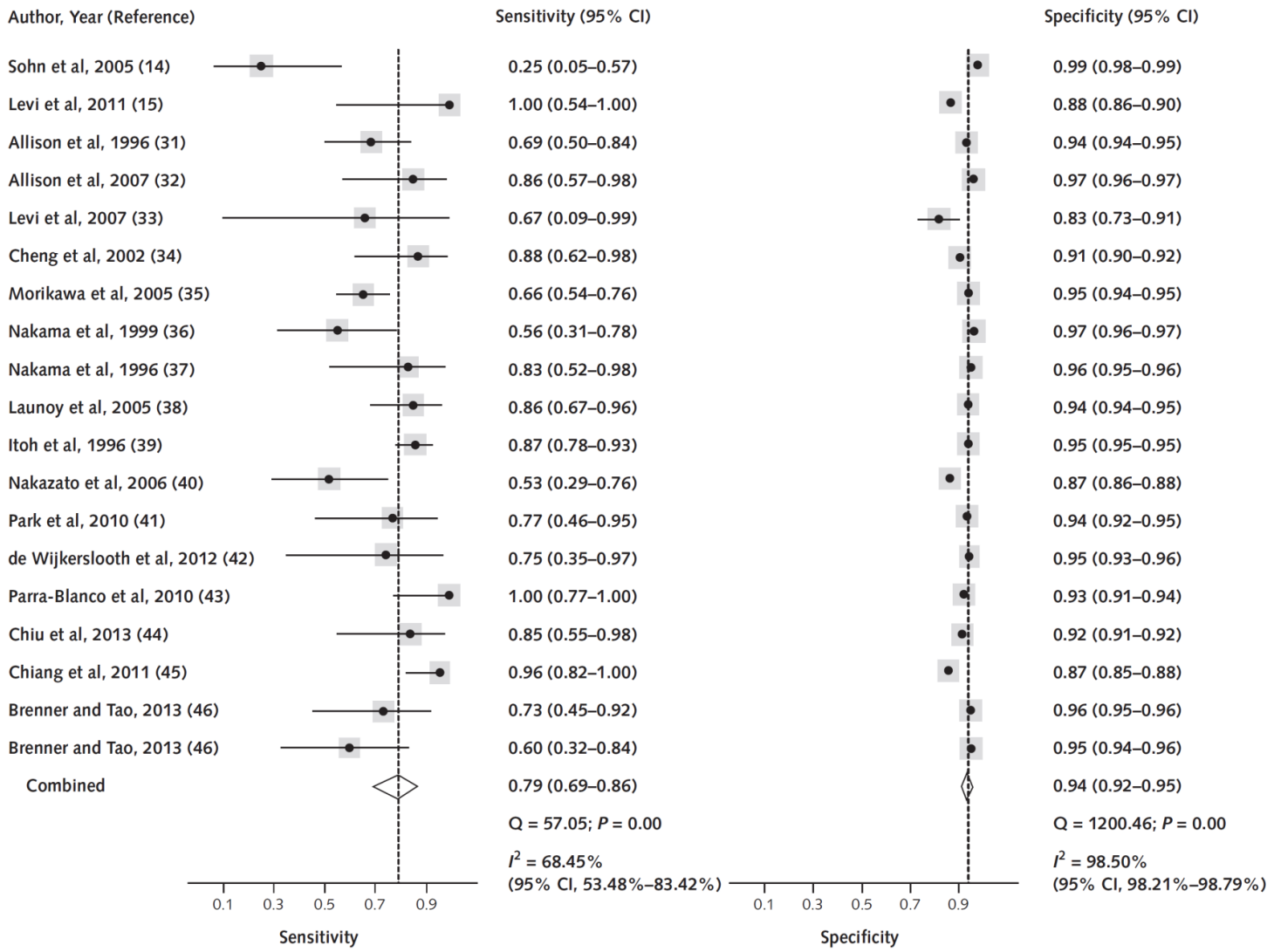
Conclusion: Fecal immunochemical tests are moderately sensitive, are highly specific, and have high overall diagnostic accuracy for detecting CRC. Diagnostic performance of FITs depends on the cutoff value for a positive test result.

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

Ann Intern Med. 2014;160:171-181. www.annals.org

For author affiliations, see end of text.

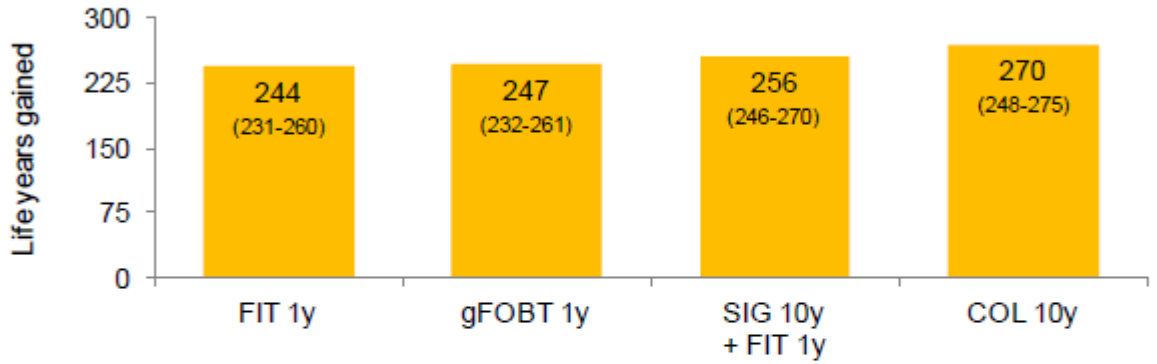
Figure 2. **Pooled sensitivity and specificity for fecal immunochemical tests for the detection of colorectal cancer for all included studies.**



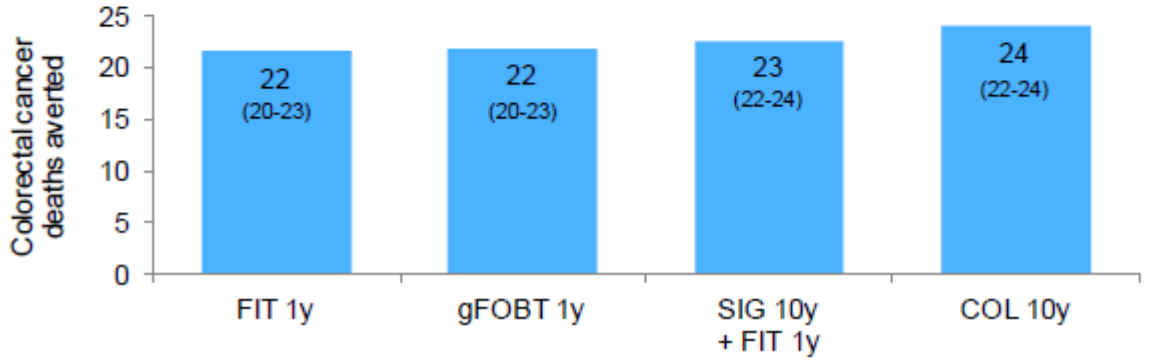
FOBT/FIT: Efficacy (USPSTF 2015)

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

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



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



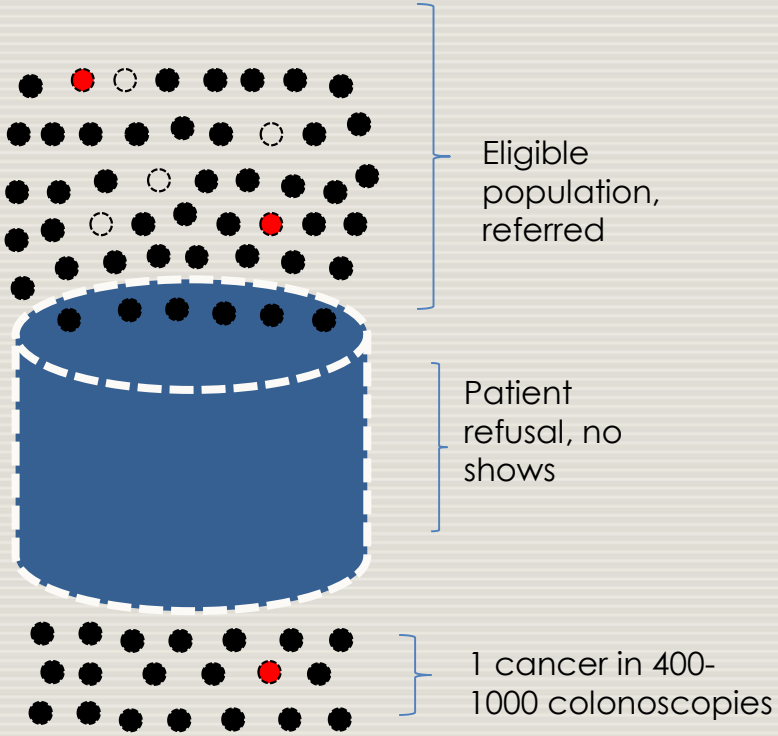
http://www.uspreventiveservicestaskforce.org/Page/Document/draft-recommendation-statement38/colorectal-cancer-screening2

Advantages of Stool Tests

- Least expensive screening method
- 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 abnormal result.

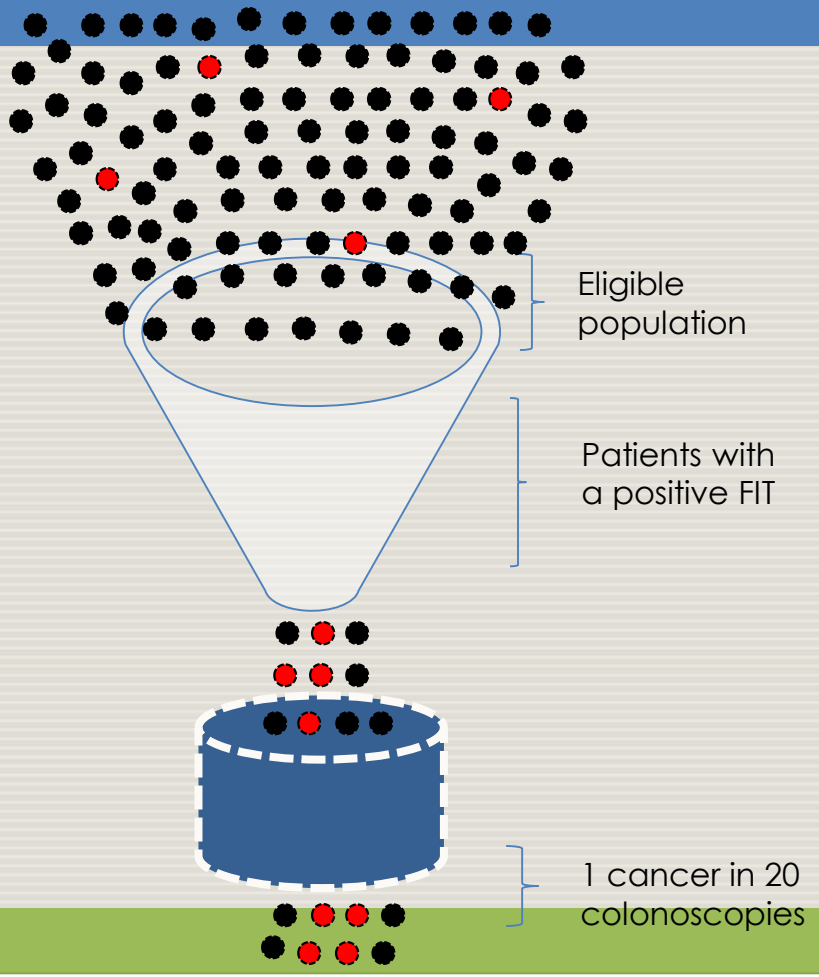
Making the Best Use of Scarce Resources:
Screening colonoscopy vs. FIT

Screening colonoscopy (refer 1,000 patients)



- *Represents 20 patients*

FIT testing (2,000 patients)



Slide courtesy of Dr. G.Coronado

Stool Test Quality Issues

- Stool tests are appropriate only for *average risk* (no family history, no history of adenomas,…)
- Use only high sensitivity guaiac or FIT
  - Hemoccult II and other less sensitive guaiac tests should not be used for screening
- DRE sampling is not CRC screening!
- All positive tests must be followed up with colonoscopy

FIT Quality Issues

All FIT are not created equal

- FDA clears FITs only for "detection of blood" – no assessment of cancer detection capability is required
- Recent study found 56 FITs cleared for use in US, and 23 currently marketed
- Only ~1/4 of FDA-cleared FITs have published data on their performance for detection of CRC or adenoma
- Some tests are currently marketed as "single sample" tests with no performance data on this use
- FDA is updating clearance criteria

FITs With Published Data*
Available in the US

Name	Manufacturer
Hemoccult-ICT/Flexsure OBT	Beckman-Coulter
Hemosure One Step	WHPM, Inc.
InSure / ColoVantage	Clinical Genomics
OC-Sensor / OC FIT-CHEK	Polymedco
OC-Auto Micro	Polymedco
OC-Light	Polymedco

*This list may not be comprehensive

COLORECTAL CANCER SCREENING FOR ADULTS EXPERIENCING HOMELESSNESS

Vicki D. Copeland, MD

Healthcare for the Homeless

Maricopa County Department of Public Health

Information Regarding Organization

- Phoenix, Arizona
- Founded 1985 as one of the original Robert Wood Johnson grantees
- Public Health Department, but stand alone site
- Single site with multiple outreach sites
- Medical, Nutrition, Substance Abuse, Mental Health, Dental
- 30 employees
- Number of Patients served in 2016: 6788 unique

Colorectal Cancer Screening Challenges

- Patients only need to be seen one time to be included in this measure so there is no relationship established and the visit may be unrelated to the screening.
- Patients often do not have unrestricted access to a toilet to even do stool cards or FIT testing let alone to do a prep for a colonoscopy.
- Patients are often more worried about their day to day survival than they are about the risk of colorectal cancer.
- Patients living in a shelter or on the street may not be able to complete a prep for a colonoscopy.

Colorectal Cancer Screening Challenges (cont.)

- Patients often cannot provide a driver after colonoscopy or even someone to accompany them in a taxi even if they offer payment.
- Patients often do not recall where previous testing was done or do not have the information to request medical records even if they recall that it was done.
- Patients often do not remember to return the stool cards before their bag is stolen, lost or has gotten wet

Strategies for Improving Colorectal Cancer Screening Rates

- We try to ask every patient at every visit, especially the first visit, if they have had their colorectal screening if they are within the age range.

- Electronic medical record is sometimes a barrier to our process so we have changed where and how we document especially for release of information for previous records.

- We have traditionally offered all patients colonoscopy first and emphasized that if it is normal then it is good for 10 years HOWEVER we have changed that recently

Strategies for Improving Colorectal Cancer Screening Rates (cont.)

- We have our case managers try to help the patient think through the barriers, such as where they will prep and who they will be released to after the procedure.

- We try to minimize no shows to our specialists because we do not want them to quit scheduling for our patients who are homeless.

- Previously if a patient was not insured or otherwise unable or unwilling to do a colonoscopy we'd offer stool cards annually however we have changed this because: 1) we only get back one or two cards; 2) cards are given repeatedly to the same patient until completed and returned.

New Colorectal Cancer Initiative

- This month, March 2017, we are implementing a one step FIT test (OC-Light S FIT from Polymedco)

- As part of this implementation, we will allow any patient to do their FIT test the same way that we allow a patient to do a urine test, by using our bathrooms and leaving the sample in the specimen window

The Fecal Immunochemical Test (FIT)

- Reasons for change:
  - Is a good SCREENING test for colorectal cancer
  - Detects human blood in stool
  - Can be done at time of office visit
  - Is a one sample test
  - Is a point of service test that is CLIA waived so results can be given to patient same day
  - Does not depend upon insurance coverage since no laboratory is involved

(RN) Clinical Coordinator

Harbor Care Health and Wellness Center

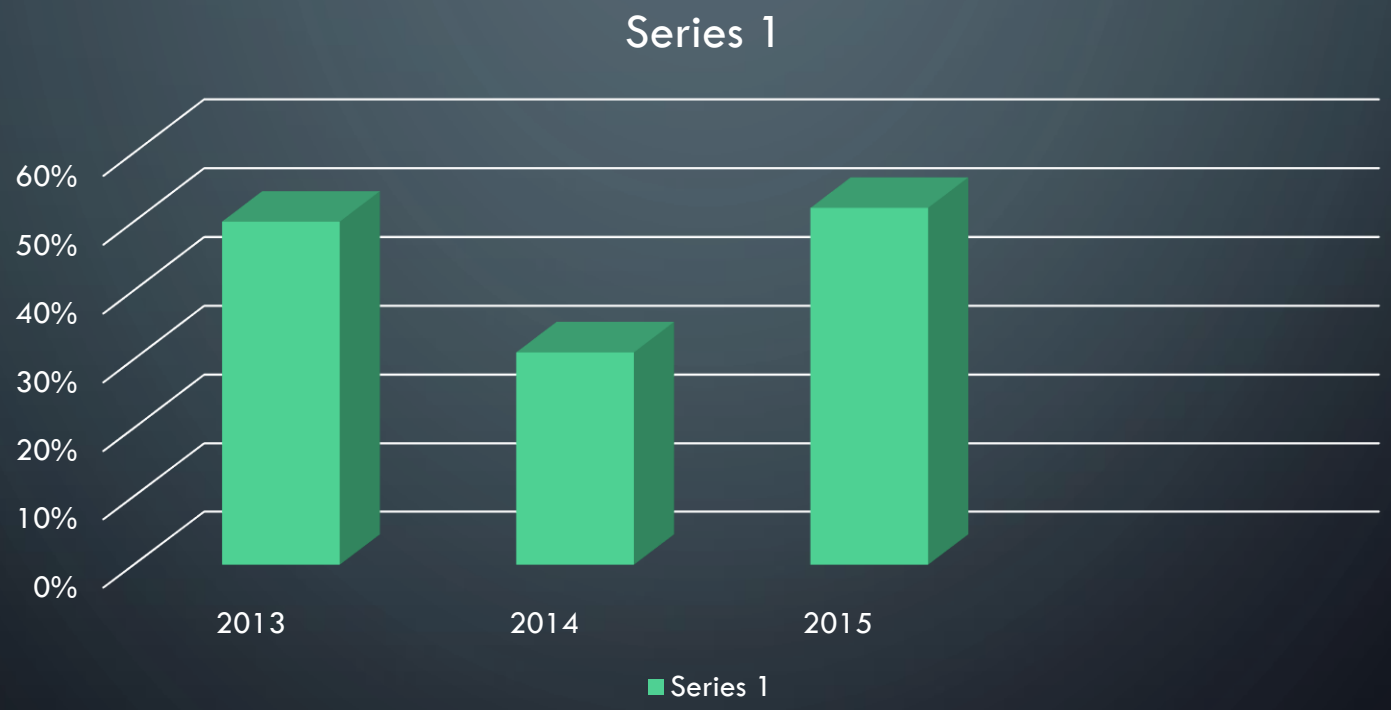
Nashua, NH

Ms. Angela Sweeney

COLORECTAL CANCER SCREENING

HARBOR CARE HEALTH & WELLNESS CENTER, NASHUA NH

YEARLY COLORECTAL CANCER SCREENING RATES



CRC SCREENING CHALLENGES WITH THE HOMELESS POPULATION

- No private facilities to prepare for a colonoscopy procedure
- Most patients only come in on an emergency care basis
- Patients priorities are shelter, food and work- not cancer screening.
- No reliable family or friends to accompany them to the procedure
- Substance Use Disorder placing increased difficulties with patient follow-up

CRC SCREENING QUALITY IMPROVEMENT

- CRC screening continues to remain on our quality improvement work plan
- Harbor Care Health & Wellness Center QI/QA Committee meets regularly to discuss challenges and achievements with our quality of care measures
- Members of our committee bring a variety of experience and perspective from the medical field
- Committee members include nurses, physicians, radiologists and a health insurance representative.

NEW HAMPSHIRE COLORECTAL CANCER SCREENING PROGRAM

- In the past, the NHCRCSP offered free screening colonoscopies, through their grant, to patients who qualified clinically and financially
- Currently, the grant provides support and resources to health centers in New Hampshire to help improve screening rates
- The Medical Director and I meet regularly with the program staff to discuss any challenges we may be having with screening rates, testing supply needs, and even insurance (or lack of) “road blocks”

GILMOUR MEDICAL RESPITE CENTER

- 11 Bed Medical Facility within same location as outpatient medical office
- Patients who need to prepare for a colonoscopy can stay for 1 night in order to have a private space for preparation

PROCESS FOR TRACKING AND RECALL OF ABNORMAL RESULTS

- Abnormal results are reviewed by provider and routed to nurse/MA with plan. This may include further diagnostic testing, referral, or future repeat testing. The nurse/MA then orders the testing indicated or referral, or sends themselves a future flag attached to the patient chart which will remind them when the patient is due for the follow up
- Letters sent out yearly, and as needed, to patients who are due for screening