



# Overview of Colorectal Cancer

Maryland Department of Health & Mental Hygiene

Prevention and Health Promotion Administration

Center for Cancer Prevention and Control

Cigarette Restitution Fund Program

May 2013



# MISSION AND VISION

## **MISSION**

- The mission of the Prevention and Health Promotion Administration is to protect, promote and improve the health and well-being of all Marylanders and their families through provision of public health leadership and through community-based public health efforts in partnership with local health departments, providers, community based organizations, and public and private sector agencies, giving special attention to at-risk and vulnerable populations.

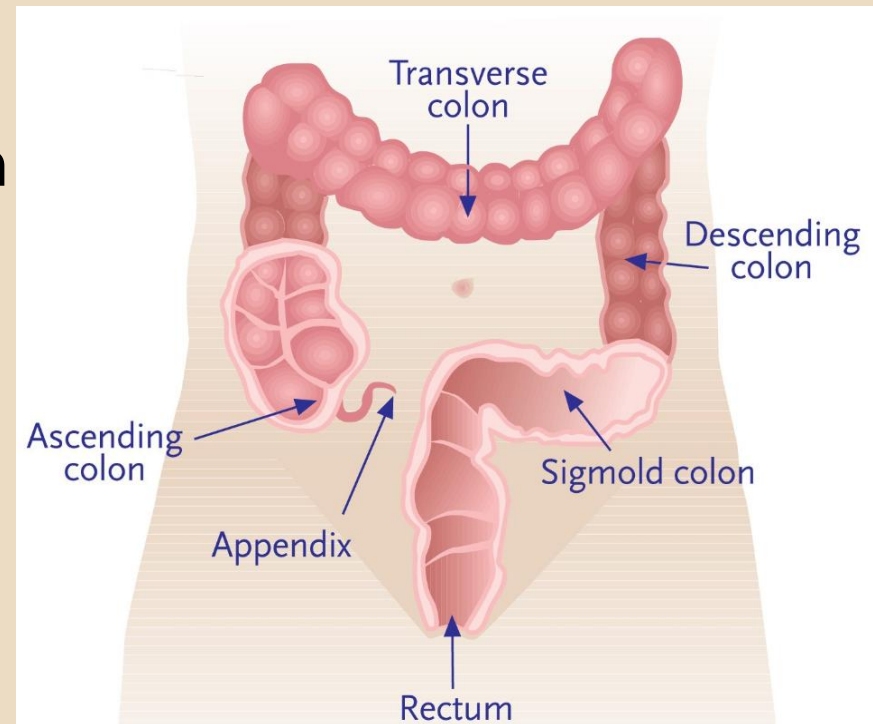
## **VISION**

- The Prevention and Health Promotion Administration envisions a future in which all Marylanders and their families enjoy optimal health and well-being.

Did you know that  
**colorectal cancer**  
is the second leading cause of cancer  
deaths in Maryland?

# What is colorectal cancer?

- Cancer that begins in the colon (bowel or large intestine) or rectum is known as colorectal cancer
  - The colon is about 5 feet long.
  - Colorectal cancer can occur any section of the colon or the rectum.



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# How many people get colorectal cancer and die from it?

It is estimated that:

- In the US in 2012,
  - 143,460 colorectal cancer cases are expected to occur
  - 51,690 deaths are expected to occur
- In Maryland in 2012,
  - 2,420 colorectal cancer cases are expected to occur
  - 940 deaths are expected to occur

American Cancer Society's Cancer Facts and Figures, 2012

<http://www.cancer.org/acs/groups/content/@epidemiologysurveillance/documents/document/acspc-031941.pdf>

# What causes colorectal cancer?

- It is not known exactly what causes colorectal cancer
  - But there are risk factors that increase chances for colorectal cancer:
    - Some risk factors cannot be changed---age, personal and family history
    - Some risk factors can be changed---tobacco use, obesity, inactivity



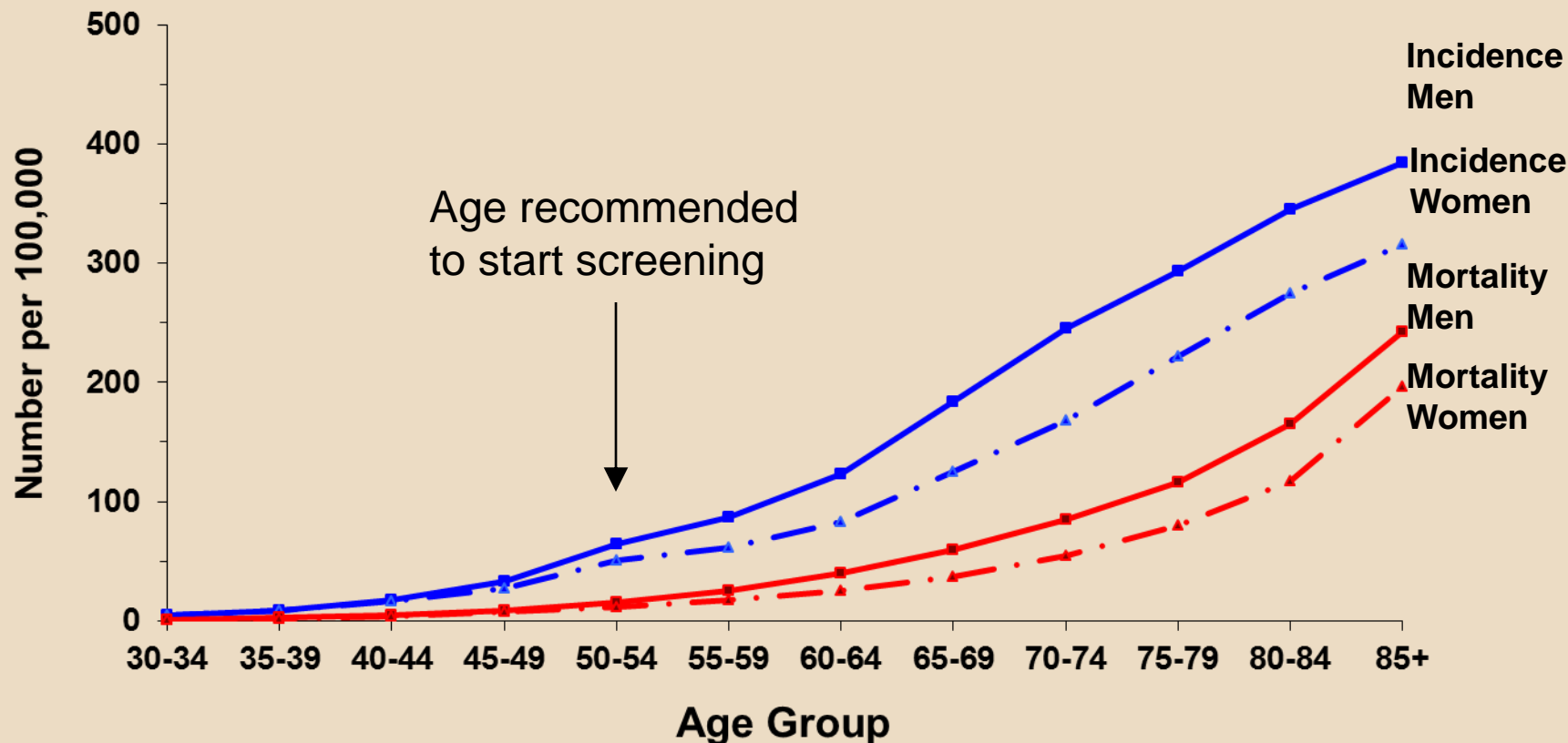
# What are the risk factors for colorectal cancer?

- Age
  - More than 90% of colorectal cancer is found in people after age 50
- Personal and family history of colorectal cancer or high-risk adenomas in a mother, father, brother, sister, or child)



# Colorectal Cancer Rates by Age and Sex

**Cancers of the Colon and Rectum:  
Average Annual Age-Specific SEER Incidence  
and U.S. Mortality Rates by Gender, 2006-2010**



Source: SEER Cancer Statistics Review 1975-2010. Colon and Rectum Cancer, SEER Incidence and U.S. Death Rates, Age-Adjusted and Age-Specific Rates, By Race and Sex (Rates based on SEER 18 areas)



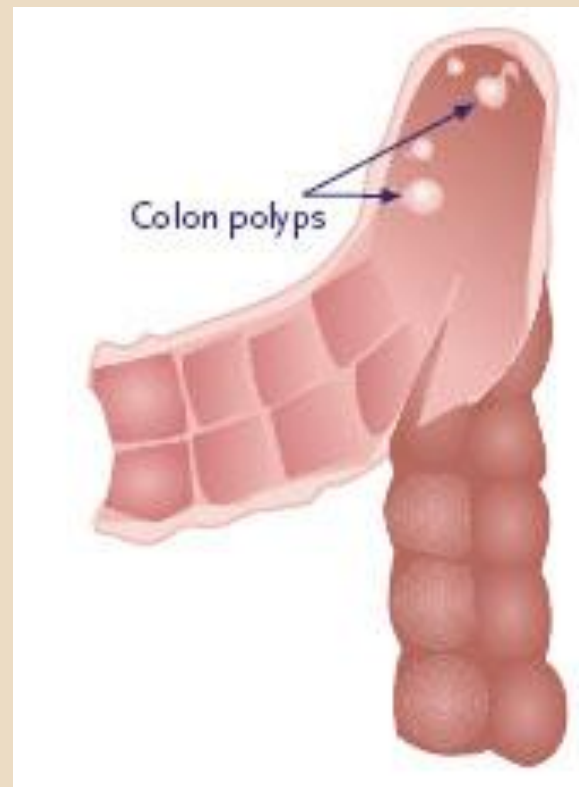
# What are the risk factors for colorectal cancer (cont.)?

Personal or family history of:

- Colorectal cancer
- Certain colorectal polyps especially “high risk adenomas”
  - An adenoma is a colon growth that can turn into cancer
- Familial adenomatous polyposis (FAP)
- Hereditary non-polyposis CRC(HNPCC)

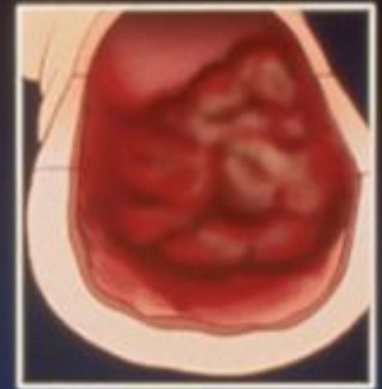
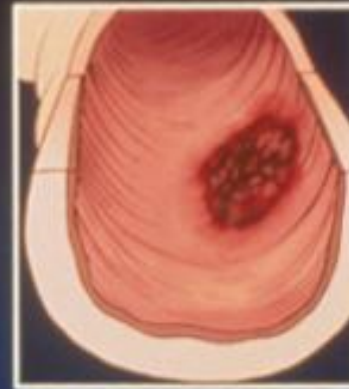
Personal history of inflammatory bowel disease

- Ulcerative colitis
- Crohn’s colitis



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# Adenoma - Carcinoma Sequence



**Normal  
mucosa**

- Hyperproliferation
- DNA hypomethylation

**Adenoma**

- Oncogene mutations

**Severe  
dysplasia**

- Allelic deletions
- Aneuploidy

**Cancer**

# Other risk factors

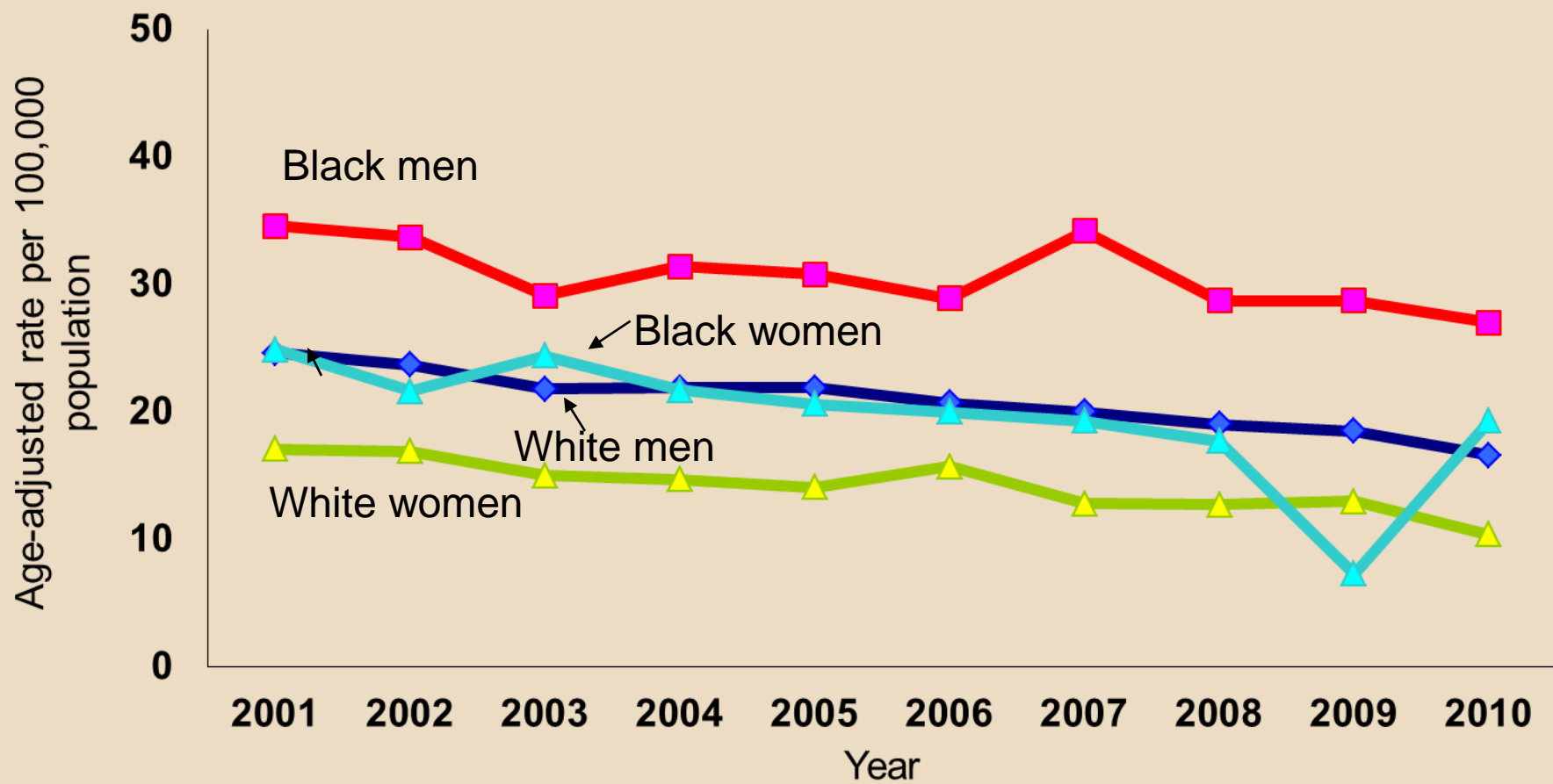
- Other risk factors for colorectal cancer include:
  - Cigarette smoking
  - Obesity
  - Excessive alcohol use

# Race and colorectal cancer

- African-Americans...
  - Develop colon cancer at a younger age than whites
  - Have more 'aggressive' colon cancer
  - Have a reduced response to chemotherapy for advanced disease
  - Have reduced survival (30% mortality increase), and
  - Have decreased access to CRC screening



# Colorectal Cancer Mortality Rates by Race and Sex in Maryland, 2001-2010



Source: NCHS Compressed Mortality File in CDC Wonder



# What are the signs and symptoms for colorectal cancer?

- Early colorectal cancer may have NO signs or symptoms.
- If signs and symptoms are present, they may include:
  - Bleeding from the rectum or blood in the stool
  - Marked change in bowel habits
  - Abdominal mass
  - Abdominal cramps or pain
  - Iron deficiency anemia that is not due to other conditions
  - Unintended weight loss



# Who should be screened for colorectal cancer?

- People ages 50 and over
- People under 50 who have certain personal or family *risk factors*

***Colorectal Cancer Screening  
Saves Lives!***



# How do we test for colorectal cancer?

Tests used to look for colorectal cancer:

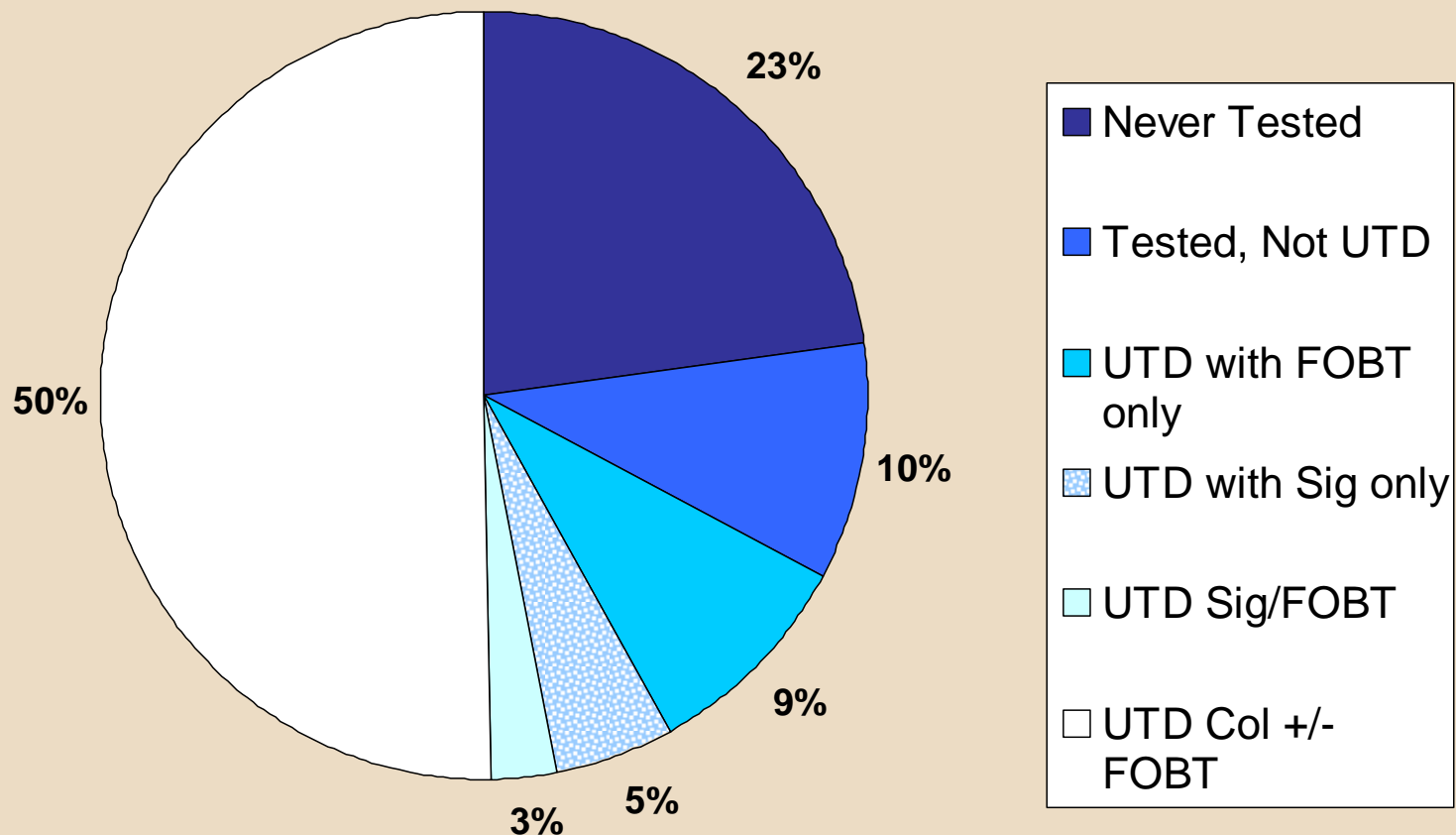
- Colonoscopy
- Flexible Sigmoidoscopy
- Fecal Occult Blood Test (FOBT)
- Fecal immunochemical test (FIT)
- Double contrast barium enema
- CT colonography





# Current CRC Screening Status of Marylander's $\geq 50$ years old

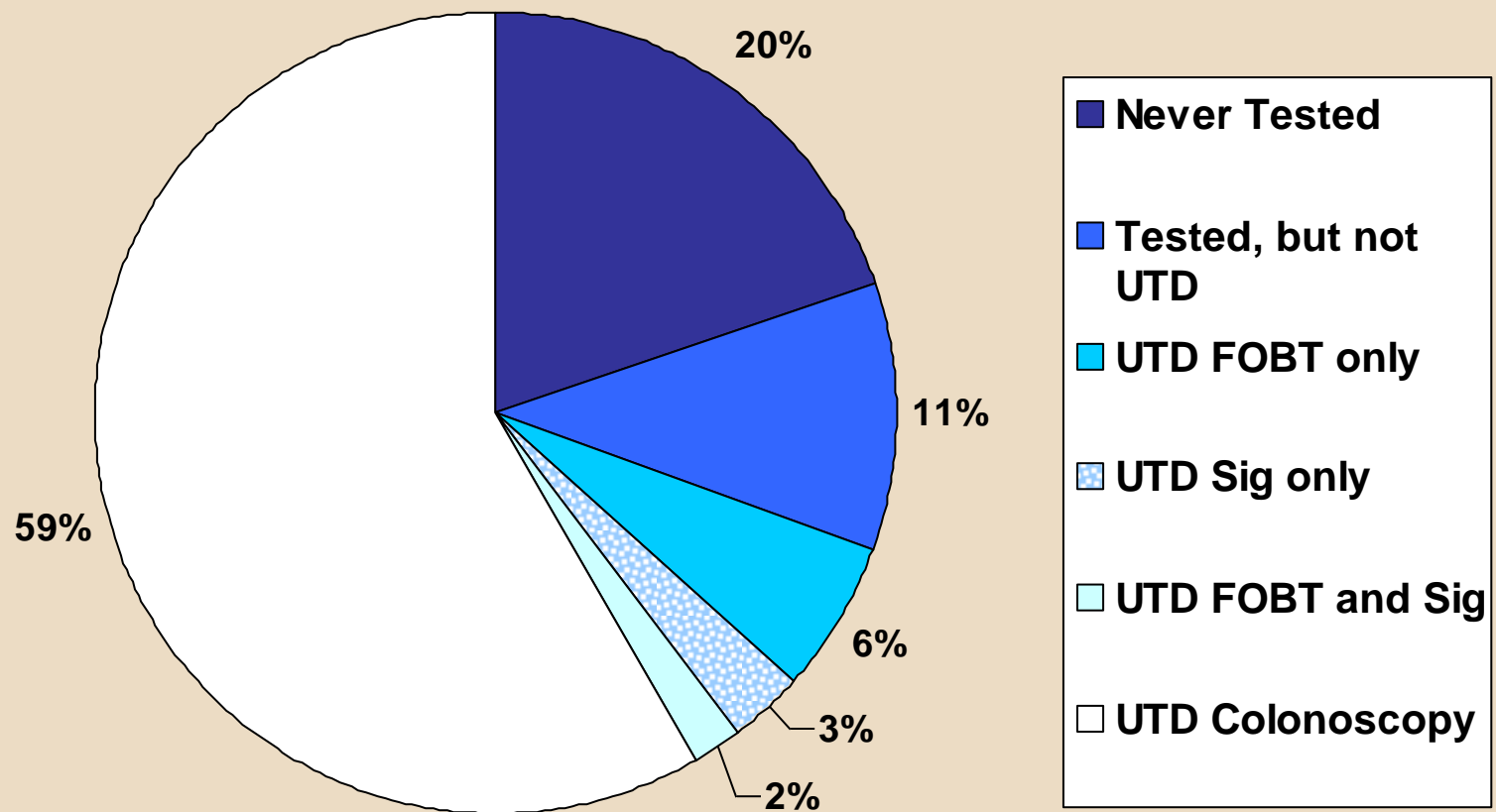
## Maryland Cancer Survey, 2004



Behavioral Risk Factor Surveillance System  
UTD—Up to date per Amer. Cancer Society options for screening

# Current CRC Screening Status of Marylander's $\geq 50$ years old

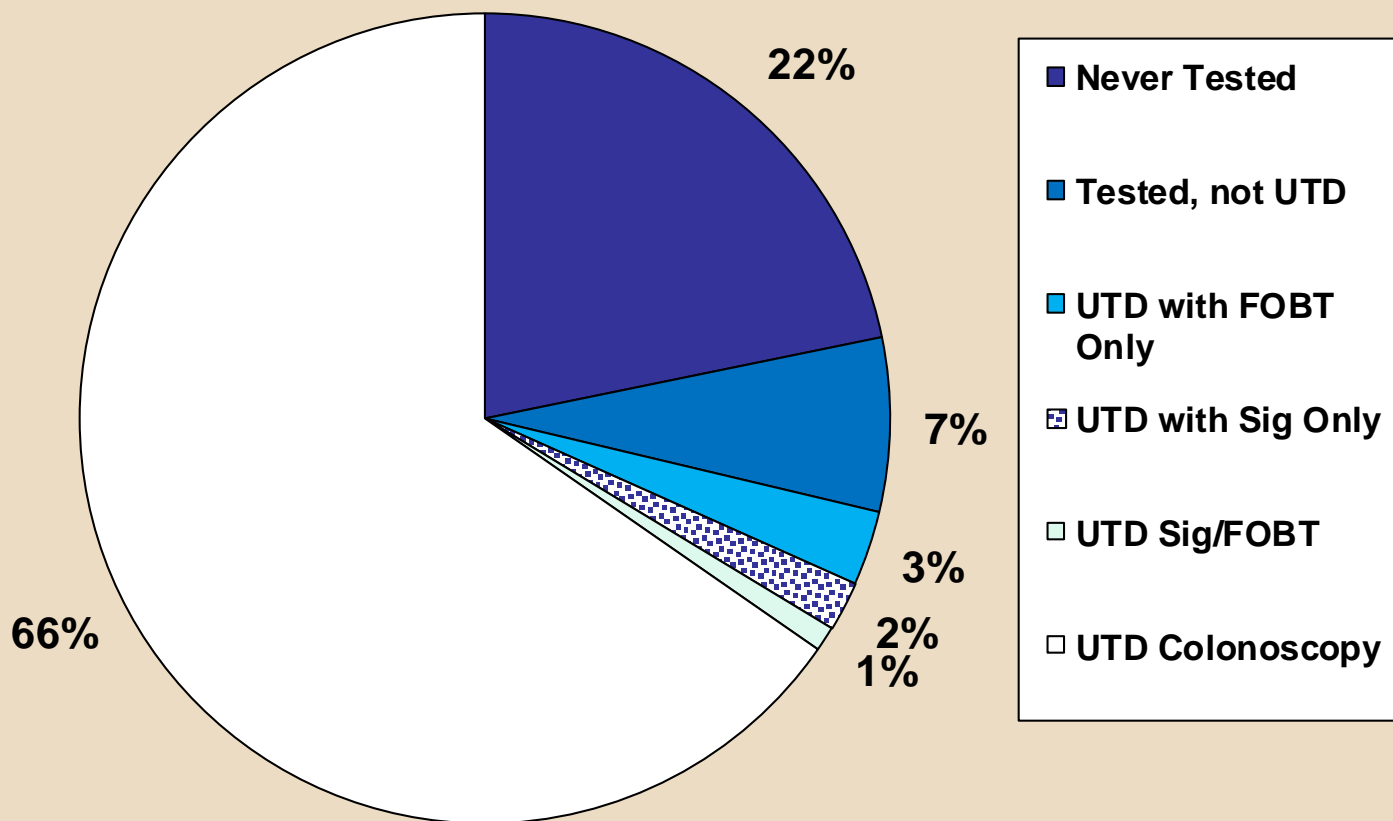
## Maryland Cancer Survey, 2006



UTD—Up to date per American Cancer Society guidelines

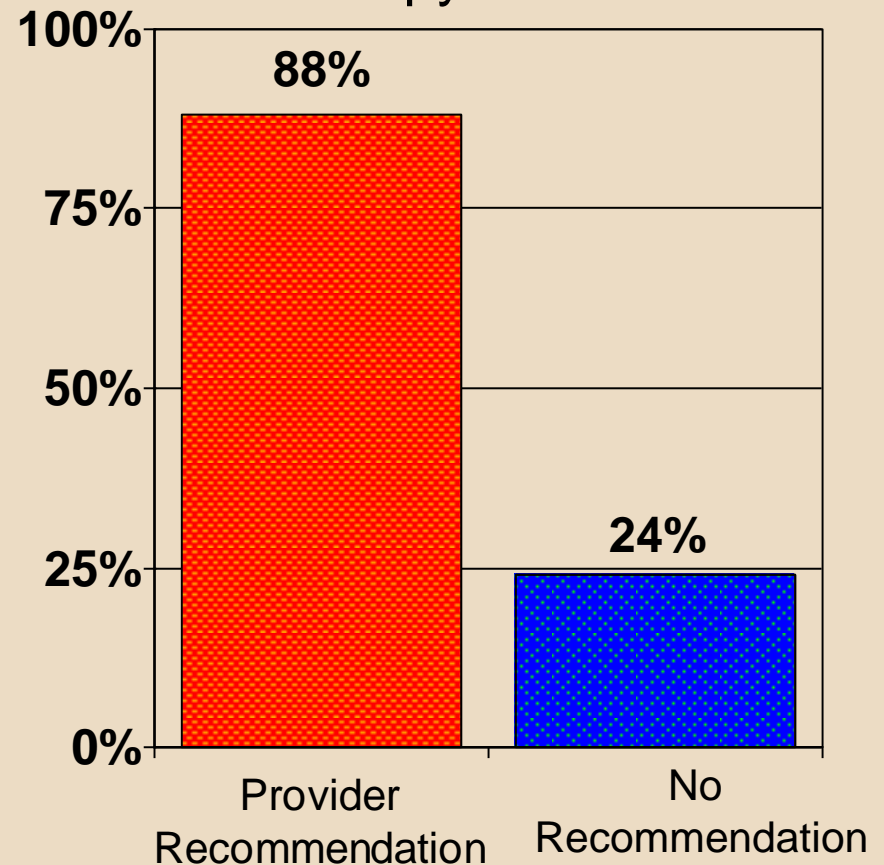
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May 2013

# Current CRC Screening Status of Marylander's $\geq 50$ years old Maryland BRFSS, 2010



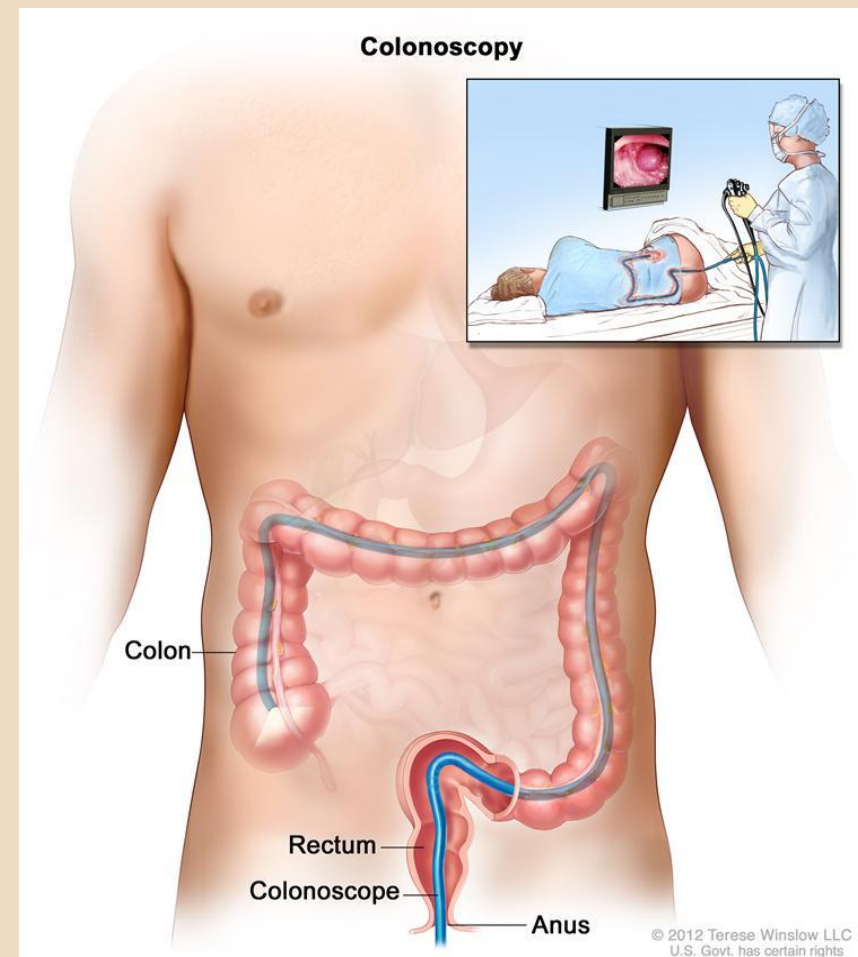
**People reporting  
having a provider's  
recommendation  
for endoscopy...  
got screened**

Percent Screened with  
Endoscopy



# Colonoscopy

- **Colonoscopy:** doctor uses a flexible tube with a light to look inside your large intestine (colon or guts).



# Colonoscopy (cont.)

- Colonoscopy looks at the whole colon
  - To find cancer early so it can be treated
  - To **remove** polyps from the colon
    - Some polyps are adenomas (benign tumors) which might become cancer if they are not removed
- The procedure takes about 30 minutes—  
or longer if polyps need to be removed

# Terms Used to Describe the Gross Appearance of Colon Tumors

- Polyp: a nonspecific term to describe any protuberance into the colon
- Terms used to describe the appearance of a polyp:
  - **Pedunculated** lesions protrude into the lumen and have a narrow stalk (like a mushroom)
  - **Sessile** lesions are broad based and raised and extend directly from the colon surface
  - **Flat** lesions are difficult to detect

# Polyps in the Colon Need to be Removed



Sessile polyp  
(broad based)



Pedunculated polyp  
(on a stalk)



Biopsy forceps



# Polyps Should be Looked at Under a Microscope



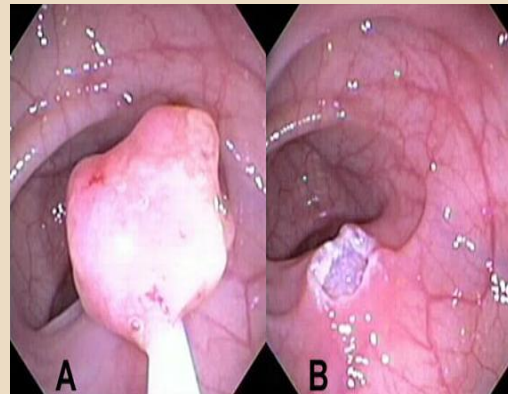
- Polyps cannot be diagnosed just by looking at them in the colon
- They need to be removed and looked at
  - Under a microscope
  - By a pathologist
- Then your doctor can tell you what type of polyp you had and when you need your next colonoscopy

# More Polyps for Removal

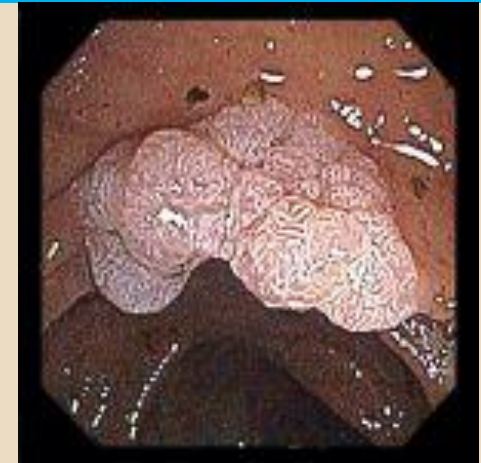


Sessile polyp

*Diagnosed as tubular adenoma by pathologist*



Polyp removal



Sessile polyp

*Diagnosed as tubulovillous adenoma by pathologist*



# What should I do to get ready for colonoscopy?

- Bowel Preparation:

Before colonoscopy, the colon must be clean so the doctor can see inside the entire colon.

- Clear liquid diet one to two days before the test
- Laxatives to eliminate stool from the colon

# Clean Colon Showing Polyps





# What about during and after colonoscopy?

- Just before the test, you will be given medications to relax you
- After the test, you will need someone to take you home
- Although the procedure is safe, colonoscopy involves slight risk (for example, bleeding or perforation)

# Can I reduce my risk for colorectal cancer?



YES, you can reduce your risk for colorectal cancer (and other cancers and chronic disease):

- Get screened
- Avoid cigarettes and tobacco
- Increase physical activity
- Keep a healthy weight
- Avoid excess alcohol

# Colorectal Cancer Screening Saves Lives!





# Prevention and Health Promotion Administration

<http://phpa.dhmh.maryland.gov>