

Colorectal Cancer:

The Importance of Prevention and Early Detection

The Burden of Colorectal Cancer

How Common Is Colorectal Cancer?

Colorectal cancer—cancer of the colon or rectum—is the second leading cause of cancer-related death in the United States. The American Cancer Society estimates that 57,100 Americans will die of colorectal cancer this year. Colorectal cancer is also one of the most commonly diagnosed cancers in the United

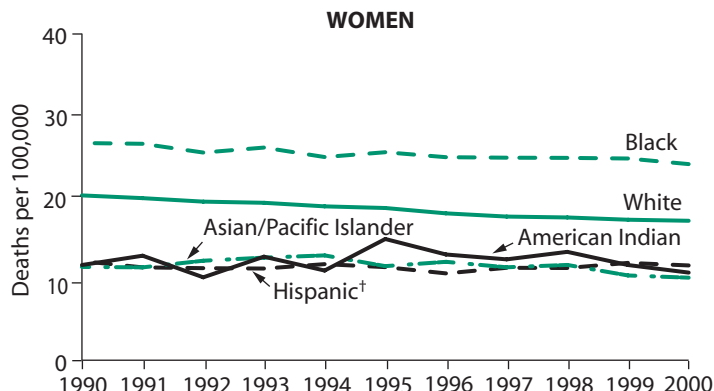
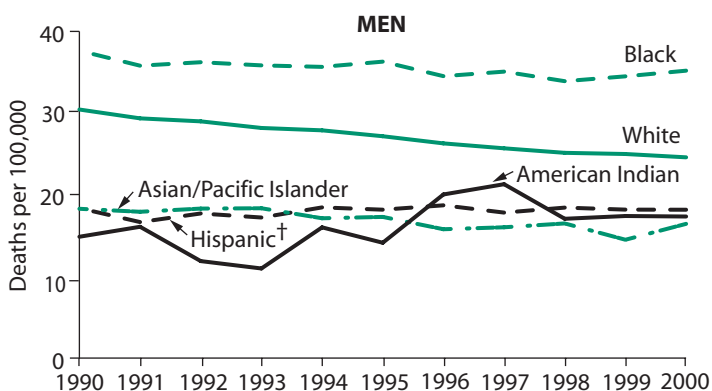
States; approximately 147,500 new cases will be diagnosed in 2003. Colorectal cancer is the third most common cancer in men and in women.

Who Is at Risk?

The risk for developing colorectal cancer increases with advancing age. Risk factors include inflammatory bowel disease, a personal or family history of colorectal cancer or

colorectal polyps, and certain hereditary syndromes. Lack of regular physical activity also contributes to a person's risk for colon cancer, but does not affect rectal cancer risk. Other factors that may contribute to the risk for colorectal cancer include low fruit and vegetable intake, a low-fiber and high-fat diet, obesity, alcohol consumption, and tobacco use.

Colorectal Cancer Death Rates Among Men and Women, by Race and Ethnicity, United States, 1990 – 2000*



*Rates are age-adjusted to 2000 U.S. population.

†Includes Hispanics of any race.

Source: CDC, National Center for Health Statistics.



Prevention and Early Detection: Keys to Reducing Deaths

Reducing the number of deaths from colorectal cancer depends on detecting and removing precancerous colorectal polyps, as well as on detecting and treating the cancer in its early stages. Colorectal cancer can be prevented by removing precancerous polyps or growths, which can be present in the colon for years before invasive cancer develops.

Four tests are recommended for colorectal cancer screening.

- The **fecal occult blood test (FOBT)** detects blood that is not visible in a stool sample. One U.S. clinical trial reported a 33% reduction in colorectal cancer deaths and a 20% reduction in colorectal cancer incidence among people offered an annual FOBT. In trials elsewhere, screening every other year reduced colorectal cancer deaths by 15% in the United Kingdom and by 18% in Denmark.
- In **flexible sigmoidoscopy** exams, physicians use a hollow, lighted tube (sigmoidoscope) to visually inspect the interior walls of the rectum and part of the colon. Case-control studies found that deaths from colorectal cancers located within reach of the

sigmoidoscope were 59% lower among people who had undergone a sigmoidoscopy than among those who had not had the procedure.

- In **colonoscopy** exams, physicians use a hollow, lighted tube (colonoscope) to visually inspect the interior walls of the rectum and the entire colon. During this procedure, samples of tissue or cells may be collected for closer examination or polyps may be removed.
- The **double-contrast barium enema** test comprises a series of X rays of the colon and rectum; the X rays are taken after the patient is given an enema containing barium dye followed by an injection of air.

Colonoscopies and barium enemas can be used as screening tests or as follow-up diagnostic tools when the results of another screening test are positive. Another procedure, called a **digital rectal examination**, involves a physician inserting a lubricated, gloved finger into the rectum to feel for abnormalities. This test inspects only a limited area and is not recommended as a screening method.

Screening for Colorectal Cancer

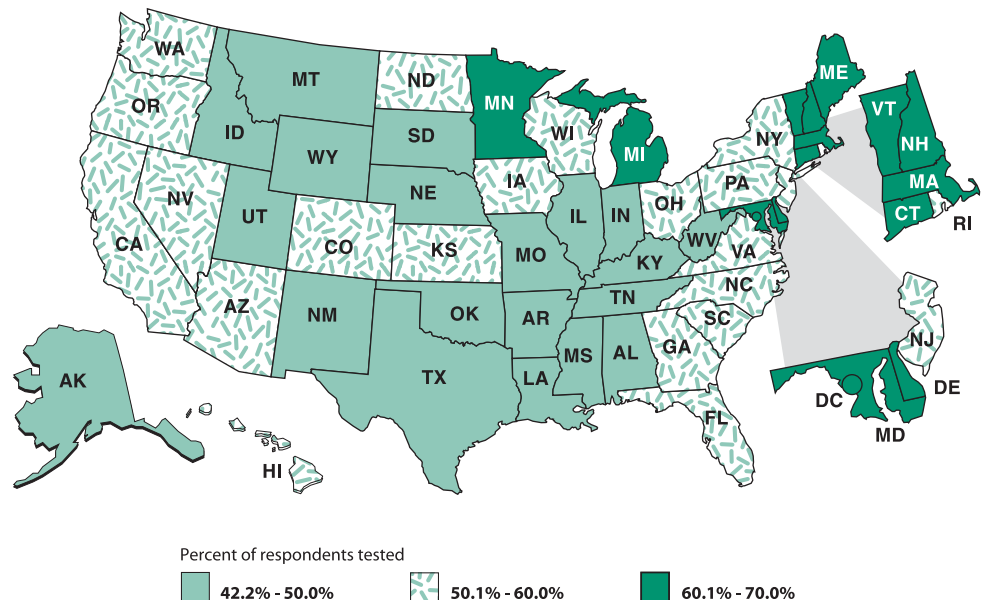
Current Guidelines

Several scientific organizations recommend regular screening for all adults aged 50 years or older. Recommended screening procedures and intervals are as follows:

- FOBT every year.
- Flexible sigmoidoscopy every 5 years.
- Double-contrast barium enema every 5 years.
- Total colon examination by colonoscopy every 10 years.

Persons at higher risk should begin screening at a younger age and may need to be tested more frequently. Detailed guidelines for colorectal cancer screening have been collectively developed and endorsed by a diverse group of organizations, including the U.S. Preventive Services Task Force, other federal agencies, voluntary health organizations, and experts

Percentage of Adults Aged 50 Years or Older Who Had Colorectal Cancer Tests Within the Recommended Screening Intervals,* by State, 2001



*Fecal occult blood test within the past year and/or sigmoidoscopy/colonoscopy within the past 10 years
Source: CDC, 2001 Behavioral Risk Factor Surveillance System

from professional medical associations and societies. These guidelines emphasize the key health benefit of colorectal cancer screening—finding and removing precancerous polyps and cancer—which either prevents the development of cancer or detects the disease at an early, more treatable stage.

Underuse of Screening

Screening for colorectal cancer lags far behind screening for other cancers. Findings from the National Health Interview Survey, which is administered by the Centers for Disease Control and Prevention (CDC), indicate that in 2000, only 45% of men and 41% of women aged 50

years or older had undergone a sigmoidoscopy or colonoscopy within the previous 10 years or had used an FOBT home test kit within the preceding year. Use of screening for colorectal cancer was particularly low among those respondents who lacked health insurance, those with no usual source of health care, and those who reported no doctor’s visits within the preceding year.

In sum, colorectal cancer screening remains underused, despite the availability of effective screening tests. Research findings underscore the need to increase awareness and promote the use of colorectal cancer screening examinations at regular intervals.

CDC’s Activities Targeting Colorectal Cancer

One goal of the national health objectives for 2010 is to reduce the colorectal cancer death rate. To help achieve this goal, CDC has implemented a comprehensive colorectal cancer initiative designed to

- Increase public awareness of colorectal cancer.
- Increase awareness of screening guidelines among health care providers.
- Monitor national colorectal cancer screening rates.
- Promote increased patient-provider communication about colorectal cancer screening.

- Support quantitative and qualitative research efforts.
- Provide funding to state programs for colorectal cancer priorities.

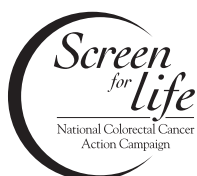
With the approximately \$13.5 million available for this initiative in fiscal year 2003, CDC is providing national leadership in encouraging colorectal cancer prevention and early detection. Major activities involved in the initiative include building national and state partnerships, promoting colorectal cancer screening nationwide, supporting education and training for the public and health professionals, and conducting surveillance and research. The following sections describe some examples of these activities.

Building National and State Partnerships

- CDC continues its partnership in the National Colorectal Cancer Roundtable, a network of public and private organizations that promote colorectal cancer awareness and screening on the national level. CDC and the American Cancer Society convened the roundtable in 1997.
- CDC is supporting comprehensive cancer control (CCC) programs which integrate prevention and control activities relating to many forms of cancer, including colorectal cancer. The objectives are to use resources as efficiently as possible, improve

community-based education and health promotion, share expertise, and effectively target at-risk populations. CDC-funded CCC programs are implementing colorectal cancer activities in the states of Alabama, Colorado, Georgia, Illinois, Iowa, Maryland, Massachusetts, Michigan, Minnesota, North Carolina, Texas, Utah, and West Virginia, as well as through the Northwest Portland Area Indian Health Board. These programs are establishing broad-based coalitions, coordinating surveillance systems, and educating the public and health care providers.

Promoting Colorectal Cancer Screening



Among the Public

CDC and the Centers for Medicare & Medicaid Services have created and

implemented *Screen for Life*, a multimedia campaign promoting colorectal cancer screening. The campaign informs Americans, particularly men and women aged 50 years or

older, about colorectal cancer and recommended screening methods. In addition, it informs adults about the two ways that screening saves lives—by detecting colorectal cancer early, when treatment works best, or by finding precancerous polyps (growths) that can be removed before they become cancerous. Campaign materials can be viewed, ordered, or downloaded at <http://www.cdc.gov/cancer/screenforlife>.

Surveillance and Research

CDC is supporting epidemiologic and behavioral science research efforts relating to colorectal cancer. Examples include projects focused on

- Evaluating the nation's capacity to meet increasing demands for colorectal cancer screening and follow-up examinations, by surveying a national sample of health care providers with endoscopic equipment for use in sigmoidoscopy or colonoscopy.
- Measuring the rate of complications that occur when colonoscopy is used to detect colorectal cancer in asymptomatic patients. (This project follows a previous CDC study that assessed the rate of complications from screening with flexible sigmoidoscopy. That study reported a very low rate of hospitalization (0.02%) due to complications.)
- Collecting, analyzing, and reporting colorectal cancer screening rates from national surveillance mechanisms, such as the Behavioral Risk Factor Surveillance System and the National Health Interview Survey.
- Analyzing and reporting nationally representative data on physician and health system factors that may influence screening and diagnostic follow-up in community practice, in collaboration with the National Cancer Institute and the Centers for Medicare & Medicaid Services.
- Assessing the validity of self-reported colorectal cancer screening among members of three health maintenance organizations: Kaiser Permanente of Northern California, Kaiser Permanente of Georgia, and Health Partners Minneapolis.

Among Health Care Professionals

CDC has developed a training program for health care providers, entitled *A Call to Action*, designed to increase their awareness of and knowledge about prevention and early detection of colorectal cancer. CDC also offers Web-based tools that providers can use to help patients select screening options; these can be viewed, ordered, or downloaded at <http://www.cdc.gov/cancer/colorctl/calltoaction>.

- Studying the variation in physician charges and insurance reimbursement rates for colonoscopy and flexible sigmoidoscopy examinations performed for colorectal cancer screening.
- Examining whether patients with stage III (late-stage) colon cancer have received recommended therapy (i.e., the standard of care), and assessing the quality of data on colorectal cancer treatment collected by state cancer registries.
- Evaluating the feasibility of adding a colorectal cancer screening measure to the Health Plan Employer Data and Information Set (HEDIS), a national system that monitors the quality of care and the performance of managed care plans.

CDC is also funding intervention research designed to test strategies that may increase colorectal cancer screening. Following are examples of these projects.

- Morehouse School of Medicine is researching community-based strategies for improving the use of colorectal cancer screening among African Americans in five metropolitan counties in Georgia.
- West Virginia University is working to increase colorectal cancer screening through a community-based intervention that targets members of rural Appalachian churches.
- The University of Massachusetts Medical School and the University of Pittsburgh Cancer Institute are conducting systems research to improve use of colorectal cancer screening in primary health care systems.

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