Colorectal Cancer

Indiana Department of Health

Bottom Line

Colorectal cancer includes all cancers of the colon and rectum. Colorectal cancer is the third-most diagnosed cancer among both males and females in Indiana, as well as the United States overall. It is the second leading cause of cancer-related death among males, and the third leading cause of cancer-related death among females, in Indiana. The American Cancer Society (ACS) estimates that 3,310 Indiana residents will be diagnosed with colorectal cancer and 1,160 will die from it in 2021.[1] The lifetime risk of developing colorectal cancer is 1 in 25 for women and 1 in 23 for men.[1] In Indiana, Blacks have higher colorectal cancer incidence and mortality rates than whites, and men have higher incidence and mortality rates than women. Despite the ongoing overall decrease in incidence and mortality, there is a concerning trend of increased incidence in individuals younger than age 50.[1]

Table 8. Burden of Invasive Colorectal Cancer*- Indiana, 2016-2020

Note: Excludes in situ

*Age-adjusted to the US 2000 Standard Population. Source: Indiana State Cancer Registry

	Average number of cases per year (2016-2020)	Rate per 100,000 people (2016-2020)	Number of cases (2020)	Rate per 100,000 people (2020)
Indiana Incidence	3,112	39.4	2,552	31.4
Indiana Deaths	886	11.1	775	9.5

Who Gets Colorectal Cancer?

Getting older and being male are the two most significant risk factors for developing colorectal cancer. During 2020, 87 percent of Indiana residents diagnosed with colorectal cancer were age 50 and older and 92 percent were aged 45 and older. In addition, during 2016-2020, colorectal cancer incidence rates were 26.3 percent higher among Indiana males compared to females (49.1 versus 37.7 cases per 100,000 people, respectively)[Figure 19].[4]

Risk Factors

Race: In Indiana, during 2016-2020, Blacks had a 7.5 percent higher incidence rate (45.8 versus 42.5 cases per 100,000 people) and a 28.4 percent higher mortality rate 15.7 versus 11.8 deaths per 100,000 people, respectively) when compared to whites.[4]

Personal or family history: Risk is increased by having a personal or family history of colorectal cancer or certain types of pre-cancerous polyps, a personal history of chronic inflammatory bowel disease, or certain inherited genetic conditions (e.g., Lynch syndrome, also known as hereditary nonpolyposis colorectal cancer, and familial adenomatous polyposis [FAP]).[2]

Diabetes: Studies have found that individuals with type 2 diabetes are at higher risk for colorectal cancer.[2] Although diabetes and colorectal cancer share similar risk factors, this increased risk remains even after shared risk factors are taken into consideration.[2] Studies also

suggest that the relationship may be stronger in men than in women. In general, colorectal cancer patients with diabetes are no more likely to die than non-diabetic patients.[2]

Modifiable risk factors: Cigarette smoking, alcohol consumption, being overweight or obese, being physically inactive, and having a diet high in red or processed meat increase the risk of colorectal cancer.[2] Other factors may help lower the risk of colorectal cancer:

> **Diet:** Dietary patterns likely influence risk both indirectly, through excess calories and obesity, and directly through specific dietary elements. Calcium consumption from dairy products and higher blood levels of vitamin D may decrease colorectal cancer risk.[2] In addition, intake of dietary folate and fiber is also associated with reduced risk. However, whole grains remain inconclusive for decreased risk and protective associations are weak.[1] Consumption of red and/or processed meat is associated with increased risk.

> **Medication:** Studies suggest that long-term, regular use of non-steroidal anti-inflammatory drugs, such as aspirin, may reduce colorectal cancer risk. Earlier studies that attributed a decreased risk to the use of hormones or oral contraceptives have not been validated in recent years.[2]

Smoking: According to the Surgeon General's Report, The Health Consequences of Smoking – 50 Years of Progress, cigarette smoking is a known cause of colorectal cancer, among several other cancers such as lung, bladder, pancreas, and others. In addition, smoking increases the failure rates of treatment for all cancers.

Alcohol: Moderate and heavy alcohol consumption increases the risk for colorectal cancer. A 20 percent risk increase is linked to a lifetime average of two to three drinks per day, while more than three drinks are associated with a 40 percent risk increase.[2]

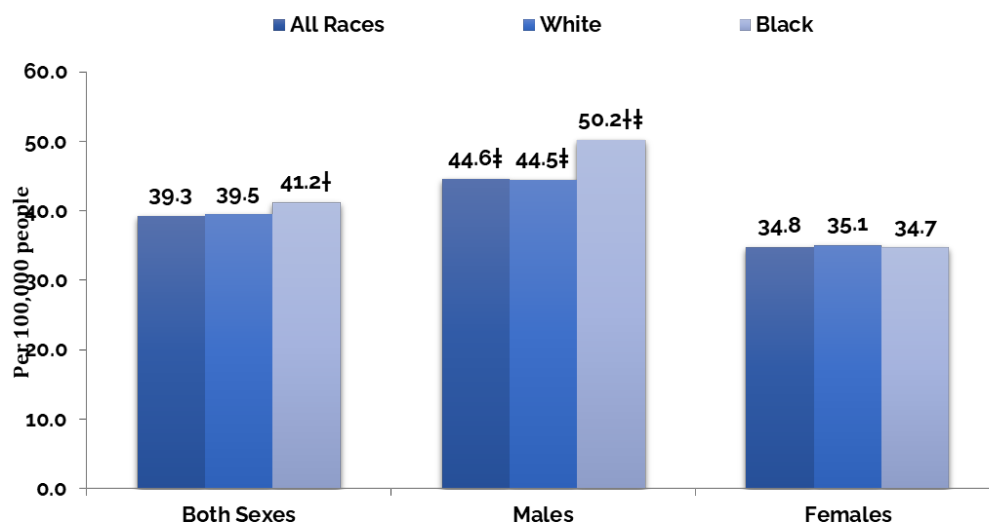# Figure 19. Colorectal Cancer Incidence (A) and Mortality (death) (B) Rates By Sex- Indiana, 2016-2020

*Age-adjusted to the US 2000 Standard Population.
†Rate among Blacks is significantly higher (P<.05) than rate among Whites
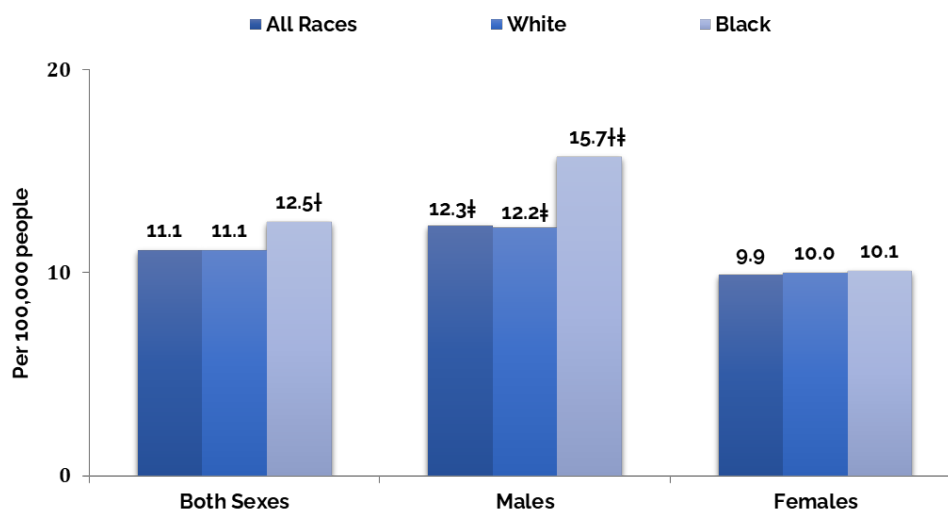‡Rate among males is significantly higher (P<.05) than rate among females
Source: Indiana State Cancer Registry

A. Incidence

B. Mortality

Can Colorectal Cancer Be Detected Early?

Colorectal cancer incidence rates increased from 1975 through the mid-1980s but have been decreasing for the past two decades in the US.[2] Declines have accelerated during the past several years. From 2016 to 2020, incidence rates decreased from 49.1 to 44.6 for men and from 37.7 to 34.8 for women.[2] These declines are largely attributed to decreases in smoking and increases in the use of colorectal cancer screening tests that allow the early detection of colorectal cancer and removal of precancerous polyps before they progress to cancer.[2] A similar trend has been seen in Indiana [Figure 20].

Symptoms of colorectal cancer include rectal bleeding, blood in the stool, dark or black stools, a change in bowel habits, cramping pain in the lower abdomen, and unintentional weight loss. In some cases, blood loss from cancer leads to anemia (low number of red blood cells), causing symptoms such as weakness and fatigue. When any of these symptoms or signs are encountered, further testing is recommended. This will usually include a colonoscopy. Due to the recent increase in colorectal cancer incidence among persons younger than age 50, timely evaluation of any symptoms consistent with colorectal cancer is required, particularly blood per rectum.

Screening for colorectal cancer in individuals without any symptoms may vary. Beginning at age 45, healthy men and women, who have none of the symptoms or signs of colorectal cancer, should follow one of these testing schedules:

The US Preventive Services Task Force recommends colorectal cancer screening using:

- A high-sensitivity guaiac-fecal occult blood test (gFOBT) or a fecal immunochemical test (FIT) once a year
- The multi-targeted stool DNA test (FIT-DNA) once a year or every three years
- A flexible sigmoidoscopy every five years or every 10 years when done in combination with an annual FIT
- A CT colonography (virtual colonoscopy) every five years
- A colonoscopy every 10 years

The most common screening tests are colonoscopy or a stool-based test (e.g. gFOBT, FIT, or FIT-DNA).

Screening should continue at least through age 75. The decision to screen after age 75 should be individualized after discussion with a health care provider.
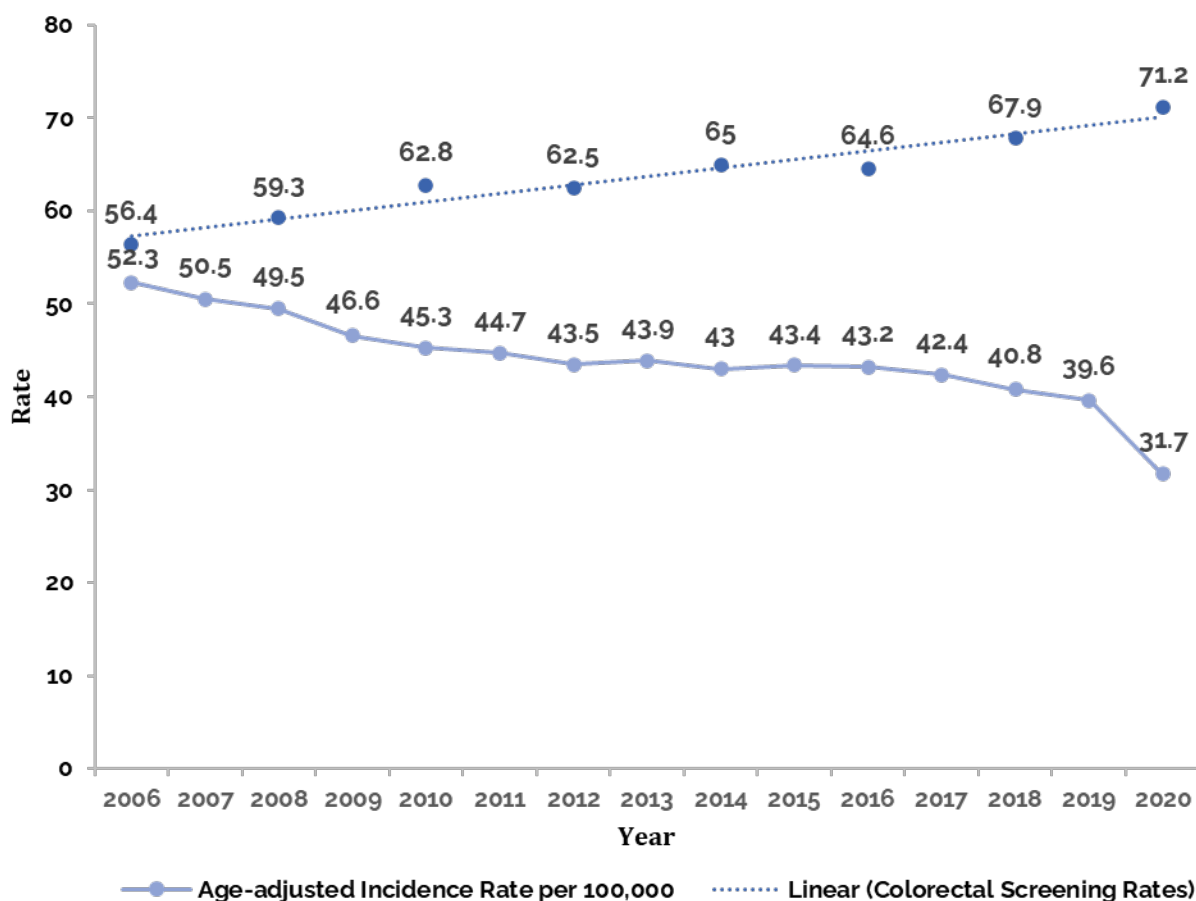
Individuals who think they might have an increased risk, especially due to their family history or having inflammatory bowel disease such as Crohn's disease, should talk to their health care provider about whether they should be screened at a younger age, more frequently, or with a colonoscopy.

According to the Behavioral Risk Factor Surveillance System, in 2022, 74.6 percent of Indiana residents 50 years of age or older had undergone fecal (stool) blood testing or sigmoidoscopy within the past five years, or

colonoscopy within the past 10 years. The National Colorectal Cancer Roundtable established a goal to screen 80 percent of the US population.[2]

Figure 20. Trends In Colorectal Cancer Incidence* and Screening Rates- Indiana, 2006-2020

Age-adjusted Incidence Rate per 100,000 ·········· Linear (Colorectal Screening Rates)

What Factors Influence Colorectal Cancer Survival?

- Nationally, mortality rates for colorectal cancer have declined in both men and women over the past two decades.[1]
- In Indiana, colorectal cancer mortality rates decreased from 2017 to 2020 from 11.9 to 11.1 deaths per 100,000 people. This included decrease among males (from 13.3 to 12.2 deaths per 100,000) and a 33.8 percent decrease among females (from 10.8 to 9.9 deaths per 100,000).[4]
- In the U.S., the five-year survival rate is 63 percent for colon cancer and 67 percent for rectal cancer.[3] Only 39 percent of colorectal cancer patients are diagnosed with localized disease, for which five-year survival is 90 percent.[1]
- In Indiana, during 2016-2020, 39.6 percent of colorectal cancers were identified early, in the in situ or local stage [Figure 21][4] .For colorectal cancers that are diagnosed at a late stage, after it has spread to a distant
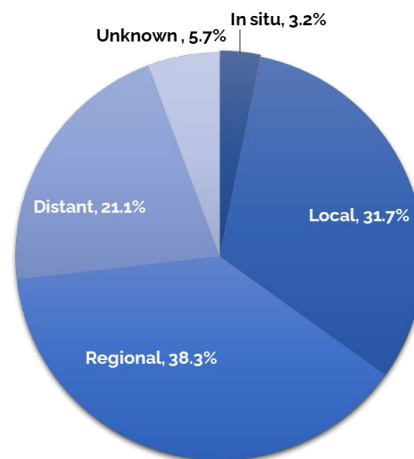
site (metastasized), the five-year survival rate is only 14 percent.[1]

- Surgical removal is the most common treatment for localized colorectal cancer. Chemotherapy is given before or after surgery to patients whose cancer has deeply penetrated the bowel wall or spread to lymph nodes. Radiation therapy, usually in conjunction with chemotherapy, is administered to patients with locally advanced or lower rectal cancers.

Figure 21. Percent of Colorectal Cancer Cases Diagnosed During Each Stage*- Indiana, 2016-2020

*Includes all in situ and invasive cases Source: Indiana State Cancer Registry

In situ, 3.2%
Unknown , 5.7%
Distant, 21.1%
Local, 31.7%
Regional, 38.3%

Be Aware! Take Charge!

Common signs and symptoms of colorectal cancer:

Early stage: No symptoms

Late stage:

- Bleeding from the rectum
- Blood in stool or toilet after bowel movement
- Change in bowel habits or shape of stool
- Cramping or discomfort in the lower abdomen
- Urge to have bowel movement when bowel is empty
- Constipation or diarrhea that lasts more than a few days
- Decreased appetite
- Unintentional weight loss
- Dark or black stools

What can you do to help prevent colorectal cancer?

- Get screened regularly.
- Maintain a healthy weight.
- Adopt a physically active lifestyle.
- Be smoke free- Visit www.in.gov/quitline for free smoking cessation assistance.
- Limit alcohol consumption.
- Consume a healthy diet that: emphasizes plant sources, includes a variety of vegetables and fruits each day, includes whole grains rather than processed (refined) grains, and limit processed and red meats.

References

1. American Cancer Society. Cancer Facts & Figures 2024. Atlanta, GA. 2024.
2. American Cancer Society. Colorectal Cancer Facts & Figures 2023-2025. Atlanta, GA. 2023.
3. American Society of Clinical Oncology. Colorectal Cancer Statistics [Online], 2021. Retrieved from https://www. cancer.net/cancer-types/colorectal-cancer/statistics.
4. Indiana State Cancer Registry, 2024.