



The Burden of Colorectal Cancer in Rhode Island

Prepared by the Rhode Island Cancer Registry (RICR), October 2020

OVERVIEW: Colorectal Cancer in Rhode Island

Colorectal cancer is the fourth most common cancer diagnosed among Rhode Island males and females, accounting for 7% of all new cancer cases and cancer-related deaths (2013-2017).^{1,2} Although colorectal cancer is one of the most common cancers, the number of newly diagnosed colorectal cancers has steadily declined since 1995. This decrease over the past 23 years is significant. In recent years, new case diagnoses (by age-adjusted rate) for both males and females were half of what they were in the late 1990s (*Figures 1 & 2*). Parallel to incidence changes, colorectal cancer deaths in Rhode Island also significantly decreased over the past decades (*Figures 1 & 2*). Risk of developing colorectal cancer is generally higher among males than females.

Figure 1. Trend of Colorectal Cancer Incidence and Mortality among Rhode Island Males, RICR 1995-2017

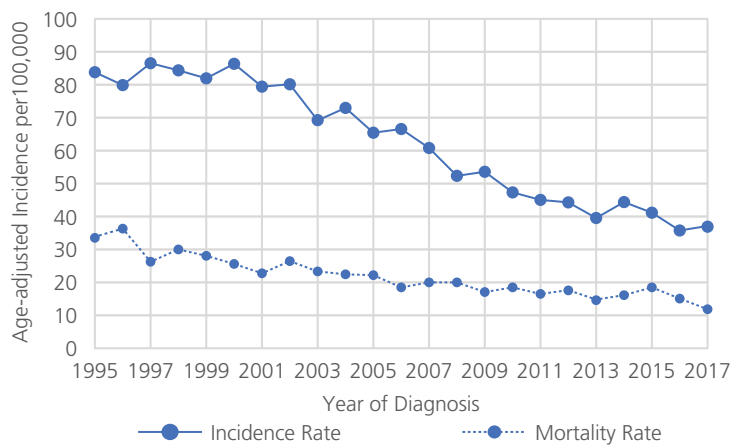
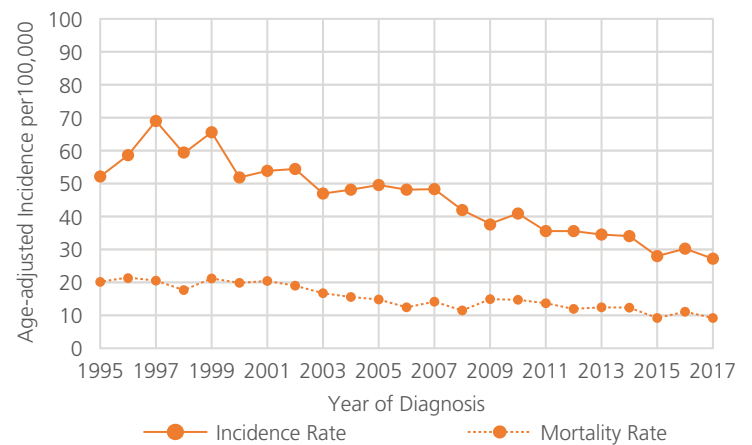


Figure 2. Trend of Colorectal Cancer Incidence and Mortality among Rhode Island Females, RICR 1995-2017



Rates are per 100,000 and age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130)

Racial Differences in Colorectal Cancer Incidence and Mortality

In Rhode Island, non-Hispanic white individuals account for a majority of colorectal cancer cases (the white population is the largest in the state) (*Table 1*). Due to a small population size and thus small number of cases among racial and ethnic minorities, differences in incidence and mortality across subgroups cannot be determined conclusively. However, the proportion of cases among racial and ethnic minorities increased from 5% during 1996-2006 to 11% during 2007-2017 of all Rhode Island colorectal cancers. Case increases among Hispanic populations were particularly prominent during the past decades (*Table 1*).

Table 1. Colorectal Cancer Cases in Males and Females by Race/Ethnicity, RICR 1996-2017

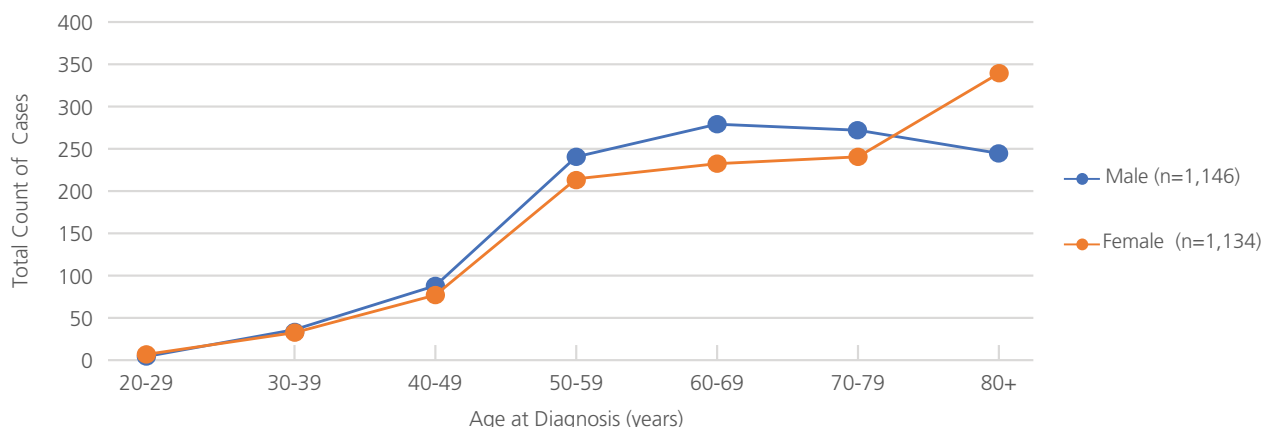
Years	Non-Hispanic White	Non-Hispanic Black	Hispanic	Total*
1996-2006	7,918 (95%)	178 (2%)	202 (2%)	8,376
2007-2017	4,997 (89%)	178 (3%)	299 (5%)	5,623

* All cell values do not add up to total, due to missing or unknown information on race and ethnicity.

Age, Staging, and Primary Site of Colorectal Cancer Diagnosis

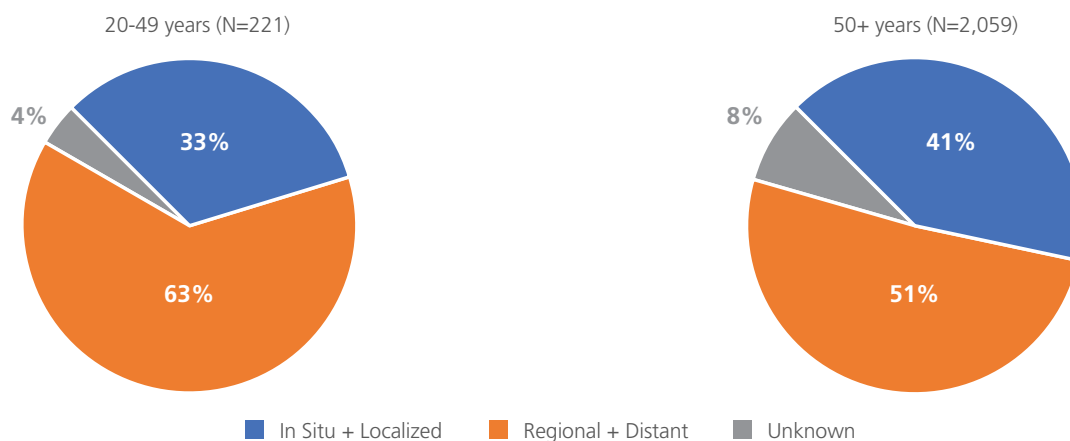
Risks of cancer development increase as people age,³ and most colorectal cancers are diagnosed among Rhode Island adults ages 50 and older (90%, **Figure 3**). The average age at cancer diagnosis is similar between males (age 67) and females (age 69). Only about 10% of colorectal cancer is diagnosed in younger adults (those younger than 50). According to national cancer statistics, colorectal cancer is rising among younger adults,⁴ but a similar trend has not yet been observed in Rhode Island. Studies suggest that modern dietary habits and obesity may correlate with colorectal cancer rate increases in younger generations, but further research is needed.

Figure 3. Age at Colorectal Cancer Diagnosis, RICR 2013-2017



Currently, colorectal cancer screening is recommended for average-risk* adults aged 50 and older.⁵ Although effective screening measures are widely available and often covered by insurers, colorectal cancer screening rates statewide remain low,⁶ and a significant number of cancers are diagnosed at advanced stages (after people begin to experience symptoms). Between 2013 and 2017, more than half (53%) of Rhode Island’s colorectal cancers were diagnosed after they had spread to other site(s) and/or to lymph nodes. Patients ages 20 to 49 years more frequently presented with advanced-stage cancers, compared with their older counterparts (**Figure 4**).

Figure 4. Stage at Cancer Diagnosis by Age among Males and Females, RICR 2013-2017

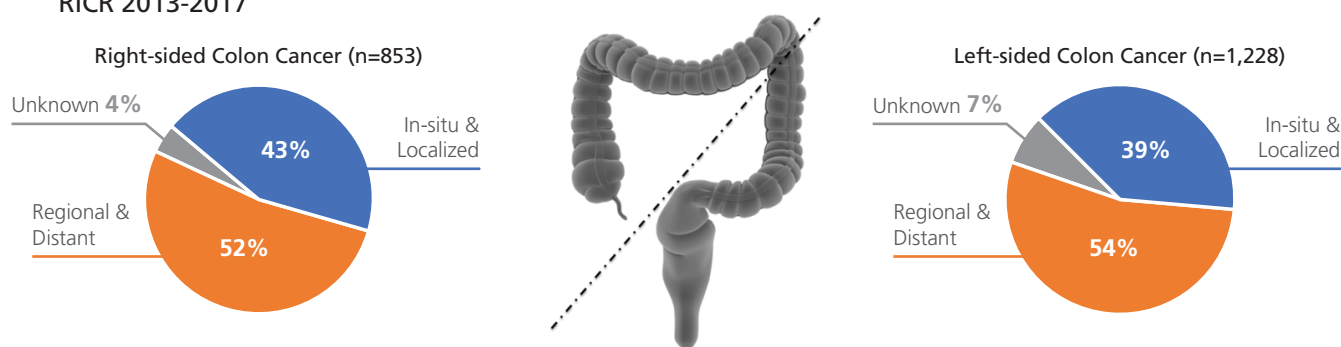


In the in situ and localized stage, the cancer is confined to a primary site. In the regional stage, the cancer has spread to regional lymph nodes. In the distant stage, it has metastasized.

***Colorectal cancer screening by individual risk:** People with above-average risks are often advised by their providers to start screening earlier. Above-average risks may include personal history of colorectal cancer or certain types of polyps, family histories of (or close relatives diagnosed with) colorectal cancer, history of inflammatory bowel disease such as ulcerative colitis or Crohn’s disease, a confirmed or suspected hereditary colorectal cancer syndrome such as familial adenomatous polyposis (FAP) or Lynch syndrome (hereditary non-polyposis colon cancer), or radiation treatment of the abdomen or pelvic area (source: <https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/acs-recommendations.html>).

Recent cancer research identifies distinct biologic and clinical features associated with anatomical locations of colon and rectal tumors. Right-sided tumors are noted to be increasing and often have less favorable prognoses.⁷ Of cancers diagnosed between 2013 and 2017 and recorded in the Rhode Island Cancer Registry, those in the left-sided distal portion of the colon or the rectum were more common (54% of all diagnosed) than were right-sided proximal colon cancers (37%). Rhode Island Cancer Registry data (2013-2017) shows similarities in stage of cancer by tumor location at time of diagnosis (**Figure 5**). Further study is needed to better understand epidemiology, genetic subtyping and molecular markers of the right-sided versus left-sided cancers.

Figure 5. Stage at Cancer Diagnosis by Cancer Location (Left-sided vs. Right-sided)* among Males and Females, RICR 2013-2017



*Right-sided are: cecum, ascending colon, hepatic fixture and transverse colon. Left-sided are: splenic fixture, sigmoid colon and rectum. Cancer in the appendix, overlapping sites, and non-specified sites are not included. Illustration: www.medscape.com

References

- ¹ Rhode Island Cancer Data (extracted July 2020). Rhode Island Cancer Registry.
- ² Rhode Island Vital Records & CDC National Center for Health Statistics (extracted and analyzed using SEER*Stat software v8.4.7, July 2020).
- ³ American Cancer Society. Colorectal Cancer Risk Factors. <https://www.cancer.org/cancer/colon-rectal-cancer/causes-risks-prevention/risk-factors.html>
- ⁴ Sung H, Siegal R, Rosenberg PS, Jemal A. Emerging Cancer Trends among Young Adults in the USA: Analysis of A Population-based Cancer Registry. *Lancet Public Health* 2019; 4:e137-147. [https://www.thelancet.com/pdfs/journals/lanpub/PIIS2468-2667\(18\)30267-6.pdf](https://www.thelancet.com/pdfs/journals/lanpub/PIIS2468-2667(18)30267-6.pdf)
- ⁵ U.S. Preventive Services Task Force (USPSTF). USPSTF Final Recommendation Statement. Colorectal Cancer: Screening. June 15, 2016. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening>
- ⁶ HealthFacts RI Public Reports. Colon Cancer Screening Rates (data from: Rhode Island All-Payor Claim Database (APCD), SFY 2016-2018)). <https://health.ri.gov/data/healthfactsri/>
- ⁷ Warschkow R, Sulz MC, Marti L, et al. Better Survival in Right-sided versus Left-sided Stage I-III Colon Cancer Patients. *BMC Cancer* 2016; 16:554. <https://pubmed.ncbi.nlm.nih.gov/27464835/>



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Gina M. Raimondo
Governor
Nicole Alexander-Scott, MD, MPH
Director of Health