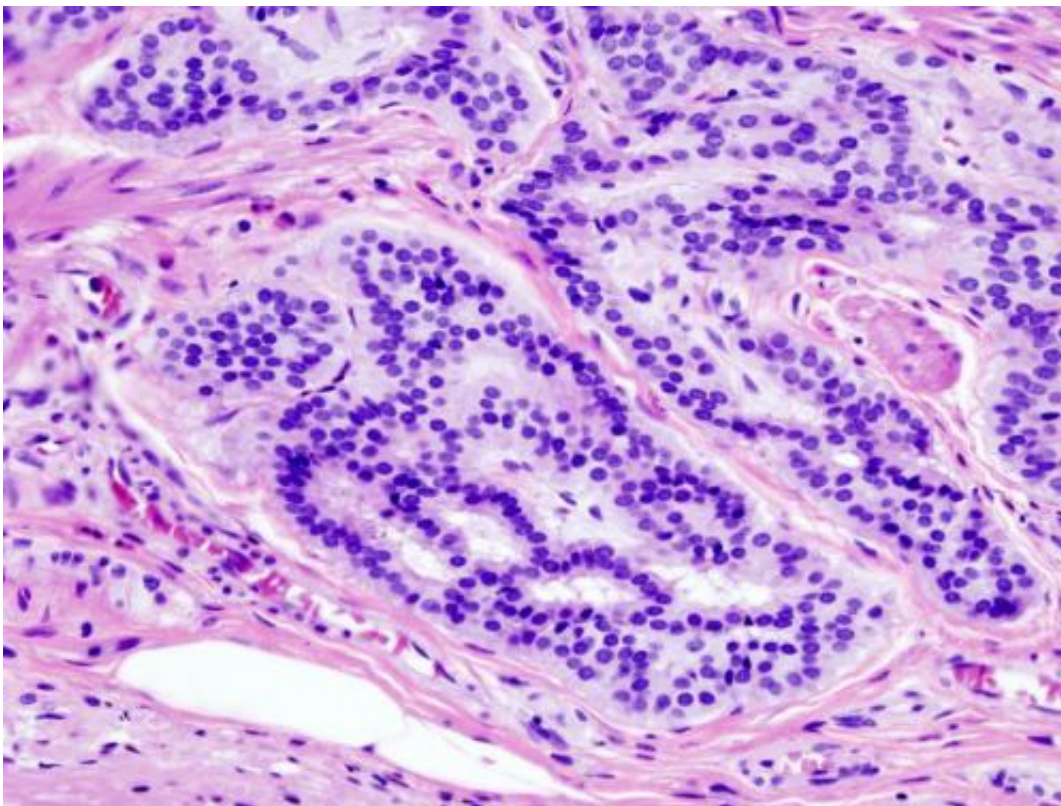


# Comprehensive framework outlined for addressing early-onset colorectal cancer research

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Cancer — Histopathologic image of colonic carcinoid. Credit: Wikipedia/CC BY-SA 3.0

The reasons for rising rates of colorectal cancer in people younger than 50 are largely unknown, but a paper by Vanderbilt researchers published

Jan. 25 in *The Lancet Oncology* sets a comprehensive framework for addressing research challenges and patient needs.

It gives an overview about the state of the science related to the epidemiology, molecular landscape and treatments for early-onset colorectal [cancer](#) as well as the disease's psychological and quality of life impact on patients. Vanderbilt-Ingram Cancer Center (VICC) is one of the first institutions in the U.S. to tailor a research and patient support program specifically for early-onset colorectal cancer. Cathy Eng, MD, professor of Medicine, co-leader of the Gastrointestinal Cancer Research Program and director of the VICC Young Adult Cancers Initiative, directs that program and is the paper's corresponding author.

"The goal of our manuscript is to bring increased education and awareness to young-onset colorectal cancer patients, and for providers to consider all the potential aspects of their cancer care that they may be personally challenged with. These young colorectal cancer patients are faced with so much uncertainty relative to their average age counterparts. Difficult discussions regarding fertility, body image, sexual, bowel and urinary dysfunction, job security, family planning, [mental health](#), etc., need to be considered to optimize the overall care of these patients. If a provider is unsure or does not have the resources at their local hospital, there are multiple resources locally and nationally; many are free of charge," said Eng, the David H. Johnson Professor of Surgical and Medical Oncology at Vanderbilt University.

Early-onset colorectal cancer differs in many ways from how the disease presents in older patients, including differences in genomic alterations. Lynch syndrome, a hereditary condition associated with the MSH2 and MLH1 genes, has already been established, but researchers are just beginning to identify genomic alterations associated with sporadic, early-onset colorectal cancer. Patients younger than 50 are more likely to have tumors with BRAF wild-type genes, absence of methylation and

evidence of chromosomal instability. However, genetic heterogeneity exists, so [next-generation sequencing](#) is recommended to define molecular phenotypes. One molecular phenotype found to be distinct to early-onset colorectal cancer in patients without a family history of the disease is the CXCL12-CXCR4 signaling pathway in tumor cell metastasis. Additional unique molecular characteristics are being investigated in microsatellite stable tumors, which may be a factor for increased incidence of early-onset colorectal cancer.

Tumors in younger patients are more likely to occur in the distal part of the colon, the last portion of the organ on the left side of the body that connects to the rectum. Younger patients are also more likely to develop a second tumor along with the primary tumor within a three-month diagnosis of the first one.

Treatment decisions can differ with younger patients whose colorectal cancers metastasize, the authors noted. A higher percentage may be treated with more intensive chemotherapy, but it is unclear whether this strategy offers better quality of life or a survival advantage.

While surgical resection is a standard of care for most colorectal cancers, non-operative management for rectal cancer may be an option to avoid complications that can impact quality of life. However, patients with rectal cancer who choose this option must adhere to a strict surveillance protocol. The authors noted, "concerns existed before the widespread adoption of non-operative management as the standard of care. The modalities to determine if a patient has a clinical complete response have improved, but the sensitivity and specificity of flexible sigmoidoscopy, MRI and endorectal ultrasound are not 100%."

The authors stressed the need to provide proactive and tailored support beyond cancer treatment for these younger patients. They recommended that patients be provided with resources for peer support, educational

and career counseling, financial guidance, employment, [reproductive health](#) and [family planning](#), [sexual health](#), genetic counseling, nutrition, psychosocial distress, spirituality and existential concerns, and physical and mental well-being.

"We need to support the patient not only with optimal therapeutic treatment, but also emotionally, psychologically and physically. I hope with increased education, awareness, research and with the reduction in the screening age from 50 to 45, we will see a reduction in the incidence of [colorectal cancer](#)," Eng said.

Provided by Vanderbilt University Medical Center

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