Further research the nature, biology, and implications of colorectal cancer, throughout the continuum of age (while also considering younger adults versus older adults). Understanding parameters, including stage, location, histopathology, and underlying genetic and molecular “drivers.”

Strategies:

1. Explore further themes of etiology of early-age onset colorectal cancer; looking beyond the known risk factors and applying the most recent research developments.
2. Consider biology, risk exposure, and socioeconomic status in development.
3. Create an index of common research and reporting metrics.
4. Share common data and registry information.
5. Support research to develop a stronger understanding of symptomatology and clinical presentation of patients.

Research the role and impact of health disparities in those developing colorectal cancer, exploring factors such as biology and socioeconomic status; research to inform evidence-based interventions in areas of biology and healthcare policy.

Strategies:

1. Analyze existing and emerging “hot spots” for colorectal cancer incidence, particularly in younger groups to examine factors for increased incidence.
2. Specifically analyze colorectal cancer tumor characteristics, such as anatomic location, somatic mutations, microsatellite instability, and epigenetics.
3. Further understand the potential environmental risk factors for early-age onset colorectal cancer and how these could contribute to disparities by race/ethnicity.
4. Explore possible policy and research strategies to inform evidence-based interventions in areas of biology and healthcare policy.
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**Wenora Johnson**

Wenora Johnson is a three-time cancer survivor, a Navy veteran, and a Fight CRC research advocate. She advises on panels for the Department of Defense, Patient Centered Outcomes Research Institute (PCORI), and the College of American Pathologists (CAP) to name a few.

Wenora has served as a research advocate reviewing protocol and patient-facing materials for an industry partner investigating the most impactful educational methods for increasing screening rates, particularly in the African American community.

Wenora's expertise has helped researchers understand study feasibility and implementation challenges. Including patient perspectives early in trial design improves the likelihood that the trial is designed with patients in mind, and that any challenges that the patient community may face are lessened. It also ensures that trial sites are geographically and racially diverse and are inclusive of all colorectal cancer patients.
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**OBJECTIVE 1**

**OBJECTIVE 2**

**PATH TO A CURE OBJECTIVES AND STRATEGIES**

**BIOLOGY AND ETIOLOGY**

**PROGRESS INDICATOR:** APPLYING WHAT WE KNOW FROM BIOLOGY AND HEREDITARY RISK TO REDUCE LATE-STAGE COLORECTAL CANCER

**CHALLENGES**

**OPPORTUNITIES**

&

**PREVENTION AND EARLY DETECTION**

**SECTION TWO: PREVENTION AND EARLY DETECTION**

**Screening is essential to early detection.**

Colorectal cancer progresses from early, localized stages characterized by the presence of small polyps and adenomas that generally have a favorable prognosis to more advanced stages defined by larger polyps and eventually cancer.  

**FIGHT COLORECTAL CANCER**

**PATH TO A CURE OBJECTIVES AND STRATEGIES**
Further research the nature, biology, and implications of colorectal cancer, throughout the continuum of age (while also recognizing the increasing incidence of colorectal cancer among young adults). (12)

In May 2021, the U.S. Preventive Services Task Force (USPSTF) officially lowered the recommended age of screening from 50 to 45, following extensive review of research, as well as recognition of the increasing incidence of colorectal cancer among young adults. (12)

More than 40 million people in the U.S. are eligible for colorectal cancer screening.

CHALLENGES

- The national screening rate based on 2018 Behavioral Risk Factor Surveillance System (BRFSS) data is 67%-68%. This accounts for those ages 50 and over. (11)

- In 2021 when the USPSTF reduced the screening age from 50 to 45, the eligible population increased by an estimated 60%, expanding the population of people who need to be screened from 27 million to 44 million.

- The multitude of modalities and options for screening differ with regard to advantages and disadvantages. While there is great opportunity in choice of options, the challenge is to keep the public and medical providers fully up-to-date, so as to foster their ability to make informed decisions as to which option is best for them.

Which test to recommend continues to be controversial within the healthcare community. Debates continue to complicate public health efforts over colorectal cancer screening methods, age to start and to stop screening, and post-colonoscopy/polyectomy surveillance guidelines. (11)

It’s a win/win!
Implementation science leads to increased colorectal cancer screening in communities across the country.

Here’s what the CDC determined:

“Many providers have key indicators and goals to achieve in order to ensure patients continue to receive the best care. The Centers for Disease Control and Prevention (CDC) currently CRCCP and is focused on bringing the medically underserved to screenings and best practices. A variety of mechanisms inform the development of colorectal cancer screening programs, grantees, other colorectal cancer screening programs, and policymakers to understand programmatic cost, screening promotion cost distribution, and projected cost per person screened to guide future program planning and implementation.

Research should be undertaken to understand the optimal mix of screening promotion activities, as a complementary set of approaches may prove to be the most cost-effective combination to increase colorectal cancer screening rates.

Although the CRCCP was largely successful in fostering the use of evidence-based interventions, future implementation should use targeted approaches that specify interventions rather than broad-based recommendations to ensure grantees use strategies recommended by the Community Guide to deliver high-impact programs.” (26)
Further research the nature, biology, and implications of colorectal cancer, throughout the continuum of age (while also looking at increased incidence, particularly in younger groups to examine factors for onset colorectal cancer and how these could contribute to disparities by race/ethnicity.)

Specifically analyze colorectal cancer tumor characteristics, such as biology, risk exposure, and socioeconomic status in order to better understand the drivers of colorectal cancer.

**Investments in Cancer Research**

Part of the funding for colorectal cancer research, funded by the NCI, is targeted to colorectal cancer screening. There is a variety of industry and foundation support for program implementation and research-based opportunities for advancing the science in development of emerging minimally invasive strategies for preventive cancer screening.

**Stand Up to Cancer and PCORI invested $8 million and $32 million in 2021, respectively with strong commitment to prevention research.**

**Charities That Support Cancer Research:**

- American Cancer Society
- Colon Cancer Coalition
- Colorectal Cancer Alliance
- FIGHT Colorectal Cancer
- Friends of Cancer Research
- Livestrong
- Stand Up to Cancer

**Opportunities**

- National and local efforts to bring awareness of the benefits of colonoscopy screenings have paid off. When people are screened, colorectal cancer is prevented or caught early. Screening saves lives.

  In December 2020, the Removing Barriers to Colorectal Cancer Screening Act of 2020, which waives co-insurance charges for average-risk colorectal cancer screening of Medicare beneficiaries, regardless of whether tissue is removed during the test, was passed. This Act will be phased in during an eight-year period beginning in 2022.

- Related to quality measures and incentives for providers to keep cancer prevention as a topic priority, two very important measures are in effect. The first is the Healthcare Effectiveness Data and Information Set (HEDIS), a tool used by more than 90% of America’s health plans and is a comprehensive set of standardized performance measures. The measure consists of members ages 50-75 who receive the appropriate screening for colorectal cancer.

  The second is within Medicare: Colorectal cancer screening is also now a National Quality Strategy Domain: Effective Clinical Care. This measure is to be submitted once per performance period for patients seen during that period. This measure may be submitted by Merit-based Incentive Payment System eligible clinicians.

  Integrating quality measures and incentives with key indicators and benchmarks for success have been proven to help ensure providers meet designated metrics. As a result, providers are more likely to recommend colorectal cancer screenings to their patients.

- The Centers for Disease Control and Prevention (CDC) currently funds the Colorectal Cancer Control Program (CRCCP) and is focused on increasing colorectal cancer screening rates in 35 states within the safety net and primary care clinics in reaching those patients who have the lowest screening rates.

  This is one of the largest investments in screening the medically underserved, and understanding and disseminating best practices. The Centers for Disease Control also has a variety of mechanisms in their funding portfolio to research implementation of colorectal cancer screening, as well as data repositories.
Further understand the nature, biology, and implications of colorectal cancer, throughout the continuum of age (while also considering younger adults versus older adults). Understanding colorectal cancer, including patients with a family history of colorectal cancer, requires knowledge of genetics, heredity, and environment.

**SCREENING INCREASED-RISK, HIGH-RISK, AND SYMPTOMATIC PATIENTS**

**Family History and Increased Risk**
Guidelines for those who are at increased and high-risk are well-established for colorectal cancer screening. The most common guidelines include U.S. Multi-Society Screening Guidelines, American College of Gastroenterology, and the American Gastroenterology Society.

We have identified genetic and hereditary syndromes and risk factors that we know increase the likelihood of colorectal cancer. The lifetime risk of colorectal cancer in average-risk individuals is approximately 4.5% and approximately double in individuals with a positive family history. Familial colorectal cancer may have some component that is genetic in origin or may be an effect of shared environmental exposures. It is estimated that approximately 10% of the general population ages 30-70 years old have a first-degree family history affected by colorectal cancer and up to 30% will have a first-degree family member or second-degree relative with colorectal cancer. It is also well-established that Inflammatory Bowel Disease (IBD), including either ulcerative colitis or Crohn’s disease, also increases risk of colorectal cancer.

The Affordable Care Act ensures coverage of any Grade B or higher USPSTF recommendation, which includes some genetic referral guidelines, cancer screening with no co-pays or co-insurance, and allows parents to keep their children on their plans until age 26 if the children are still in school.

Additionally, the Genetic Information Non-Discriminatory Act prevents health insurance and employment discrimination based on genetic test results or family history. As colorectal cancer screening evolves and we continue to push forward, it will be critical that we find mutually beneficial partnerships that can produce groundbreaking research and innovation that solves complex problems, drives economic growth, and creates a more skilled workforce.

**OBJECTIVE 1**

**APPLYING WHAT WE KNOW FROM BIOLOGY AND HEREDITARY RISK**

**PROGRESS INDICATOR:**

**BIOLOGY AND ETIOLOGY**

**Path to a Cure Objectives and Strategies**

**SECTION TWO: PREVENTION AND EARLY DETECTION**

**OBJECTIVE 2**

**CHALLENGES & OPPORTUNITIES**

**CHALLENGES**

- Despite being at increased risk for colorectal cancer due to positive family history, first-degree relatives (FDR) are not always screened according to guidelines.
- One study found that 40% of individuals with a family history of colorectal cancer were screened appropriately according to the American Gastroenterological Association guidelines.
- Other research suggests that 47% of individuals at increased risk for colorectal cancer (defined as a FDR diagnosed before age 55, or two relatives diagnosed with colorectal cancer) adhered to colorectal cancer screening guidelines.
- Results of these studies indicate an opportunity to increase screening adherence among first-degree family members of colorectal cancer patients. This does not take into account advanced adenomas within families and the need for colonoscopy screening, which is another area of attention that could be addressed for the biggest potential in colorectal cancer prevention.

**OPPORTUNITIES**

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- Additionally, the Genetic Information Non-Discriminatory Act prevents health insurance and employment discrimination based on genetic test results or family history.
- As colorectal cancer screening evolves and we continue to push forward, it will be critical that we find mutually beneficial partnerships that can produce groundbreaking research and innovation that solves complex problems, drives economic growth, and creates a more skilled workforce.
Prevention and Early Detection

Objective 1

Improve dissemination and implementation (spreading the information and putting into practice) of the evidence-based colorectal cancer screening interventions for the average-risk population.

Strategies:

1. Advocate for stronger integration of preventive screening for comprehensive care for the average-risk population as a "default." No longer recommending only colorectal, breast, cervical, lung, and other screening recommendations in isolation, by body parts, but rather recommending screening guidelines as a whole.

2. Provide a dedicated approach to target-specific screening interventions and campaigns to reach communities with the lowest colorectal screening rates.

3. Continue state and federal level policy work to remove out-of-pocket costs for colonoscopy following a positive noninvasive screening test.

4. Advocate for a HEDIS measure that will ensure completion of follow-up colonoscopy for positive noninvasive tests and abnormal screening, denoting that preventive screening is not complete until a follow-up colonoscopy is completed.

5. Create consumer-driven awareness by advocates with payers and policymakers.
**OBJECTIVE 2**

Improve dissemination and implementation of the evidence-based colorectal cancer screening for the increased, high-risk and symptomatic patients.

Strategies:
1. Increase the number of patients who have completed family history and referral for genetic and hereditary colorectal cancers, including family history of advanced adenomas, colorectal cancer, and other genetically linked cancers.
2. Increase screening rates for those who have first-degree family members with hereditary and genetic adenomas, colorectal cancer, and other genetically linked cancers.
3. Reduce stigma for patients who have signs and symptoms of colorectal cancer for more timely follow-up for colonoscopy.

**OBJECTIVE 3**

Further research and examination of colorectal cancer screening uptake for those younger than age 50 to reduce early-age onset colorectal cancer.

Strategies:
1. Research to help define common signs and symptoms to create a clinical screening tool to assess for potential colorectal cancer in those younger than age 50.
2. Engage primary care associations and providers for greater awareness of issues related to work-up of signs and symptoms of colorectal cancer.
3. Create awareness campaigns and strategies for consumers about the increase of colorectal cancer in people younger than age 50 and addressing stigma.
4. Examine patient preference in specific screening modalities for the 45-50-year-old-age group in the average-risk population.

**OBJECTIVE 4**

Research minimally invasive strategies for preventive cancer screening, including analysis of blood, urine, and saliva (i.e., “liquid biopsies”); and examination of the oral and intestinal microbiome.

Strategies:
1. Define sensitivity and specificity based on patient needs and preferences.
2. Determine common quality and clinical thresholds and standards for emerging technologies.
3. Further engagement in ensuring patient accessibility.