2023 EAO-CRC Think Tank Breakout Session

Research Opportunities for Under 50 Risk Stratification and Population-based Early Intervention Strategies

FIGHT COLORECTAL CANCER™
Moderators

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Speakers

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Professor of Medicine, NYU
Age-based trends in CRC Incidence

American Cancer Society. Colorectal Cancer Facts & Figures 2023-2025.
Disparities in CRC Incidence

Contrasting Colorectal Cancer Screening Guidelines Worldwide

2008: Age 50 to Begin Screening

- Strategies starting at age 50 and 60 y
- Strategies starting at age 40 y
- Frontier of efficient strategies (50, 60 y)
- Frontier of efficient strategies (40, 50, 60 y)
Contrasting Colorectal Cancer Screening Guidelines Worldwide

Estimation of Benefits, Burden, and Harms of Colorectal Cancer Screening Strategies
Modeling Study for the US Preventive Services Task Force

Amy B. Krudsen, PhD; Ann G. Zauber, PhD; Carolyn M. Rutter, PhD; Steffie K. Naber, Iris & Sc; V. Paul Doria-Rose, DVM, PhD; Chester Fabiniak, MS; Colden Johnson, BA; Sara E. Fischer, MPH; Iris Lansdorp-Vogelaar, PhD; Karen M. Kurtz, ScD

2016: Age 50 to Begin Screening
2018: Modeling to Inform First Guidelines to Begin Screening at Age 45
Contrasting Colorectal Cancer Screening Guidelines Worldwide

US Preventive Services Task Force | Modeling Study
May 18, 2021

Colorectal Cancer Screening
An Updated Modeling Study for the US Preventive Services Task Force

Amy B. Knudsen, PhD1,2; Carolyn M. Rutter, PhD3; Elisabeth F. P. Petersen, PhD4,5; Anna P. Lietz, BA1,6; Claudia L. Seguin, BA1; Reinier G. S. Moestek, PhD7; Leslie A. Mardrue, MPH7; Jennifer S. Lin, MD2; Katherine L. Siegel, MPH7; V. Paul Doeiros-Kose, UVM, PhD7; Eric J. Feuer, PhD7; Ann G. Zauber, PhD10; Karen M. Kurtz, ScD11; Iris Lansdorp-Vogelaar, PhD12

2021: USPSTF Recommend Screening at Age 45 Based on CISNET Modeling Work
Contrasting Colorectal Cancer Screening Guidelines Worldwide

Can risk-stratification screening be used to alleviate some of these concerns?

Figure 1. Potential consequences of recommending colorectal cancer (CRC) screening initiation at age 45 instead of age 50 years.

Liang et al, Gastroenterology, 2018
Four main components to making screening recommendations:
- Who needs to be screened?
- What are the appropriate intervals?
- Which screening method?
- What is the appropriate age?

Screening guidelines for average-risk individuals vary by country, ranging from as early as 40-years old to as late as 60-years old.

The global rise in EAO-CRC suggests that there may be a need to review global screening guidelines; however, there are significant challenges and implications to consider.
Understanding colorectal cancer risk can help prevent disease in the future.

- A substantial portion of EAO-CRC diagnoses in patients with a family history of CRC or a hereditary cancer syndrome could be preventable if:
  - High-risk screening guidelines were followed
  - Average-risk screening was initiated at 45 years old.

- Critical need to develop and implement a method for collecting family history.
What proportion of EAOCRC is preventable?

• Study aim:
  • Determine proportion of EAOCRC cases potentially prevented if high-risk screening guidelines were followed and if average-risk screening was started at age 45

• Study population:
  • Prospective cohort of people newly diagnosed w EAOCRC in Ohio.

• Protocol:
  • All provided family history and received germline multigene panels.

What proportion of EAOCRC is preventable?

713 Patients with EAOCRC

566 (79.4%)
No FH
No hereditary syndrome

64 (9.0%)
+ FH
No hereditary syndrome

33 (4.6%)
+ FH
+ hereditary syndrome

50 (7.0%)
No FH
+ hereditary syndrome

Sporadic EAOCRC
234 (41.3%) would have been diagnosed earlier if screened appropriately at age 45

97 (13.6%) had family history of CRC
Of these, if guidelines followed:
80 (82.5%) would have been diagnosed earlier
65 (67.0%) had potentially preventable CRC

83 (11.6%) had at least 1 hereditary syndrome
Of these, if guidelines followed:
81 (97.6%) would have been diagnosed earlier
74 (89.2%) had potentially preventable CRC

Population Identification Using Stool-based Screening and Emerging Technologies and Research Opportunities for EAO and Beyond

2020: Percentage of Adults 50–75 Years fully meeting USPSTF recommendation for CRC Screening, by State

- Overall screening rates are 68%
- Screening rates by Race: Whites 71%
  AA 70%
  Asian 64%
  Hispanics 56%

- Health Insurance:
  Yes 71%
  No 40%
- Regular HCP:
  Yes 73%
  No 36%

- 21 million adults 45-49 yrs

Currently, the national average for meeting screening guidelines (starting at age 45) is 59%; however, the NCCRT goal is 80%.

There are significant disparities in population adherence to CRC screening guidelines across the United States.

Screening outreach has evolved:
- Organized screening programs
- Patient navigation
- Offering choice of screening tests
- Emergence of new test options:
  - Emerging stool-based tests
  - Blood-based screening
  - Challenges that remain

Despite existing screening options, many eligible patients are not getting screened for CRC.
Recurring Themes

• There are significant disparities across each nation in the adherence to CRC screening guidelines.

• Identifying factors that are associated with the lack of screening in communities will provide an avenue for intervention.

• All stakeholders (industry, advocacy organizations, survivors, caregivers, researchers) must be involved in collaboration at an international level.

• Future interventions will likely be tailored to individuals based on their exposures, microbiomes, epigenetic age, and risk.

• Needs to include:
  • infrastructure development
  • multidisciplinary approaches
  • data sharing
Main Takeaway Questions

Asking the right questions and following-up with actionable items is key to advancing CRC research.

- What do we need to consider when evaluating screening guidelines (domestically and globally)?
- How do we accurately collect family history?
- How do we achieve “80%” in every country, state, and neighborhood?
- Where do stool- and blood-based screening methods fit into screening guidelines?
- How do we integrate the microbiome/exposome/etc. to screening and risk stratification strategies?