WEO
World Endoscopy Organization

Colorectal Cancer Screening Committee Hybrid Meeting: Program and Abstracts

May 20, 2022
San Diego, USA / Zoom

www.worldendo.org

Program and abstracts

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Overview of content

- Program main meeting
- Overview of supporters
- Faculty overview
- Abstracts (in sequence of program)

Program

Colorectal Cancer Screening Committee (CRC SC): Plenary Meeting – San Diego (Hybrid format)

Friday, May 20, 2022 – 7.00am - 11.15am (Pacific time)

Corresponding Eastern time: 10.00am – 2.15pm
Corresponding CEST time: 4.00pm – 8.15pm
Corresponding Singapore time: 10.00pm – 2.15am

The Westin San Diego Gaslamp Quarter
San Diego Ballroom, 4th floor
910 Broadway Cir, San Diego, CA, 92101

Virtual attendance via Zoom: Registered participants have received a link for the meeting.

Conveners:
Evelien Dekker (Netherlands), Global Chair
Robert Schoen (USA), outgoing North America Co-Chair
Uri Ladabaum (USA), incoming North America Co-Chair

Themes:
Early-onset
New tests
Risk-based screening and encouraging uptake
Emerging trends

Goals of the meeting:
To provide updates on recent advances in CRC screening
To seek advice and comments on future initiatives
To reach consensus on controversial areas

Session 1: Early-onset

Chairs: Peter Liang (USA), Swati Patel (USA)
Time: 7.00 am – 7.53 am

7.00 am	Welcome by conveners	
7.05 am	Prevalence of colorectal neoplasia in young individuals / GIQuIC: Yield of screening 45–49-year-olds	*Parth Trivedi (USA)*
7.17 am	Fight CRC: Integrating Stakeholders with Research Initiatives in Early-onset Colorectal Cancer	*Jen Kolb, Caitlin Murphy (USA)*
7.29 am	Potential Effects of Lowering Colorectal Cancer Screening Age to 45 Years on Colonoscopy Demand, Case Mix, and Adenoma Detection Rate	*Seth Crockett (USA)*
7.41 am	Q+A	

Session 2: New tests

Chairs: Linda Rabeneck (Canada), Robert Schoen (USA)
Time: 7.53 am – 8.45 am

7.53 am	Evaluation of pks+ E.coli in stool as risk marker for CRC early detection	*Willemijn de Klaver (Netherlands)*

8.05 am	Review on regional variation in microbiome	*Mingyang Song (USA)*
8.17 am	Update for the WEO Expert Working Group on New Test Evaluation: Assessing the cost effectiveness of new tests	*Uri Ladabaum (USA)*
8.29 am	Q+A	
8.45 am	***Coffee Break (30 minutes)***	

Session 3: Risk-based screening and encouraging uptake
Chairs: Nastazja Dagny Pilonis (Poland), Fola May (USA)
Time: 9.15 am – 10.05 am

9.15 am	Risk-based screening versus FIT for detecting advanced neoplasia: A within group comparison in a randomized controlled trial	*Tim Kortlever (Netherlands)*
9.27 am	Using Facebook to promote the uptake of colorectal cancer screening	*Arlinda Ruco (Canada)*
9.39 am	M-TICS: A study to assess the effectiveness of SMS-based interventions to increase participation in a population-based colorectal cancer screening program	*Montse Garcia (Spain)*
9.51 am	Q+A	

Session 4: Emerging trends
Chairs: Heiko Pohl (USA), Luis Caro (Argentina)
Time: 10.05 am – 11.15 am

10.05 am	Green endoscopy	*Heiko Pohl (USA)*
10.17 am	How to measure equity by race and ethnicity and socio-economic status, and what to do about the results. An update along with results from recent letter in NEJM	*Chyke Doubeni (USA)*
10.29 am	Serrated polyp detection and risk of interval post-colonoscopy colorectal cancer: a population-based study	*David van Toledo (Netherlands)*
10.41 am	Comparing Colorectal Cancer Screening Outcomes in the International Cancer Screening Network (ICSN): A Consortium Proposal	*Iris Lansdorp-Vogelaar (Netherlands)*
10.53 am	Q+A	
11.15 am	**Meeting adjourns**	

We would like to thank the following partners for their support:

alfresa
Check our NEW global website ↑

EIKEN CHEMICAL

freenome

Polymedco

SENTINEL DIAGNOSTICS

Faculty Overview

Dr. Seth D. Crockett
Associate Professor
Division of Gastroenterology & Hepatology
University of North Carolina School of Medicine
Chapel Hill, NC, USA

Dr. Chyke A. Doubeni
Professor of Family Medicine
Center for Health Equity and Community Engagement Research
Mayo Clinic
Jacksonville, FL | Phoenix/Scottsdale, AZ | Rochester, MN, USA

Dr. Montse Garcia
Cancer Screening Unit
Catalan Institute of Oncology
Barcelona, Spain

Dr. Iris Lansdorp-Vogelaar
Associate Professor, Erasmus MC, Department of Public Health
Rotterdam, The Netherlands

Willemijn de Klaver
MD, Research fellow
Department of Pathology
Netherlands Cancer Institute
Amsterdam, The Netherlands

Dr. Jennifer M. Kolb
Division of Gastroenterology, Hepatology and Parenteral Nutrition
Staff Physician - VA Greater Los Angeles Healthcare System
Assistant Professor of Medicine- David Geffen School of Medicine at UCLA
Los Angeles, CA, USA

Tim Kortlever
MD, Research fellow
Amsterdam University Medical Centers
Amsterdam, The Netherlands

Dr. Uri Ladabaum
Professor of Medicine, Senior Vice Chief
Director, Gastrointestinal Cancer Prevention Program
Division of Gastroenterology and Hepatology
Stanford University School of Medicine
Stanford, CA, USA

Dr. Caitlin C. Murphy
Associate Professor
School of Public Health
University of Texas Health Science Center at Houston
Houston, TX, USA

Dr. Heiko Pohl
Associate Professor of Medicine
Dartmouth Geisel School of Medicine
Section of Gastroenterology
VA Medical Center
White River Junction, Vermont, USA

Dr. Arlinda Ruco
Institute of Health Policy, Management and Evaluation, University of Toronto
Li Ka Shing Knowledge Institute, St. Michael's Hospital, Unity Health Toronto
Peter Gilgan Centre for Women's Cancers, Women's College Hospital
Toronto, Canada

Dr. Mingyang Song
Assistant Professor of Clinical Epidemiology and Nutrition
Harvard T.H. Chan School of Public Health
Assistant Professor of Medicine
Clinical and Translational Epidemiology Unit
Massachusetts General Hospital, Harvard Medical School, USA

David E.F.W.M. van Toledo
MD, Research fellow
Department of Gastroenterology and Hepatology
Amsterdam University Medical Centers
Amsterdam, the Netherlands

Dr. Parth Trivedi
The Mount Sinai Hospital
Department of Internal Medicine
New York City, NY, USA

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Prevalence of colorectal neoplasia in young individuals/ GIQuIC: Yield of screening 45–49-year-olds

Author: Parth Trivedi

Background & aims: A disturbing increase in early-onset colorectal cancer (EOCRC) has prompted recent guidelines to recommend lowering the colorectal cancer (CRC) screening starting age from 50 to 45 years old for average-risk individuals. Little is known about the prevalence of colorectal neoplasia in individuals between 45 and 49 years old, or even younger, in the United States. We analyzed a large, nationally representative data set of almost 3 million outpatient colonoscopies to determine the prevalence of, and risk factors for, colorectal neoplasia among patients aged 18 to 54.

Methods: Findings from high-quality colonoscopies were analyzed from AMSURG ambulatory endoscopy centers (ASCs) that report their results in the GI Quality Improvement Consortium (GIQuIC) Registry. Logistic regression was used to identify risk factors for EOCRC.

Results: Increasing age, male sex, White race, family history of CRC, and examinations for bleeding or screening were all associated with higher odds of advanced premalignant lesions (APLs) and CRC. Among patients aged 45 to 49, 32% had any neoplasia, 7.5% had APLs, and 0.58% had CRC. Rates were almost as high in those aged 40 to 44. Family history of CRC portended neoplasia rates 5 years earlier. Rates of APLs were higher in American Indian/Alaskan Natives, but lower among Blacks, Asians, and Hispanics, compared with White counterparts. The prevalence of any neoplasia and APL gradually increased between 2014 and 2019, in all age groups.

Conclusions: These data provide support for lowering the screening age to 45 for all average-risk individuals. Early messaging to patients and providers in the years leading up to age 45 is warranted, especially in those with a family history of CRC.

This research was originally published in Gastroenterology.
Trivedi PD, Mohapatra A, Morris MK, Thorne SA, Ward AM, Schroy P, Hampel H, Jandorf L, Popp JW Jr, and Itzkowitz SH. Prevalence and predictors of young-onset colorectal neoplasia: insights from a nationally representative colonoscopy registry. Gastroenterology. Published April 2022:162(4):1136-1146.e5. doi: 10.1053/j.gastro.2021.12.285

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Fight CRC: Integrating Stakeholders with Research Initiatives in Early-onset Colorectal Cancer
Authors: Caitlin Murphy PhD MPH; Jennifer Kolb MD MS

FIGHT Colorectal Cancer (Fight CRC) is a national non-profit organization with a bold mission to cure colorectal cancer. Fight CRC accomplishes this mission across the three pillars of patient support, policy, and research. Patient support includes building a community of stakeholders (e.g., patients, survivors, caregivers) and connecting these stakeholders with policy and research efforts; policy includes developing a strategic action plan by advocating for federal and state policies and increased research funding. Fight CRC's research endeavors range from establishing research priorities to funding pilot projects, and they have convened an Early-Age Onset Workgroup comprised of international experts conducting research in early-onset colorectal cancer (EO-CRC).

Fight CRC works closely with stakeholders and the Early-Age Onset Workgroup to monitor global trends in EO-CRC. For example, incidence rates are highest in North America (11.1 per 100,000 in 2019) but rapidly increasing in East Asia and the Pacific (from 3.9 per 100,000 in 1990 to 10.1 per 100,000 in 2019). Fight CRC has prioritized research initiatives in EO-CRC and leveraged their unique relationship with stakeholders to address these trends in the short, intermediate, and long term: 1) understanding barriers to screening and diagnostic work-up; 2) reducing delays in diagnosis; and 3) identifying novel risk factors. These initiatives underscore the importance of patient-centred approaches to tackle the increasing incidence rates of early-onset colorectal cancer worldwide.

- In the short-term, Fight CRC has conducted a series of focus groups with patients and caregivers to understand barriers to diagnostic work-up. These focus groups have revealed cost and insurance as barriers to timely diagnosis. As one participant who was eventually diagnosed with cancer noted, "I had great insurance through my job and a strong family history. Still, my insurance denied the procedure. So, I waited." Focus groups have also pointed to the role of providers and the need for additional education to identify and triage red flag symptoms such as change in bowel habits, rectal bleeding, iron deficiency anemia, or weight loss.
- In the intermediate-term, Fight CRC is addressing early recognition of symptoms by evaluating the relationship between symptom presentation and cancer risk. Most patients diagnosed with EO-CRC present with symptoms, and delays from initial symptoms to diagnosis are unfortunately common. Fight CRC is leading a systematic literature review to address the evidence in this space and estimate the risk so we can create better algorithms for timely workup and management of young adults presenting with symptoms concerning for cancer.
- In the long-term, Fight CRC is developing patient-centred tools to identify novel risk factors for EO-CRC. Specifically, Fight CRC has formed a workgroup to standardize measurement of risk factors and data collection. The workgroup has developed a tool, available to the research and patient community via REDCap, to measure risk factors across the following domains: medical history, medication use, physical activity and diet, and social habits. This tool can be used by myriad stakeholders (e.g., physicians from various specialties, epidemiologists, genetics counselors, patients) and adapted for different audiences for clinical or research purposes.

Fight CRC welcomes partnership with the World Endoscopy Organization and identifying opportunities for research collaboration, particularly opportunities involving stakeholder engagement. Fight CRC's Early-Age Onset Workgroup is also interested in growing their international presences and including new members from around the world.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Potential Effects of Lowering Colorectal Cancer Screening Age to 45 Years on Colonoscopy Demand, Case Mix, and Adenoma Detection Rate

Authors: Seth D. Crockett, MD MPH, Uri Ladabaum MD MS

Background: Multiple US guidelines now recommend that average risk colorectal cancer (CRC) screening begin at age 45 instead of 50. Accordingly, there are approximately 20 million persons in the US aged 45-49 who are now eligible for CRC screening. The downstream effects that this guideline change will have on colonoscopy practices and on provider adenoma detection rates (ADR) are unknown.

Methods: Using data from the GI Quality Improvement Consortium (GIQuIC) and the US census, we modelled the potential effects of screening 45-49 year-olds on screening colonoscopy demand, case mix, and adenoma detection rate (ADR). GIQuIC data were used to determine the "base case" of colonoscopy practice before the guideline change. Starting with a hypothetical cohort of 1000 persons undergoing screening colonoscopy under current conditions, we then determined the possible effects on the above parameters under 3 different scenarios: 1) a "future steady state" scenario, in which 45-49 year olds replace 50-55 year olds as the most populous age group undergoing colonoscopy screening, 2) a 2-fold bolus scenario, in which twice as many new screenees present for colonoscopy screening, and 3) a 5-fold bolus scenario, in which 5 times as many new screenees present for colonoscopy screening.

Results: All 3 future scenarios would result in a substantial increase in the proportion of screenees aged 45-49, with this group representing 30%, 46% and 68% of all screenees in the future steady state scenario, and in the 2- and 5-fold bolus scenarios respectively. Increased colonoscopy demand was also predicted, with increases of roughly 15%, 50% and 150% from baseline colonoscopy volumes depending on the different scenarios. With respect to ADR, using 3 different estimates of adenoma prevalence among 45-49 year olds, we found that providers could see a decrease in ADR of 2-12 percentage points with the addition of the younger group depending on the volume of new screenees seen.

Summary: This study demonstrates the possible effects of initiating CRC screening at age 45 instead of 50 on colonoscopy practice in the US. 45-49 year olds are likely to represent an increasing proportion of those undergoing colonoscopy screening. Changes in colonoscopy demand could strain endoscopy unit capacity, and may require increased reliance on non-colonoscopy screening tests such as fecal immunochemical testing (FIT), particularly for low risk patients. Additionally, modest effects on ADR may be seen, which could impact providers operating at the margin of colonoscopy quality thresholds.

[Crockett and Ladabaum. *Gastroenterology*. 2022 Mar;162(3):984-986.]

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: PKS+ E. COLI STATUS IN STOOL AS RISK MARKER FOR IMPROVING COLORECTAL CANCER EARLY DETECTION

Authors: W. de Klaver, M. de Wit, A. Bolijn, M. Tijssen, P. Delis-van Diemen, M. Lemmens, M.C.W. Spaander, E. Dekker, V.M.H. Coupé, R. van Boxtel, H. Clevers, B. Carvalho, G.A. Meijer

Introduction: Recently, a particular strain of the common gut bacterium Escherichia coli (E. coli), that harbours pathogenicity island polyketide synthase (pks), has been identified as a potential new environmental risk factor for colorectal cancer (CRC). Pks+ E. coli produces a genotoxin called colibactin, which damages DNA. Human colonic epithelium organoids repeatedly infected with pks+ E. coli accumulate specific mutations, thereby producing a specific mutational signature that is also found in CRC tissues, affecting CRC-related genes, like APC. Exposure to pks+ E. coli therefore is likely to be associated with an increased risk of CRC. Risk stratification on the basis of environmental factors can potentially allow for optimization of existing CRC screening programs. Because pks+ E. coli is genotoxic for colorectal epithelial cells, we hypothesized that pks+ E. coli exposure increases the risk of advanced neoplasia (AN). The most straightforward measure of pks+ E. coli exposure would be a quantitative PCR (qPCR) performed in fecal immunochemical test (FIT) samples used in screening programs. The aim of our study is to evaluate the prevalence of pks+ E. coli and its association with AN in the average-risk population.

Methods: We analysed a large series (n=5024) of FIT left-over stool samples collected during screening; either in a colonoscopy screening trial (COCOS study, n=1043) or in a FIT screening study performed within the context of the Dutch national CRC screening program (FIT comparison study, n=3981). In the COCOS study, all participants performed a FIT and underwent colonoscopy whereas in the FIT comparison study, only FIT positive (cut-off 15 µg Hb/g feces) individuals underwent a colonoscopy. We optimized stool DNA isolation procedures and evaluated the prevalence of pks+ E. coli by qPCR. In addition, we investigated the association of pks+ E. coli positivity and AN during colonoscopy.

Results: Detection of pks+ E. coli by means of a qPCR was well feasible in FIT samples. Of 5024 FIT samples analysed, 4542 (90%) were E. coli positive and 1322 (26%) were pks+ E. coli positive. The prevalence of pks+ E. coli was similar between samples from individuals with CRC, advanced adenomas, non-advanced adenomas or controls, with 30%, 28%, 26% and 26%, respectively.

Conclusion: The prevalence of pks+ E. coli in a screening-age average-risk population was 26%, and was not different for individuals with AN compared to controls (p=0.10). These findings convincingly disqualify the straightforward option of taking a snapshot measurement of pks+ E. coli in FIT samples as a stratification biomarker for CRC-risk.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Regional variation in the gut microbiome and its implications for colorectal cancer screening

Author: Mingyang Song, MBBS, ScD

There are ~10^{14} microbes from >2,000 unique species residing in the human gut, collectively termed as the gut microbiome. Increasing evidence indicates that changes in the gut microbiome play an important role in the development of colorectal cancer (CRC). Compelling data indicate substantial variation in the gut microbiome across geographic regions, likely due to the differences in diet/lifestyle, environmental exposures, hygiene and infection status, and medication use. Such regional variation has been shown to limit the application of the gut microbiome-based models for prediction of metabolic diseases across geographic areas. In contrast, for CRC, meta-analysis of studies from different regions has shown that the core set of gut microbes associated with CRC is relatively consistent across studies. A recent study demonstrated that a model using as few as 16 species achieved an accuracy of greater than 0.80 in differentiating individuals with and without CRC through cross validation of datasets from different countries. However, no good-performing models were identified for discriminating adenomas from controls, indicating the need for further prospective studies to identify early changes in microbial features across the adenoma-carcinoma continuum. Moreover, in addition to the potential as the stand-alone screening markers, the gut microbiome may improve the accuracy of fecal immunochemical test (FIT)-based screening test for adenoma detection. Several studies have shown that combining fecal microbial assessment with FIT can substantially increase the sensitivity for adenoma detection compared to FIT alone. However, it remains to be determined whether the microbial features identified in certain populations can be validated in others to boost the performance of FIT. In summary, my presentation will highlight that (1) there is substantial regional variation in the gut microbiome; (2) a consistent gut microbial signature has been identified across regions to differentiate CRC from non-CRC; (3) microbial features predict poorly for adenomas but may help improve the accuracy of FIT test; and (4) prospective studies are needed to assess the potential of the gut microbiome for early detection of colorectal neoplasia.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Update for the WEO Expert Working Group on New Test Evaluation: Assessing the cost-effectiveness of new tests

Author: Uri Ladabaum, M.D., M.S., Stanford University School of Medicine

Novel biomarkers for colorectal cancer (CRC) screening are being developed. The WEO Expert Working Group on New Test Evaluation is updating its recommendations from the ones published in 2016 (Young et al., Cancer 2016). A challenge posed by the leaders of this effort is to explore early-stage proxies/surrogates for long-term effectiveness and for programmatic cost-effectiveness.

The aim is to incorporate evaluation of the potential clinical and economic impact of emerging tests during the early phases of development (retrospective studies comparing results in subject with CRC vs. without CRC; early prospective studies on lesions along the neoplasia continuum), as opposed to only during later phases (prospective studies of a single round of screening; programmatic, multiple-round evaluations).

Two potential early-stage proxies/surrogates were compared to the long-term predictions of an established and validated decision analytic model (Ladabaum et el. Gastroenterology 2019 and JNCI 2022):
1) The “Number Needed to Scope” (NNS) to detect 1 CRC or 1 advanced precancerous lesion (APL) in Round 1 – this was compared to the prediction of long-term CRC mortality reduction
2) The Cost to detect 1 CRC or 1 advanced precancerous lesion (APL) in Round 1 – this was compared to the prediction of long-term cost/quality-adjusted life-year (QALY) gained.

The early-stage proxies/surrogates appear to show promise, under certain constraints (e.g. specificity ≥90%).

It remains to be determined whether the early-stage proxies/surrogates also perform well when compared to the projections of other long-horizon decision analytic models, whether they are more useful than a “general gestalt” or more complex exploratory analyses in established models that account for the early-stage uncertainties, whether their inability to capture critical long-term considerations (e.g. potential sensitivity vs. specificity trade-offs, actual test cost, test interval, permutations of performance/cost/interval, participation rates, outreach costs) constitutes a “fatal limitation,” and which audiences would find them useful during which phases (e.g. test developers/industry, screening program directors, budget managers).

Early-stage proxies/surrogates or more complex exploratory analyses in established models should not stifle innovation, since many of the critical long-term considerations (enumerated above) are not yet determined during early phases, and given that first-generation tests are expected to lead to next-generation tests.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: RISK-BASED SCREENING VERSUS FECAL IMMUNOCHEMICAL TEST FOR DETECTING ADVANCED NEOPLASIA: A PAIRED ANALYSIS

Authors: Tim Kortlever, Manon van der Vlugt, Floor Duijkers, Ad Masclee, Roderik Kraaijenhagen, Manon Spaander, Iris Lansdorp-Vogelaar, Patrick Bossuyt, Evelien Dekker

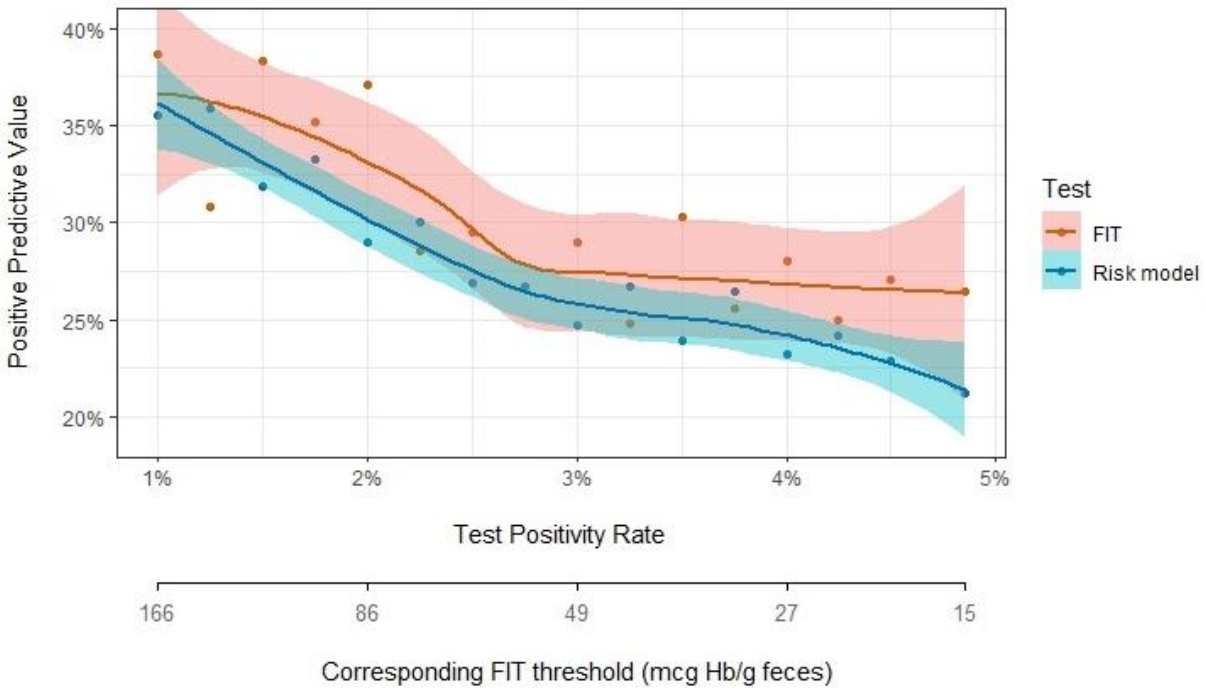
Introduction Although the Fecal Immunochemical Test (FIT) is a cornerstone in many national CRC screening programs, it has a limited sensitivity in detecting advanced neoplasia (AN). To improve FIT-based screening, our group developed a risk model that calculates the risk of having AN based on FIT concentration, age, sex, smoking status, and CRC family history. In a recently completed randomized controlled trial the yield of this model to triage participants for colonoscopy was limited when compared with screening by FIT only at a cut-off of 15 µg Hb/g feces. In this study, we aimed to assess whether the risk model performed better than FIT at a higher cut-offs (i.e. lower positivity rates) using data from the risk-model arm of the trial. Second, risk models may not only change the number of individuals detected with AN, they may also change who is invited for colonoscopy (e.g. older individuals who smoke more). We therefore explored the effect of the risk model on patient characteristics of those tested positive. Finally, we assessed the relation between detection of AN at colonoscopy and quantitative negative FIT result in a previous screening round.

Methods 11,364 individuals aged 56-75, scheduled for their second biennial FIT screening round, were randomized to the risk model group. Consenting participants received a FIT and a one-page questionnaire. Data of both the quantitative FIT-result and the questionnaire were used to calculate the risk of AN. Participants with a FIT of ≥15 µg Hb/g feces and/or a risk of ≥0.10 (on a scale of 0 – 1) were invited for colonoscopy. We compared positive predictive value (PPV) at multiple cut-offs with a positivity rate between 4.95% (positivity rate in the trial) to 1%.

Results 3,113 of the 11,364 invitees returned both FIT and questionnaire. AN was detected in 42 of the 164 participants undergoing colonoscopy in the risk-model group. PPV of the risk model was nog higher than FIT at most cut-offs (figure 1). Paired analysis showed no overall significant differences between the two groups in terms of age, sex, smoking status, and ASA score. Quantitative negative FIT result in a previous round was significantly associated with detection of AN in the present round ($p = 0.02$)

Conclusion In this study, we found that our risk model did not detect more individuals with AN compared to FIT, even when we compared them at a higher. Selection of individuals for colonoscopy using the risk model did not lead to significant changes in distribution of risk factors within the selected population. Quantitative negative FIT result may be informative for future risk of AN.

Figure 1: PPV for the risk model (blue) and FIT (red) at multiple possible positivity rates and corresponding FIT thresholds.



WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Using Facebook to promote the uptake of colorectal cancer screening

Authors: Ruco A, Baxter NN, Jacobson J, Tinmouth J, Llovet D.

Background: The use of social media presents a unique opportunity for cancer screening programs to motivate individuals to get screened. However, we need a better understanding of what types of social media messages for colorectal cancer (CRC) screening are preferred. The objective of this study was to develop social media messages promoting CRC screening uptake to identify messages preferred by the target audience.

Methods: We conducted a qualitative descriptive study and collected data through focus groups with Facebook users of screen-eligible age. Participants were presented with social media messages and asked to provide feedback. Messages were informed by the Health Belief Model, current evidence regarding screening communication, and health communication and social media best practices. Focus groups were audio-recorded and transcribed and analysis was completed by two independent coders. If messages generated sufficient discussion, we developed a recommendation regarding the use of the message in a future social media campaign. Recommendations included: strongly consider using this message, consider using this message, proceed with caution, and do not use this message. General considerations about social media campaigns were also noted.

Results: A total of 45 individuals participated in six focus groups. We developed recommendations for 7 out of the 18 messages tested; 1 was classified as strongly consider using this message, 4 as consider using this message, and 2 as proceed with caution. The data suggest that participants preferred social media messages that were believed to be credible, educational, and with a positive or reassuring tone. Preferred messages tended to increase awareness about CRC risk and screening and prompted participants to ask questions, and to want to learn more about what they could do to lower their risk. Messages that were viewed as humorous, strange, or offensive or that had a negative or excessively fearful tone were less well received by study participants.

Conclusions: Facebook users prefer social media messages for CRC that have a positive or reassuring tone, are educational, and that have a credible ad sponsor. Campaign planners should proceed with caution when considering social media messages that use humour or a fearful tone to avoid undermining their campaign objectives.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: M-TICS: A study to assess the effectiveness of SMS-based interventions to increase participation in a population-based colorectal cancer screening program

Author: Montse Garcia

Background: Short message service (SMS) based interventions are widely used in healthcare and have shown promising results to improve cancer screening programs. However, more research is still needed to implement SMS in the screening process. The aim of this project was to assess the impact on health and economics of the implementation of text messaging (SMS) in a population-based screening program for colorectal cancer.

Methods/design: The M-TICS study is a randomized controlled trial with a formal process evaluation. Participants aged 50-69 years identified as eligible from the colorectal cancer (CRC) screening program of the Catalan Institute of Oncology (Catalonia, Spain) were randomly assigned to receive standard invitation procedure (control group) or SMS-based intervention to promote participation. We tested a reminder to complete and return the fecal occult blood test (SMS reminder of test delivery versus no intervention). This reminder was sent to the individuals who have gone to the pharmacy to pick up a fecal occult blood test and they have not returned it after 14 days. We analyzed the immediate participation at 30 days and the final participation at 18 weeks. In addition, we also assessed participants' perceptions. A cost-effectiveness analysis will be carried out in a second phase. The incremental cost ratio of the interventions between cost variation and effectiveness variation will be calculated.

Results: Between July 2021 and November 2021, a total of 10,369 individuals were enrolled on the M-TICS study. The mobile phone number was not recorded for 1,000 individuals (9.6%), and they were subsequently removed from the trial. At week 18, after adjusting for baseline individuals' characteristics, those assigned to the SMS reminder were more likely to participate in the CRC screening compared to individuals assigned to the control arm (HR: 1.21; 95%CI: 1.16-1.27). Time to FIT completion since the FIT pick-up within the 18 weeks follow-up has been reduced by seven days among the 25% of individuals in the intervention arm (29 days) compared to the control arm (36 days).

Conclusions: The targeted SMS-based intervention to those population subgroups with greater motivation to participate in the programs, such as those individuals who pick up the FIT kit at the pharmacy, are more likely to be successful than strategies addressing to all non-participants. It would also allow us to keep costs low and, in addition, time to FIT completion can also be shortened.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Green Endoscopy and Sustainable CRC Screening – Why we need to change our approach to CRC prevention and how

Author: Heiko Pohl

"Climate change threatens to disrupt health systems' ability to deliver high-quality care and undermine the past 50 years of gains in public health." (Tennison, Lancet Planetary Health 2021). As such, our CRC screening efforts are not isolated from climate change.

Healthcare contributes to climate change. In recent years we – the healthcare community – have realized that by our very own actions of providing care to our patients we contribute to climate change and in the long run to the detriment of human and planetary health. Healthcare generates 4.4% of greenhouse gas emissions worldwide. If Healthcare were a country, it would be the fifth largest emitter.

What is our goal? We aspire to reduce colorectal cancer mortality, provide screening for all, improve access, and reduce inequities – now and for future generations. However, our current approach is not sustainable. We must examine our current practice, understand where changes are needed and establish a sustainable approach to cancer prevention.

Sustainable care is based on principles of patient empowerment, lean services, prevention, and a low carbon practice. Examples that related to prevention of CRC include initiatives towards a healthy lifestyle long before the screening age (e.g., a plant-based diet furthers personal health and protect the environment), minimizing low value care (e.g. overdiagnosis and overtreatment), and considering less invasive testing where possible. Sustainable value of care needs to be implemented as a quality domain within our CRC screening efforts. Our understanding of a high value of care needs to expand from cost-effectiveness to include a) the benefits for the patient and populations and b) the social, and environmental and financial impacts.

Transitioning to "green endoscopy" is a required change. As a procedure intense subspecialty endoscopy's environmental impact is considerable. At the same time green practice changes in endoscopy will help mitigate the healthcare's carbon footprint. Initiatives are under way. Simple immediate implementable practice changes include 1) to perform only indicated procedures (avoid low value procedures), 2) to optimize procedure performance (e.g., resect and discard strategy), 3) to minimize single use devices and reuse supplies, 4) to appropriately segregate waste, and 5) to conserve energy. Implementing a green endoscopy practice require a change in culture and a team approach.

What is next? *"Climate change is the greatest global health threat facing the world in the 21st century."* (Lancet Countdown on Health and Climate Change). We, as the WEO CRC screening committee, have to revisit our vision and consider what steps we can take to support needed changes towards sustainable and green cancer prevention.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: How to measure equity by race and ethnicity and socio-economic status, and what to do about the results. An update along with results from recent letter in NEJM

Authors: Chyke A. Doubeni, Douglas A. Corley, Wei Zhao, Christopher D. Jensen, Theodore R. Levin, (N Engl J Med 2022; 386:796-798 DOI: 10.1056/NEJMc2112409)

Achieving health equity is a national priority, but few exemplars exist to motivate progress and metrics of success are not widely known. We examined outcomes across the screening continuum in Kaiser Permanente Northern California (KPNC) over a 20-year period (2000-2019). KPNC initiated an organized colorectal cancer (CRC) screening program during 2006-2008 that was continuously refined and sustained over time as a strategy to uniformly deliver care across the screening continuum. Prior analysis had shown that the program achieved high rates of screening participation and follow-up care across all racial and ethnic groups.

This study used a dynamic retrospective cohort to examine continuum-of-screening measures for CRC, specifically, participation, and disease incidence, stage and mortality, among men and women who were 50 to 79 years old during 2000-2019. We focused on non-Hispanic Black and non-Hispanic White KPNC members.

From 2000 to 2019, screening rates increased from 42% to 80% among Black persons and from 40% to 83% among White persons. Age-standardized CRC incidence increased from 122 to 166 per 100,000 between 2002 and 2010 and then decreased to 82 cases per 100,000 among Black persons. Among White members, age-standardized incidence increased from 118 to 135 per 100,000 between 2002 and 2009 before decreasing to 78 cases per 100,000. Prior to the launch of the screening program, the disparity in incidence was driven by increasing rates of late-stage cancers in Black persons. After the program launched, rates of late-stage CRC diagnosis decreased progressively among Black persons to similar rates as White persons by 2017-2019. There was a tandem decrease in the CRC mortality gap: the absolute Black-White difference in age-standardized mortality decreased from 21.6 in 2007-2009 to 1.6 cases per 100,000 in 2017-2019.

The results demonstrate the principle that sustained intentional efforts to equitably deliver effective interventions across the care continuum can eliminate disparities. It demonstrated how programmatic engagement of the population across all racial and ethnic groups across the care continuum advanced opportunity for every person to “attain his or her full health potential” for CRC without regard to “socially determined circumstances.” It also demonstrated key measures of equity and disparities. KPNC uses results to improve care delivery in an iterative way. KPNC is also well-positioned to examine other measures of equity in their population including experiences with care (perceptions of bias and discrimination), the distribution of risk factors, structural barriers to care, access to care, and measures of delivery and quality of care from prevention and screening through treatment and mortality. Two other important measures of equity are quality of life and life expectancy.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Proximal Serrated Polyp Detection Rate and Interval Colorectal Cancer Risk

Authors: D.E.F.W.M. van Toledo, J.E.G. IJspeert, P.M.M. Bossuyt, A.G.C. Bleijenberg, M.E. van Leerdam, M. Van der Vlugt, I. Lansdorp-Vogelaar, M.C.W. Spaander, E. Dekker

Background:
The adenoma detection rate (ADR) is a well-established colonoscopy quality indicator and inversely associated with interval post-colonoscopy colorectal cancer (PCCRC) incidence. However, interval PCCRCs frequently develop from serrated polyps. The proximal serrated polyp detection rate (PSPDR) was advocated as quality indicator, but its association with interval PCCRCs has not yet been studied.

Methods:
Using colonoscopy data from the Dutch fecal immunochemical test (FIT) based CRC screening program between 2014 and 2020, we evaluated the association between endoscopists' individual PSPDR and their patients' risk of interval PCCRC with a multilevel Cox proportional-hazard regression analysis. We additionally evaluated the risk of interval PCCRC for endoscopists with a PSPDR and ADR above the median versus endoscopists with either one or both parameters below the median. Correlation between PSPDR and ADR was tested using the Spearman correlation coefficient.

Results:
In total, 277,555 colonoscopies performed by 441 endoscopists were included. Median PSPDR was 11.9% (range, 1-29%). Median ADR was 66.3% (range, 43.0 - 83.2%). During a median follow up of 33 months, 305 interval PCCRCs were detected. Each percent higher PSPDR of endoscopists was associated with a 7% lower risk of interval PCCRC (HR 0.93, CI95% 0.90-0.95). The adjusted hazard ratios for interval PCCRC incidence, according to quintiles of PSPDR performance, from lowest to highest, were 0.95 (95% CI, 0.70 to 1.29), 0.74 (95% CI, 0.53-1.03), 0.42 (95% CI, 0.28 to 0.64) and 0.34 (95% CI, 0.21 to 0.55), as compared to the endoscopists in the lowest quintile (Figure 1). Compared to endoscopists with a PSPDR >11.9% and ADR >66.3%, the hazard ratio of interval PCCRC for endoscopists with a low-PSPDR/high ADR was 1.79 (CI95%, 1.22-2.63), for high-PSPDR/low-ADR 1.97 (95% CI, 1.19-3.24) and for low-PSPDR/low-ADR 2.55 (95% CI, 1.89-3.45) (Figure 2). Correlation between PSPDR and ADR was considered moderate (r=0.59; p<0.001).

Conclusion:
The PSPDR of endoscopists is inversely associated with interval PCCRC incidence. The highest protective effect was observed when both the PSPDR and ADR of endoscopists were above the median. Implementation of monitoring PSPDR, in addition to ADR, could therefore contribute to optimize cancer prevention in FIT-based screening programs.

WEO Colorectal Cancer (CRC) Screening Committee Meeting

Friday, May 20, 2022

Title: Comparing Colorectal Cancer Screening Outcomes in the International Cancer Screening Network (ICSN): A Consortium Proposal

Author: Iris Lansdorp-Vogelaar

Background

Appropriate and valid comparisons across cancer screening programs are essential for policy and decision makers to evaluate and improve them. A requisite for comparisons of different indicators across settings is the availability of individual-level data on screening episodes and outcomes in the population. Although data on the screening process and outcomes are routinely collected at each screening episode, these data are not always linked and used for evaluation, monitoring, and research purposes. As a result, organized and opportunistic programs are not able to provide estimates of process indicators and outcomes.

Proposal

We propose an approach to compare indicators and outcomes within an international consortium of CRC screening programs through the development and implementation of a common access database containing individual-level screening histories to conduct comparative effectiveness research of screening strategies, to develop methods for the monitoring and benchmarking of screening programs, and to support international monitoring of screening activity. For these comparisons of different screening programs, we need to record the events in the screening history of the eligible individuals who have initiated CRC screening in a common database. Relevant events include eligibility, test scheduling, participation, screening result, diagnostic assessment, treatment and follow-up.

This database would be open to all types of screening programs, including opportunistic ones, as long as they are able to provide the necessary data on screening. The rules around data provision, sharing, and analysis are to be defined in the bylaws of the consortium beforehand, taking into account the different regulatory systems. We realize that the Global Data Protection Regulation and similar privacy regulations may hamper the ability to share individual-level data. To overcome this barrier, a federated data system could be used.

INDUSTRY COOPERATION 2022

WEO wishes to thank the following industry partners for their ongoing support:

Principal Sponsor

OLYMPUS

Major Sponsors

EIKEN CHEMICAL

FUJIFILM
Value from Innovation

PENTAX MEDICAL

Premium Sponsors

component 康派特™

erbe

SENTINEL DIAGNOSTICS

STERIS
Endoscopy

Supporters

Abbott

alfresa

Boston Scientific
Advancing science for life™

CREO MEDICAL

FINEMEDIX

freenome

JINSHAN | Life Insights

LM Instruments S.A.

Mast Group

Polymedco, Inc.

SonoScape

TaeWoong MEDICAL

sysmex

CONTACT INFORMATION

For information regarding activities of the World Endoscopy Organization, please contact the Secretariat:

WEO Executive Secretariat
World Endoscopy Organization (WEO)
c/o Hamilton Services GmbH
Landwehr Str 9
80336 Munich
Germany

Tel. +49-89-9077936-12
Fax +49-89-9077936-20
secretariat@worldendo.org