colorectal cancer alliance

Tomorrow can't wait

State of the Science in Colorectal Cancer

White Paper

2021

ccalliance.org | Helpline: (877) 422-2030 | Office: (202) 628-0123
1025 Vermont Ave NW Suite 1066 Washington, DC 20005

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Executive Summary

The Colorectal Cancer Alliance (Alliance) updated its Research Investment Strategy in October 2021. The Alliance's Medical Scientific Advisory Committee and other experts provided feedback on critical questions and strategic objectives to inform the strategy as a guide to the Alliance's investments in the coming 5 years. Overarching research priority areas arising from this analysis are: 1) identifying new targets and improved therapies; 2) advancing diagnostics, prognostics, and markers of response; and 3) precise and equitable implementation of screening and care. Detailed objectives within each of these priority areas were defined at the Summit and via subsequent staff discussion, enabling the Alliance to chart a course that answers the questions that matter most and save the most lives. In addition, experts described a need for supporting collaboration-promoting infrastructure, interdisciplinary team science, and early-career investigators, all to collate data and bring fresh perspectives to defeat colorectal cancer. As a result of this important exercise, the Alliance is well-positioned for the coming 5 years to innovate and accelerate progress to end colorectal cancer in our lifetime.

Founded in 1999, the Alliance is the leading nonprofit dedicated to colorectal cancer (CRC). Since that time and with nearly $5 million for research including nearly $3 million as early-stage grants for novel innovative research, progress in the treatment of colorectal cancer has been made with over a dozen novel targeted and immune-based therapies approved by FDA. These novel treatments along with better diagnostics and expanded screening have combined to improve survivorship for colorectal cancer patients. There are now more than 1.5 million people living with or beyond their diagnosis with CRC. Nonetheless, there remains a tremendous unmet need in colorectal cancer with 149,500 diagnoses and 53,000 deaths expected in 2021 in the U.S. alone. Unfortunately, CRC is still not getting the funding or attention it deserves, with virtually no change in government funding between 2006 and 2018, in contrast to other cancers, some of which have seen 30% increases in funding.[i]

To jumpstart further success, the Alliance has committed to invest an additional $30 million for innovative and life-saving research by 2026. This updated Research Investment Strategy will prioritize research domains in which the Alliance can have the largest return on investment. To inform the strategy, the Alliance commissioned a thorough CRC landscape analysis which included a scan of the environment, assessment of ROI from funded research, and literature review. Expert input was collected through interviews with diverse stakeholders including patients, researchers, and providers. As a last step in the Alliance's research-field analysis, the 2021 State of the Science Summit on October 4, 2021, garnered input from academic experts including representatives of the Alliance's Medical Scientific Advisory Committee; industry and nonprofit executives; government officials from NCI and FDA; patients, caregivers, and the Alliance's leadership. An agenda for the October 4, 2021, Summit can be found in Appendix I.

During interviews with experts, many cited the progress that has saved lives via screening for CRC, but several noted that there has been less progress advancing new CRC treatments in recent years compared to other cancers. Altogether, they highlighted the need to maintain momentum in prevention and focus efforts in several research areas while sustaining and supporting training of committed CRC researchers with innovative ideas.

Introduction

Purpose of the White Paper

The Colorectal Cancer Alliance (Alliance) updated its Research Investment Strategy in October 2021 considering the colorectal cancer clinical and research landscape and the commitment of the Alliance to invest $30 million in research by 2026. The Strategy will drive impactful investments in the coming 5 years to accelerate progress in treatment, diagnosis, and prevention, and it will advance the Alliance's mission to end colorectal cancer in our lifetime. This report documents the purpose, participants, and process underlying the 2021 Strategy planning and the strategic focus areas that developed therefrom.

Overview

Founded in 1999, the Colorectal Cancer Alliance (Alliance) is the leading nonprofit dedicated to colorectal cancer (CRC) with three pillars: Screen, Care, and Cure. Since that time and with nearly $5 million for research including nearly $3 million as early-stage grants for novel innovative research, progress in the treatment of colorectal cancer has been made with over a dozen novel targeted- and immunotherapies approved by FDA. These novel treatments along with better diagnostics and expanded screening have combined to improve survivorship for colorectal cancer patients and there are now more than 1.5 million people living with or beyond their diagnosis with CRC. Nonetheless, there remains a tremendous unmet need in colorectal cancer with 149,500 diagnoses and 53,000 deaths expected in 2021 in the U.S. alone.

The Alliance is forging a path to finding a cure, ensuring equitable access and that survivors thrive. Central to this is cutting-edge research to accelerate improved diagnostics, develop novel treatments and ensure equitable access and outcomes for those with colorectal cancer. To jumpstart further success, the Alliance has committed to invest an additional $30 million for innovative and life-saving research by 2026. This investment will be guided by the revised and updated Research Investment Strategy that prioritizes research domains in which the Alliance can have the largest return on investment. Unfortunately, CRC is still not getting the funding or attention it deserves. An **International Cancer Research Partnership (ICRP) report** highlights the unwelcome observation that from 2006 to 2018, colorectal cancer research funding lost ground compared to other major cancers (i.e. breast, lung, prostate, and pancreatic). Specifically, proportional investment in CRC declined from 10.3% to 6.8% of funding in this timeframe. For comparison, investment in lung and pancreatic cancer increased in both absolute and proportionate terms while breast cancer support increased from $789M to $993M and prostate cancer increased from $397M to $450M. Notably, colorectal cancer was essentially unchanged from 2006 to 2018 with a very slight increase in funding ($381M to $386M).

Research is the foundation for progress, so the fact that colorectal cancer leads to 8.7% of all cancer deaths but only receives 6.8% of cancer funding paints a disappointing picture.

CRC receives very little non-government funding: the American Cancer Society supported ~1% of projects – a total of 59 in 2018. The Alliance is the largest colorectal cancer focused nonprofit and has funded $2.55 million to U.S. clinicians and researchers.

On the backdrop of $380+ million in government funding, it is reasonable to ask if even the Alliance goal of $30 million over the coming 5 years can accelerate CRC progress. The history of disease-focused non-profits demonstrates that, indeed, a $30 million research commitment from a leading non-profit is a major strategic investment that can move the field. Among nonprofits, organizations like the Alliance — through a combination

of field leadership, convening power, research funding, and patient outreach — have exerted outsized effects on their fields. Impact has been seen with groups like the **Pancreatic Cancer Action Network,** the **Multiple Myeloma Research Foundation,** and the **Melanoma Research Alliance**.

Project Objectives

To inform its Research Investment Strategy, the Alliance commissioned a thorough CRC landscape analysis which included a scan of the environment, assessment of ROI from funded research, and literature review. This also included expert input collected through interviews with diverse stakeholders including patients, researchers, and providers. As a last step in the Alliance's research-field analysis, the 2021 State of the Science Summit was held on October 4, 2021, and garnered input from academic experts including representatives of the Alliance's Medical Scientific Advisory Committee; industry and nonprofit executives; government officials from NCI and FDA; patient and caregivers; and the Alliance's leadership.

Process

Methodology

To assess the current state of CRC research as well as challenges and opportunities, a thorough landscape analysis was conducted in mid-2021 through literature review as well as via a series of interviews with thought leaders comprising a range of perspectives. During these interviews, many cited the progress that has saved lives via screening for CRC, but several noted that there has been less progress advancing new CRC treatments in recent years compared to other cancers. Altogether, the landscape analysis and interview findings highlighted the need to maintain momentum in prevention and focus efforts in several research areas while sustaining and supporting training of committed CRC researchers with innovative ideas

Participants

For this update, a total of 21 experts were interviewed comprising established and emerging leaders within and outside the colorectal cancer field. Informants included academic researchers and clinicians from the Alliance's Medical Science Advisory Committee; biotech and pharmaceutical leaders; research leaders from other non-profit groups; government officials from FDA and NCI; and patients. (Table 1).

Table 1.
Interviewees

1.	Chloe Atreya*	UCSF Helen Diller Family Comprehensive Cancer Center
2.	Nilofer Azad*	Johns Hopkins University School of Medicine
3.	Kurt Bachman	Janssen
4.	Lou DeGennaro	Leukemia & Lymphoma Society
5.	Riley Ennis	Freenome
6.	Ibilola Fashoyin-Aje	FDA
7.	Charles Fuchs	Genentech
8.	Marc Hurlbert	Melanoma Research Alliance
9.	Deborah Keller*	New York-Presbyterian/Columbia University Medical Center
10.	Scott Kopetz*	MD Anderson Cancer Center
11.	Steven Lemery	FDA
12.	Christopher Lieu*	University of Colorado Cancer Center
13.	Craig Lipset	Clinical Innovation Partners
14.	Laura Lunardi	NCI
15.	John Marshall*	Georgetown Lombardi Comprehensive Cancer Center
16.	Lynn Matrisian	Pancreatic Cancer Action Network
17.	Edith Mitchell*	Thomas Jefferson University Sidney Kimmel Cancer Center
18.	PK Morrow	Amgen
19.	Kimberly Newcomer	Colorectal Cancer Alliance
20.	Kimmie Ng*	Dana-Farber Cancer Institute
21.	Matt Squires	Novartis

**Medical Scientific Advisory Committee*

One-on-One Interviews

Between July and September 2021, interviews were conducted via video conference with the interviewees listed in Table 1. Interviewees were selected to represent a range of expertise and stakeholder perspectives to provide broad insight for the Alliance.

Interviewees were asked to:

1. Describe the scientific environment in CRC at present and the future 5-to-10-year outlook for CRC and cancer, in general, considering factors that might influence the environment such as changes in technology, clinical trial approaches, etc.
2. What does the current and future research environment look like with respect to policy, funding, or other non-technical considerations.
3. Summarize and prioritize the challenges (other than money) to success in scientific research that could lead to an end to colorectal cancer. What are the potential solutions to overcome those challenges?
4. Describe the most important roles for the Colorectal Cancer Alliance now and in the future with respect to scientific research. In what areas can the Alliance be most effective either working alone or with others to fill gaps or speed priority work?

With the permission of the interviewee, the interviews were recorded and transcripts were prepared to document the feedback for future reference.

From these interviews, an extensive list of gaps and opportunities was generated.

Gaps and Opportunities

Aggregated results from the interviews fell into four areas which were used to frame the discussion at the 2021 State of the Science Summit.

A. Diagnostics, prognostics, and response

Many experts cited the need to identify different subtypes of CRC and employing that for treatment and prognosis. There was support for research resulting in the development of novel approaches, in this regard.

> *"I think step one is how we deliver care, how we give prognosis to early-stage patients…pulling out that subset with early-stage disease that are going to recur." —Academic researcher*

- Blood-based testing is expected to increase (e.g., via ctDNA, exosomes, DNA methylation)
- Develop innovative ways (blood-based or otherwise) to identify and monitor subgroups of CRC patients and tailor therapies accordingly

B. New targets and improved treatments

Compared to other cancers, there has been far less progress than desired to advance new treatments for CRC in recent years. The majority of informants stated that a better, more comprehensive understanding of colorectal cancer biology is needed to identify new targets and innovative treatments.

"The rate-limiting step is good ideas and good drugs." —Industry researcher

- Highly detailed genomics and bioinformatics, studies of the microenvironment, microbiome research, and harnessing the immune system are just some of the innovative ways to do this.
- It would be ideal to develop precision therapies to treat patients in a targeted way based on their unique disease akin to approaches to MSI-H or BRAF V600 disease.

C. Precise and equitable implementation of screening and care

Experts uniformly cited the progress that has saved lives via screening. There is a need to keep the screening momentum going but also address equitable access to screening, care, and trials.

"…the real hurdle is to try and address how do we enable patients to participate in research from their treating physicians' offices who don't need to be investigators" —Nonprofit leader

- Research to elucidate barriers to screening as well as health disparities was mentioned by informants as one way in which the Alliance can leverage its resources to save lives.
- Also mentioned was leveraging Alliance reach to patients and the research community to address care and trial access leading to improved outcomes and quality of life for patients.

D. Sustain and train committed CRC researchers and innovative ideas

Overwhelmingly, informants saw value for Alliance research funding and especially support for early-career investigators.

"We have very limited foundation support for research in colorectal cancer, in contrast to a lot of tumor types." —Academic researcher

"…the area that needs the most investment is probably assistant professors." —Academic researcher

- Supporting early-career investigators brings in fresh ideas while building careers in CRC. Other funding mechanisms discussed were pilot awards for high-risk/high-reward work; team awards for interdisciplinary work; and supporting established investigators.
- Involving committed mentors and sponsors of these individuals will increase the strength of their research and career growth.

2021 State of the Science Summit

The Colorectal Cancer Alliance (Alliance) held its inaugural State of the Science Summit on October 4, 2021. There were approximately 50 participants for the virtual event who brought a range of expertise and perspectives: 11 had personal CRC experience, 26 were clinicians and/or investigators, and 11 were advocacy/pharma or institutional leaders. Altogether, there were 35 institutions representing 17 states. The goal of the summit was to define actionable scientific objectives to pursue over the next 5 years that will address key gaps and make measurable advances in diagnosis, treatment, screening, and care. A review of the colorectal cancer (CRC) landscape was provided to set the stage for the discussion which took place in breakout sessions of around a dozen experts.

The virtual event included invited guests representing academia, industry, NCI, FDA, other nonprofit organizations, patients, and caregivers. Many members of the Alliance Medical Scientific Advisory Committee participated in this important event. Dr. Nilofer Azad and Dr. Scott Kopetz co-chaired the session and additional participants included members of the Alliance Board of Directors and as well as staff. Table 2 shows the participants for the 2021 State of the Science Summit. The agenda is included in the Appendix.

Table 2.
2021 State of the Science Participants

	First	*Last*	*Affiliation*
1.	Chloe	Atreya*	UCSF Helen Diller Family Comprehensive Cancer Center
2.	Kristin	Augenblick	Georgetown Lombardi Comprehensive Cancer Center
3.	Nilofer	Azad	Johns Hopkins University School of Medicine
4.	Svetlana	Babajanyan	Bayer
5.	Erica	Barnell	Geneoscopy
6.	Erika	Brown	One Cancer Place
7.	Elena	Chiorean	University of Washington School of Medicine
8.	Michael	Choti*	Banner Health
9.	Lee	Dranikoff	Colorectal Cancer Alliance Board of Directors
10.	Sherif	Elrefai	Tempus
11.	Ibilola (Lola)	Fashoyin-Aje	FDA
12.	Negeen	Fathi	Colorectal Cancer Alliance
13.	Manju	George	Colorectal Cancer Alliance
14.	Marios	Giannakis	Dana-Farber Cancer Institute
15.	Andrea	Goodman	Colorectal Cancer Alliance
16.	Megan	Hitchens	Cedars-Sinai Medical Center
17.	Regan	Huneycutt	Colorectal Cancer Alliance
18.	Marc	Hurlbert	Melanoma Research Alliance
19.	Rachel B	Issaka*	Fred Hutchinson Cancer Research Center
20.	Steven	Itzkowitz*	Mount Sinai Icahn School of Medicine
21.	Lee	Jones	Patient advocate
22.	Malki	Karkowsky	Colorectal Cancer Alliance
23.	Deborah	Keller*	New York-Presbyterian/Columbia University Medical Center
24.	Amy	Kennedy	NCI
25.	Marcie	Klein	Colorectal Cancer Alliance
26.	Scott	Kopetz*	MD Anderson Cancer Center

27.	Steven	Lemery	FDA
28.	Christopher	Lieu*	University of Colorado Cancer Center
29.	Trudy	Loper	Colorectal Cancer Alliance
30.	John	Marshall*	Georgetown Lombardi Comprehensive Cancer Center
31.	Lynn	Matrisian	Pancreatic Cancer Action Network
32.	Cedrek	McFadden*	Prisma Health
33.	Robin	Mendelsohn	Memorial Sloan Kettering Cancer Center
34.	Josh	Meyer	Fox Chase Cancer Center
35.	Alexandra	Miller	Colorectal Cancer Alliance
36.	Christine	Molmenti*	Feinstein Institutes for Medical Research Northwell Health
37.	PK	Morrow	Amgen
38.	Kim Newcomer	Colorectal Cancer Alliance	
39.	Louise	Perkins	Colorectal Cancer Alliance
40.	Jennifer	Ratner	Columbia University Medical Center
41.	Victoria	Raymond	Guardant Health
42.	Andrea	Ridenour	Colorectal Cancer Alliance
43.	Michael	Sapienza	Colorectal Cancer Alliance
44.	Josh	Smith	Memorial Sloan Kettering Cancer Center
45.	Jamee	Telford	Colorectal Cancer Alliance
46.	Cynthia	Thomson*	University of Colorado Cancer Center
47.	Alan	Venook*	UCSF Helen Diller Family Comprehensive Cancer Center
48.	Rosa	Xicola	Yale School of Medicine

**Medical Scientific Advisory Committee*

The meeting began with an overview of Alliance activities, followed by a provocative keynote presentation by Dr. John Marshall and a review of the process of collecting information and a summarization of the key themes identified prior to the meeting. A networking luncheon was held on four topics.

To facilitate discussion, three breakout sessions were held to address either 1) diagnostics; 2) new targets/therapies; or 3) equitable implementation of screening and care. Participants in each session defined gaps and opportunities and discussed critical, provocative questions, as well as funding strategies. Wide-ranging discussions were held in the breakout groups and the results were presented to all summit participants. A few research objectives stand out from the many ideas put forward. These include advancing the understanding of ctDNA; AI-driven study of multiple tumor features to fill gaps in understanding of CRC; and developing evidence-based interventions to overcome trial disparities. There was support for interdisciplinary teams and for early-career investigators. Likewise, collating existing data and sharing it was a common theme. While not the focus of the meeting, there were several advocacy and infrastructure suggestions to accelerate progress.

Research Investment Strategy

Priorities

Arising from a comprehensive landscape analysis, the 2021 State of the Science Summit, and subsequent discussion, the Alliance will emphasize the following scientific priorities:

1. Fund a portfolio of innovative early discovery and translational research towards novel targets and treatments that leads to cures for ever greater numbers of CRC patients.
2. Fuel the development of diagnostic and prognostic approaches that can enhance personalized treatment strategies and screening to improve outcomes.
3. Develop and evaluate community-advised and evidence-based interventions to overcome racial and other CRC outcome disparities.
4. Generate new and innovative colorectal cancer research ideas by funding pilot projects, early-career investigators, and interdisciplinary teams.
5. Broker data and sample sharing to improve efficiency and encourage the development of new insights in colorectal cancer research.
6. Advocate for increased funding from federal and other sources to continuously fuel colorectal cancer advances and programs that save lives.

Research Investment Strategy

Unfortunately, not all of the goals identified in this planning process can be pursued at all levels simultaneously given limitations of resources and technology available. Thus, strategic priorities must be set. Based on the input at the 2021 State of the Science Summit, along with input from Alliance staff and factoring in the Alliance Strategic Plan, priority areas for 2022 – 2026 were drafted into the Research Investment Strategy. The comprehensive list of research topics identified as meaningful and necessary towards the goal of identifying an end to, and cure for, colorectal cancer is shown below. It is worth noting that this is a living document and as science and the field evolves, the priorities will be reevaluated and refined to represent the state of CRC science.

2022 – 2026 Colorectal Cancer Alliance Research Investment Strategy

The Alliance will invest in funding mechanisms that address the following scientific gaps. Specific research questions within this list will be identified each year with support from the Alliance's patient community and the Medical Scientific Advisory Committee.

1. New targets and improved therapies

- Identify targets for new therapies on tumor cells, immune cells, or the microenvironment by developing a highly detailed CRC tumor map using genomics, bioinformatics, and artificial intelligence
- Understand the causes and develop improved interventions to manage young-onset CRC
- Elucidate mechanisms of resistance to immunotherapies or molecularly targeted therapies and methods to overcome them
- Develop and apply logical combinatorial treatment strategies for patients with advanced CRC including combinations of immunologic and/or molecularly targeted agents
- Elucidate the prognostic and therapeutic value of the tumor microbiome in early- and late-stage disease
- Develop new in vitro and in vivo models representing CRC biology for translation of novel discoveries

2. Diagnosis, prognosis, and response

- Identify or improve blood-based analytes for CRC diagnosis, prognosis, and monitoring response or resistance
- Promote the development of markers of minimal residual disease to guide clinical management
- Develop and validate novel methods such as ctDNA to risk-stratify patients interested in a watch-and-wait strategy for rectal cancer
- Identify and validate imaging or other non-invasive tools for surveillance or monitoring of treatment response

3. Precise and equitable implementation of screening and care

- Support research to design and develop strategies to enhance utilization of early detection and intervention in all eligible adults
- Develop and evaluate community-advised and evidence-based interventions to overcome racial and other CRC outcome disparities
- Identify and prioritize survivorship issues and evidence-based interventions to address them
- Design and utilize tools to get community input on issues of importance to patients and their caregivers to guide strategic priorities

Research Funding Mechanisms

Achieving the goal to end CRC in our lifetime requires a community of committed researchers with transformative ideas and expertise. To train and sustain these scientists and accelerate progress the Alliance combines world-class peer review with a focused grant-funding process that offers a level playing field for researchers of varying experience and projects of greater or lesser complexity. A range of grant funding mechanisms that achieves this and enables the Alliance to have impact was discussed and is summarized below. These different mechanisms offer flexibility to focus on innovative research priorities while building a community of engaged scientists committed to defeat colorectal cancer.

In addition to the research questions and grant mechanisms, the Alliance's proposal review process will pay special attention to engagement of patients throughout the research process, consideration of marginalized or targeted populations at highest risk of colorectal cancer, and collaboration across the field. The Alliance will utilize its position to foster sharing across the research continuum; a focus on the patient, survivor, and caregiver voice; and urgency to communicate research learnings.

Table 3.
Alliance Research Funding Mechanisms

Note: All mechanisms listed will be utilized to fund research questions addressing one or more of the priority research questions noted above.

Award Type	Eligibility	Duration	Annual Cost
Pilot Awards*	Senior Investigator-led, high-risk/high-reward research that has a strong hypothesis but limited preliminary data.	2 years	$50,000
Early Career Investigator Awards*	Fellows or Assistant Professors within the first 5 years of their first full-time faculty appointment. Mentorship of awardee required.	2 to 3 years	$80,000
Senior Investigator Awards	Full-time faculty who are more senior than Early Career Investigators.	2 to 3 years	$120,000
Team Science Awards**	Interdisciplinary teams comprising at least two Senior Investigators and an Early-Career Investigator.	3 years	$300,000
Centers of Excellence**	Interdisciplinary translational research funding for individual CRC Centers of Excellence with matching institutional support to conduct transformative translational research.	3 years	$300,000

**2022 Research Programs **Programs under development*

Conclusions

Novel treatments along with better diagnostics and expanded screening have combined to improve survivorship for colorectal cancer patients and there are now more than 1.5 million people living with or beyond their diagnosis with CRC. Nonetheless, there remains a tremendous unmet need in colorectal cancer with 149,500 diagnoses and 53,000 deaths expected in 2021 in the U.S. alone. Moreover, experts interviewed during this project signaled their dissatisfaction with the pace of progress. In the words of one industry researcher, "[t]he rate-limiting step is good ideas and good drugs."

To jumpstart further success, the Alliance has committed to invest an additional $30 million for innovative and life-saving research by 2026. This investment will be guided by this revised and updated Research Investment Strategy that prioritizes research domains in which the Alliance can have the largest return on investment. In addition, the Alliance comes away from the planning process with several infrastructure objectives to focus upon to support research and promote equitable screening and care. Taken together, these activities will support a cohesive plan to drive progress for patients at multiple levels by facilitating research progress, enhancing diagnostic and treatment development, and ensuring patients are comprehensively and equitably supported whether as screening participants, active patients, or survivors.

[i] *https://ascopubs.org/doi/pdf/10.1200/GO.20.00591 (accessed November 23, 2021)*

Appendix I. 2021 State of the Science Summit Agenda

Agenda
2021 State of the Science Virtual Summit
October 4, 2021 – 10:00 am to 4:30 pm Eastern Time

10:00 am – 10:15 am
Welcome and Summit goals – Michael Sapienza, Alliance CEO, and Summit Co-chair, Dr. Scott Kopetz

10:15 am – 10:30 am
Overview of Alliance portfolio – Andrea Goodman, Alliance VP of Patient Support & Research Strategy

10:30 am – 11:00 am
Keynote address: "I'm the only one who can fix our problems" – Dr. John Marshall

11:00 am – 11:25 am
Landscape findings & breakout session goals – Dr. Louise Perkins

11:25 am – 11:45 am
Break

11:45 am – 12:20 pm
Birds-of-a-feather networking lunch discussions

a. **Early Career Investigator Networking:** Discuss your research, mentorship, funding, and promotions.
   Moderator: Dr. J. Joshua Smith
b. **The Pandemic and CRC:** Discuss what's worked and what hasn't during this difficult time.
   Moderator: Ali Miller
c. **Partners in progress:** Friendly meet & greet to talk about general challenges & solutions to overcome them.
   Moderator: Dr. Louise Perkins
d. **Patient wisdom & lens:** Patients to share their insights and wisdom with other stakeholders.
   Moderator: Kim Newcomer

12:20 pm – 12:30 pm
Networking lunch report & breakout session process re-cap – Summit co-chair Dr. Scott Kopetz & Dr. Louise Perkins

12:30 pm – 12:45 pm
Break

12:45 pm – 2:30 pm
Breakout sessions to identify Alliance research priorities and funding strategies to accelerate progress and generate meaningful impact in colorectal cancer science.

a. **Brainstorm critical, provocative questions** considering the landscape analysis and additional gaps/opportunities in each group's topic area (15 min)
b. **Define actionable research strategies** to accelerate progress in the next 5 years (60 min)
c. **Describe the most impactful grant-making approaches** for the Alliance that will address the above, sustain CRC researchers and train future leaders (15 min)
d. **Prioritize and wrap-up** (15 min)

> Group 1: **Diagnostics, prognostics, & response**: Blood-based markers and next-generation approaches
> **Moderators:** Dr. Christopher Lieu & Dr. Deborah Keller
>
> Group 2: **New targets and improved therapies**: Research to improve immunotherapy, molecularly targeted therapy, and beyond, such as combinations and/or interventions like radiation, surgery
> **Moderators:** Dr. Nilofer Azad & Dr. Alan Venook
>
> Group 3: **Precise and equitable implementation of screening & care**: What research do we need to improve execution?
> **Moderators:** Dr. Scott Kopetz & Dr. Rachel Issaka

2:30 pm – 2:45 pm
Break

2:45 pm – 3:45 pm
Breakout groups report and joint discussion of recommendations – Summit co-chairs Drs. Nilofer Azad & Scott Kopetz

3:45 pm – 4:00 pm
Break

4:00 pm – 4:15 pm
Synthesis of recommendations and summary of the day – Dr. Louise Perkins

4:15 pm – 4:30 pm
Closing and final thoughts – Michael Sapienza & Summit co-chair Dr. Nilofer Azad

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