

Exploring Cancer
Examining the Role of Biology, Race, Class, and Socioeconomics

Welcome to the UNC Lineberger Cancer Network's live webinar

Sound Check **Start Time**

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Exploring Cancer
Examining the Role of Biology, Race, Class, and Socioeconomics

Learn more, register for courses, and sign up for our mailing list at www.exploringcancer.org

A collaboration between

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Exploring Cancer
Examining the Role of Biology, Race, Class, and Socioeconomics **Fridays**
11:00 - 11:50 AM EST/EDT

August 25 Welcome to Cancer(s) and Health Disparities 101 - The Introduction	October 13 Breast Cancer Health Disparities	November 10 Precision Medicine and Immunotherapy
September 1 Radiation Oncology - What Is It, and What Is It Good For?	October 20 Pancreatic Cancer	November 17 Expanding Cancer Care Quality and Delivery in Sub-Saharan Africa: a collaborative approach
September 8 New Strategies in Treating GI Cancers	October 27 Career Panel	

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Exploring Cancer
Examining the Role of Biology, Race, Class, and Socioeconomics **September 8, 2023**

New Strategies in Treating GI Cancers



Ashwin Somasundaram, MD

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Ashwin Somasundaram, MD

Ashwin Somasundaram's research interests are focused on understanding mechanisms of resistance and response in the tumor microenvironment from both an immunology and cancer cell biology perspective. He is focused on validating findings of checkpoint blockade resistance mechanisms found in animal models in ex vivo patient samples and in early phase clinical trials. These translational efforts are meant to improve understanding of meaningful biomarkers and novel therapeutic combinations for patients with solid tumors. More specifically, he has an interest in the role of systemic inflammation leading to T cell dysfunction in patients with solid tumors.

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Professional Highlights

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Professional Highlights

3. Dr. Somasundaram is a tumor immunologist and clinical trialist

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Professional Highlights

3. Dr. Somasundaram is a tumor immunologist and clinical trialist
2. He has an interest in the treatment of GI cancers

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Professional Highlights

3. Dr. Somasundaram is a tumor immunologist and clinical trialist
2. He has an interest in the treatment of GI cancers
1. He has a scientific interest in the role of systemic inflammation shaping the tumor microenvironment


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UNC CANCER CARE

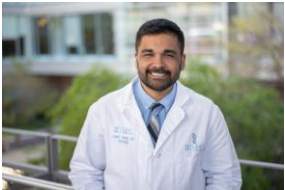
“Exploring Cancer”:
A Career in Colon Cancer Research

Ashwin Somasundaram, MD



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Introduction: Who am I?




Why Cancer Research?

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Who can you name?



Nobody has responded yet.
Hang tight! Responses are coming in.

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What organs are included in gastro-intestinal "GI" cancers?

Nobody has responded yet.
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What are gastro-intestinal "GI" cancers?

The Digestive System

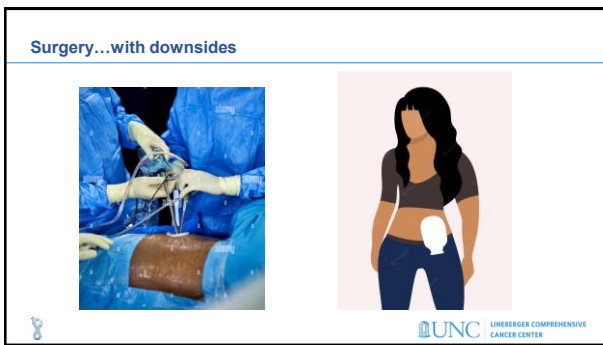
"Hepatic"
"Biliary"
"Gastro/gastric"
"Colon"

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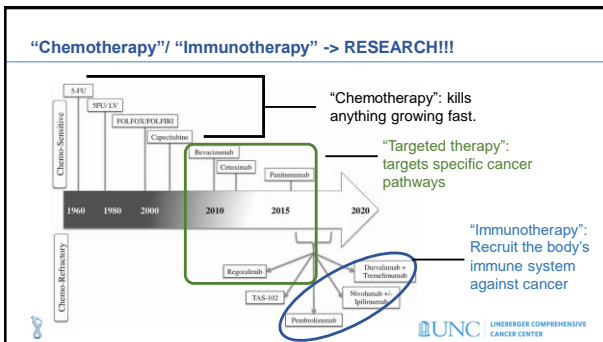
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One of the most exciting recent studies...

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Who comes to see me in my clinic?

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Who comes to see me in my clinic?

Key Demographic and Equity Metrics


	North Carolina Statistics	Compared to U.S. Average
White Residents	63 Percent of Population	Higher
Black Residents	23 Percent of Population	Higher
Hispanic or Latino Residents	10 Percent of Population	Lower
Median Household Income	\$52,752	Lower
Average Life Expectancy	78.1 Years	Lower
Uninsured Rate	11 Percent of Population	Higher
Maternal Mortality Rate	18.6 Deaths per 100K Births	Higher
Lack Broadband Access	5.3 Percent of Residents	Higher
Residents Living in Primary Care Shortage Area	1.95M Residents	Higher
Mental Health Workforce Shortage Areas	76 Percent of Counties	Lower
Adopted Medicaid Expansion (37 States Expanded)	No	N/A

Sources: Esom Research Population Distribution by Race/Ethnicity, Life Expectancy at Birth, Median Annual Household Income, Primary Care Health Professional Shortage Areas and Status of State Medicaid Expansion data, World Population Review 2020 Maternal Mortality Rate by State data, United States Census Bureau Quarterly

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How do patients usually come to see me?


- Colonoscopy screening
- From a hospital admission
- From a local surgeon after surgery
- From another medical center -> usually for clinical trials





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How much progress have we made in treating cancer?

Chances of surviving Colon cancer in **1970s**




Chances of surviving Colon cancer **now**



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How does this differ by race?

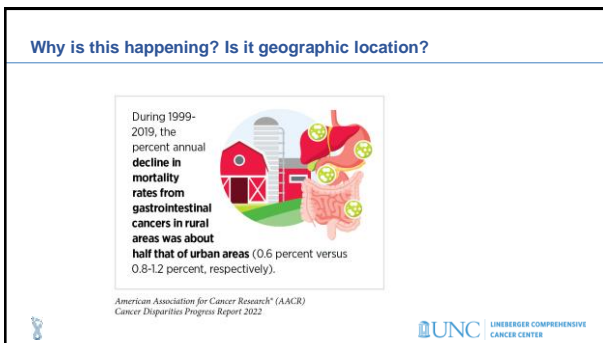
- More cases, and deaths in Black patients along with worse disease when found.



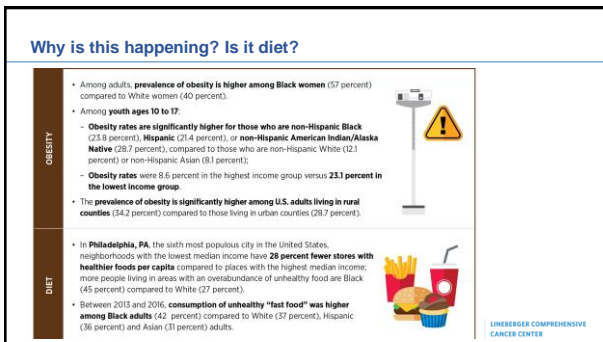
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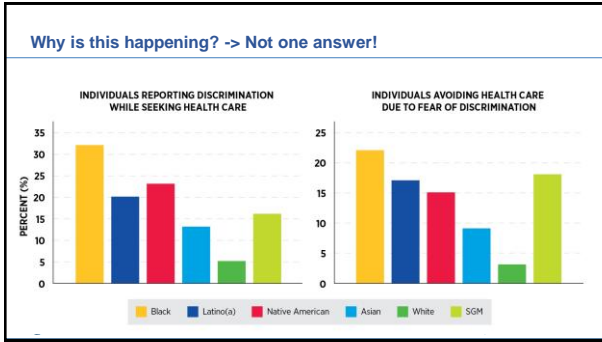
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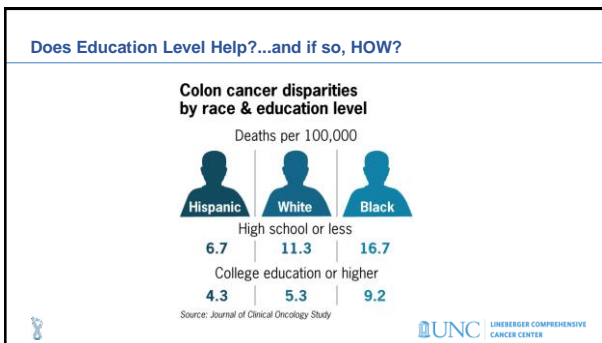
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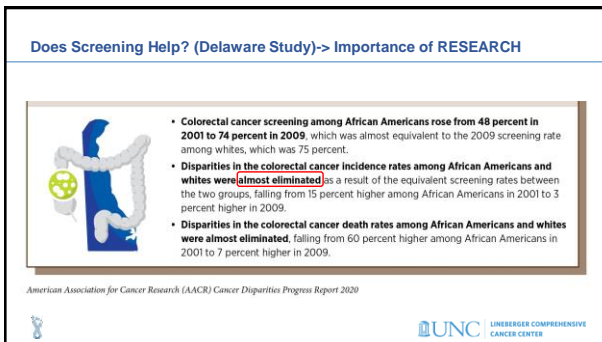
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What about later stages of cancer?

Stage IV

Metastatic cancer: Cancer cells in lymph system

Colon cancer has spread to other parts of the body:

- Distant lymph nodes
- Lung
- Liver
- Abdominal wall

Primary Cancer

Colon

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Later stages require chemotherapy...but cost has been a barrier

Expansion of Medicaid under the Affordable Care Act 2010 has **nearly eliminated the disparity between Black patients and White patients in receiving chemotherapy** within a month of cancer diagnosis from a 4.8 percentage point difference to a 0.8 percentage point difference.

American Association for Cancer Research* (AACR) Cancer Disparities Progress Report 2022

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What about younger patients?

In recent years, colorectal cancer diagnoses among adults younger than 50 have more than doubled.

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What about younger patients? Why?

1. **Dietary intake**
Protein, fat, carbs, polyphenols, probiotics

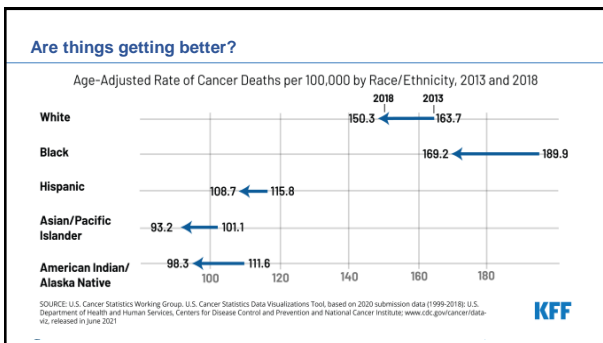
2. **Altered gut bacteria**
Changes in Bifidobacteria, Lactobacilli, Akkermansia, etc.

3. **Biologic effects**
Drug host-microbiome, immune system, production of pro- and anti-inflammatory molecules

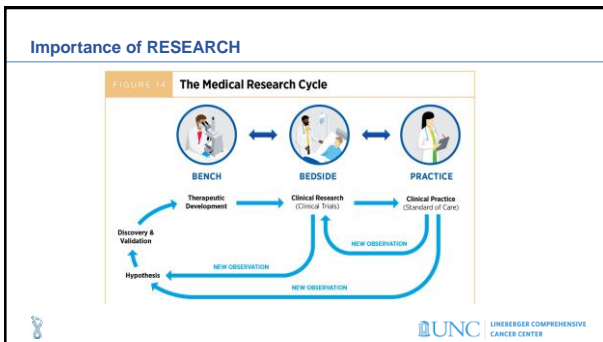
4. **Host disease**
CVD, DM2, Obesity, Metabolic syndrome, Autoimmune disease

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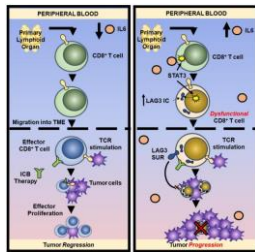
What research do I do?

- **BENCH:** I take tissues and cells from patients and donors receiving therapy or on clinical trials and I experiment on the tissue to determine why their tumors died or survived and how their immune system attacked the cancer or failed. I then verify what we find in mice or cell lines.
- **BEDSIDE:** I design and run clinical trials where we use the science done in the lab to find new drugs and targets and see if they work in patients.
- **PRACTICE:** I work with our public health researchers to ensure that we are providing quality care to everyone and that no one is missed or lacking in treatment due to race, gender, age, etc.



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What research do I do? BENCH:



Somasundaram et al. CIR 2022



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What research do I do? BEDSIDE:

ClinicalTrials.gov

Home > Search Results > Study Record Detail

RP2/RP3 in Combination With Atezolizumab and Bevacizumab for the Treatment of Patients With CRC

ClinicalTrials.gov Identifier: NCT05733611




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The benefits of clinical trials


Patient involved in clinical trials have a higher chance of surviving!

J. Am. Coll. Surg. 2013 Apr; 216(4): 774-781.




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UNC-led effort ACCURE trial in Lung and Breast Cancer



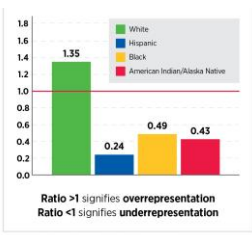
	Before ACCURE	With ACCURE
White	91%	94%
Black	89%	94%

	Before ACCURE	With ACCURE
White	43%	56%
Black	37%	54%




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What can we do in research and clinical trials?




American Association for Cancer Research® (AACR)
Cancer Disparities Progress Report 2022




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Clinical Trial Accrual


Cross-Sectional Analysis of Clinical Trial Availability and North Carolina Neighborhood Social Vulnerability



Dr. Marjory Charlot MD




Dr. Shakira Grant MBBS




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Clinical Trial Accrual: PROCLAIM study for Pancreatic Cancer




Dr. Jen Jen Yeh MD



Dr. Ugwuji Maduekwe MD

This is a study trying to recruit more black patients with pancreatic cancer to our clinical trials at Lineberger.

We are trying to do the same for colon cancer next.



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Questions /Comments?

Nobody has responded yet.
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Exploring Cancer is a webinar series taught by cancer biologists, physicians, public health experts, and other cancer specialists from NCCU, UNC-Chapel Hill, and NC A&T.

UNC Lineberger Cancer Network

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Exploring Cancer
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Upcoming Live Webinar

Breast Cancer Health Disparities



Checo Rorie, PhD
 Chair of the Department of Biology
 Associate Professor of Genetics, Department of Biology
 College of Science and Technology
 North Carolina Agricultural and Technical State University

Live Lecture
October 13
11:00 AM

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