



# Unequal Burden: Understanding the Roots of Health Disparities in Cancer Care

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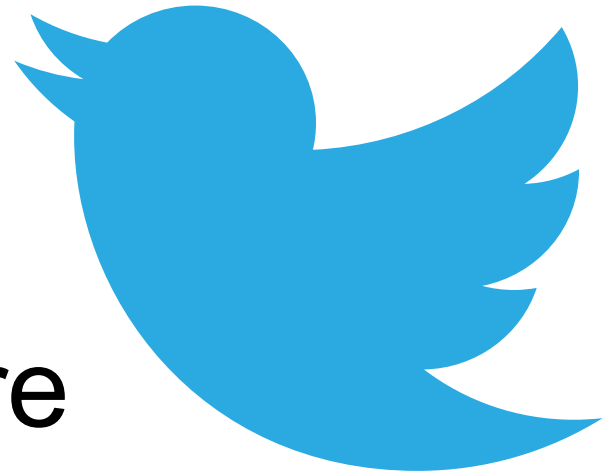
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# CME

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# Learning Objective 1

Recognize factors contributing to health disparities in the cancer care continuum and their impact on patient care



# Top 10 Leading Cancer Cases and Deaths

	Male					Female		
Estimated New Cases	Prostate	268,490	27%			Breast	287,850	31%
	Lung & bronchus	117,910	12%			Lung & bronchus	118,830	13%
	Colon & rectum	80,690	8%			Colon & rectum	70,340	8%
	Urinary bladder	61,700	6%			Uterine corpus	65,950	7%
	Melanoma of the skin	57,180	6%			Melanoma of the skin	42,600	5%
	Kidney & renal pelvis	50,290	5%			Non-Hodgkin lymphoma	36,350	4%
	Non-Hodgkin lymphoma	44,120	4%			Thyroid	31,940	3%
	Oral cavity & pharynx	38,700	4%			Pancreas	29,240	3%
	Leukemia	35,810	4%			Kidney & renal pelvis	28,710	3%
	Pancreas	32,970	3%			Leukemia	24,840	3%
	<b>All sites</b>	<b>983,160</b>				<b>All sites</b>	<b>934,870</b>	

	Male					Female		
Estimated Deaths	Lung & bronchus	68,820	21%			Lung & bronchus	61,360	21%
	Prostate	34,500	11%			Breast	43,250	15%
	Colon & rectum	28,400	9%			Colon & rectum	24,180	8%
	Pancreas	25,970	8%			Pancreas	23,860	8%
	Liver & intrahepatic bile duct	20,420	6%			Ovary	12,810	4%
	Leukemia	14,020	4%			Uterine corpus	12,550	4%
	Esophagus	13,250	4%			Liver & intrahepatic bile duct	10,100	4%
	Urinary bladder	12,120	4%			Leukemia	9,980	3%
	Non-Hodgkin lymphoma	11,700	4%			Non-Hodgkin lymphoma	8,550	3%
	Brain & other nervous system	10,710	3%			Brain & other nervous system	7,570	3%
	<b>All sites</b>	<b>322,090</b>				<b>All sites</b>	<b>287,270</b>	



# Cancer Burden Disparities for Racial and Ethnic Minority Groups in the United States

	Incidence Rate Ratio				Mortality Rate Ratio			
	AI/AN	API	Hispanic	NHB	AI/AN	API	Hispanic	NHB
All Sites	0.73	0.65	0.73	1.00	0.90	0.64	0.78	1.22
Breast	0.69	0.77	0.70	1.00	0.82	0.53	0.71	1.39
Cervix uteri	1.23	1.02	1.47	1.48	1.45	1.05	1.20	2.26
Colon and rectum	0.96	0.82	0.82	1.22	1.03	0.72	0.81	1.37
Kidney and renal pelvis	1.20	0.53	0.99	1.13	1.46	0.50	1.02	1.22
Liver and intrahepatic bile duct	2.14	2.22	2.03	1.57	2.31	2.18	2.10	1.65
Lung and bronchus	0.72	0.58	0.47	1.05	0.77	0.56	0.47	1.10
Myeloma	0.97	0.65	1.06	2.29	1.07	0.64	1.10	2.35
Prostate	0.55	0.53	0.80	1.50	0.81	0.55	0.89	1.90
Stomach	1.64	1.99	1.88	1.93	1.86	1.90	1.91	2.01
Thyroid	0.70	0.95	0.84	0.57	1.10	1.02	1.13	1.03

Data are shown as rate ratios between the White population and population groups shown in columns. Rates are per 100,000 and age-adjusted to the 2000 U.S. population. Rows indicate all cancer sites combined or individual cancer types.

NHB, non-Hispanic Black; AI/AN, American Indian or Alaska Native; API, Asian or Pacific Islander.

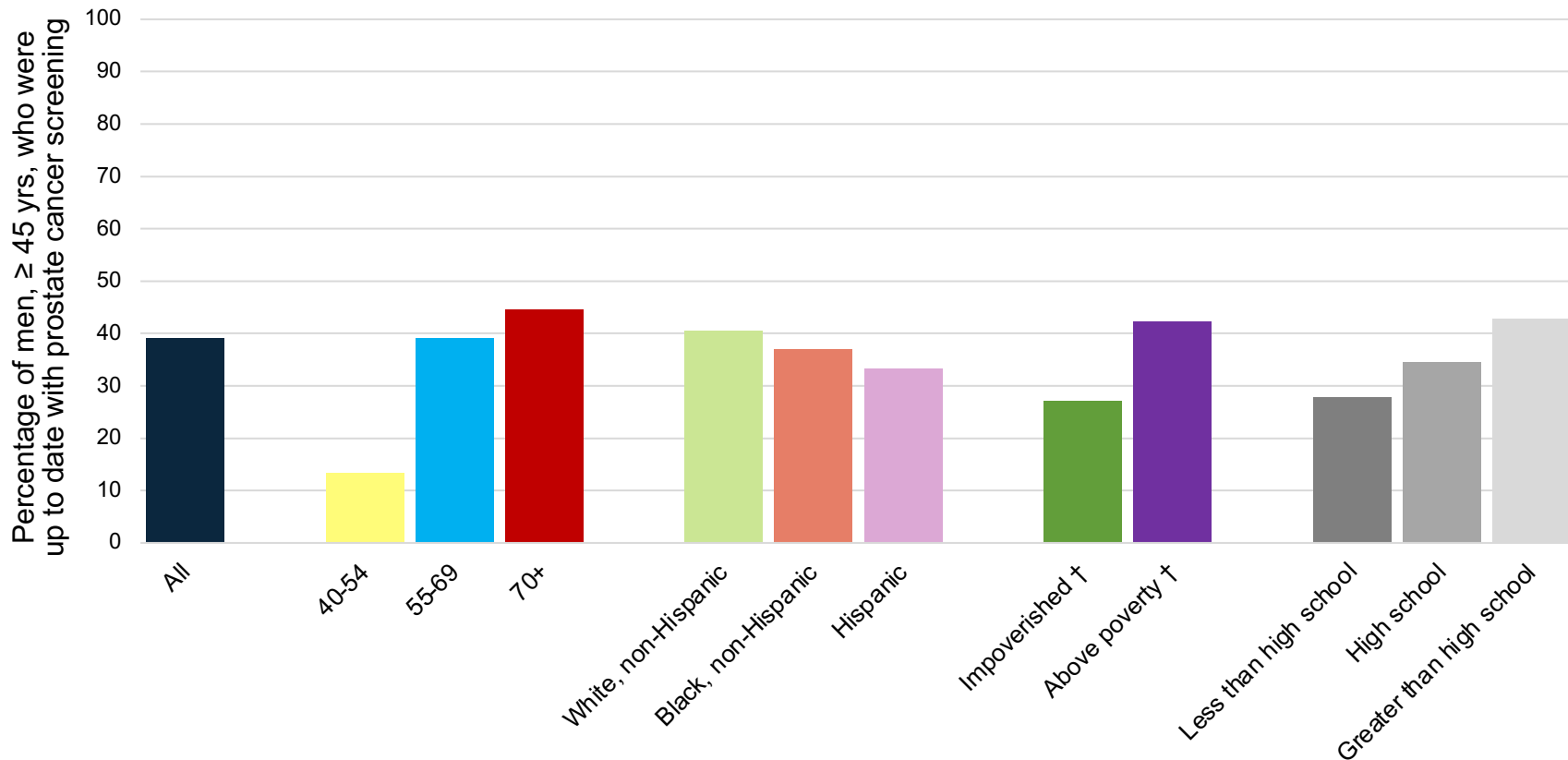
American Association for Cancer Research [AACR]. AACR Cancer Disparities Progress Report 2022. AACR Website. 2022. <https://cancerprogressreport.aacr.org/disparities/cdpr22-contents/>. Accessed June 8, 2022.

# Lifetime Probability of Developing and Dying From Prostate Cancer for Black Men

	Black	White
Lifetime probability of developing prostate cancer	18.2% (1/6)	13.3%(1/8)
Lifetime probability of prostate cancer death	4.4% (1/23)	2.4% (1/42)

- **4800** total prostate cancer deaths in Black men, annually
- **> 2,500 ANNUAL excess/disparate** prostate cancer deaths in Black men

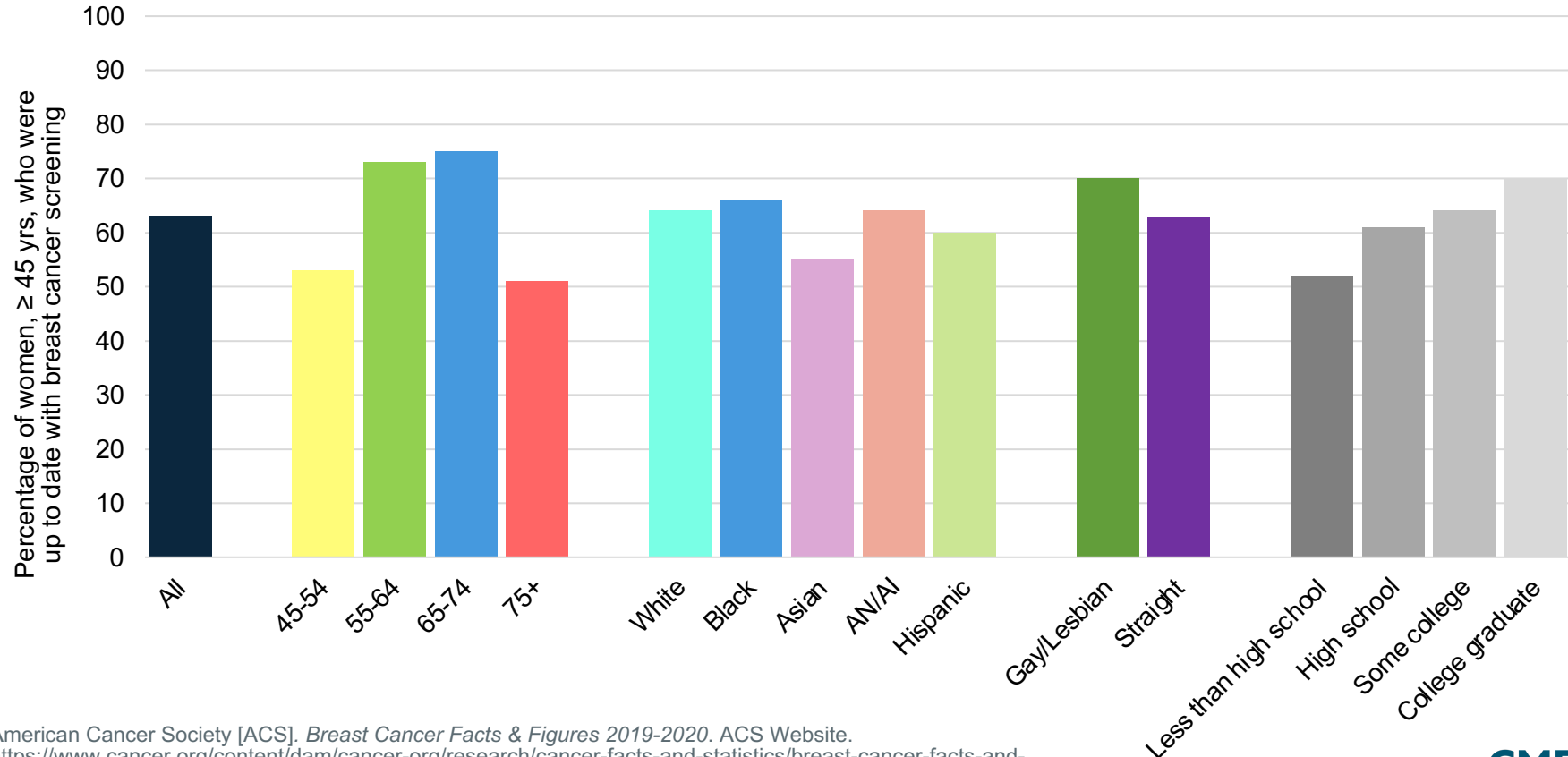
# Men Up To Date with Prostate Cancer Screening



† Relative to 200% federal poverty level.

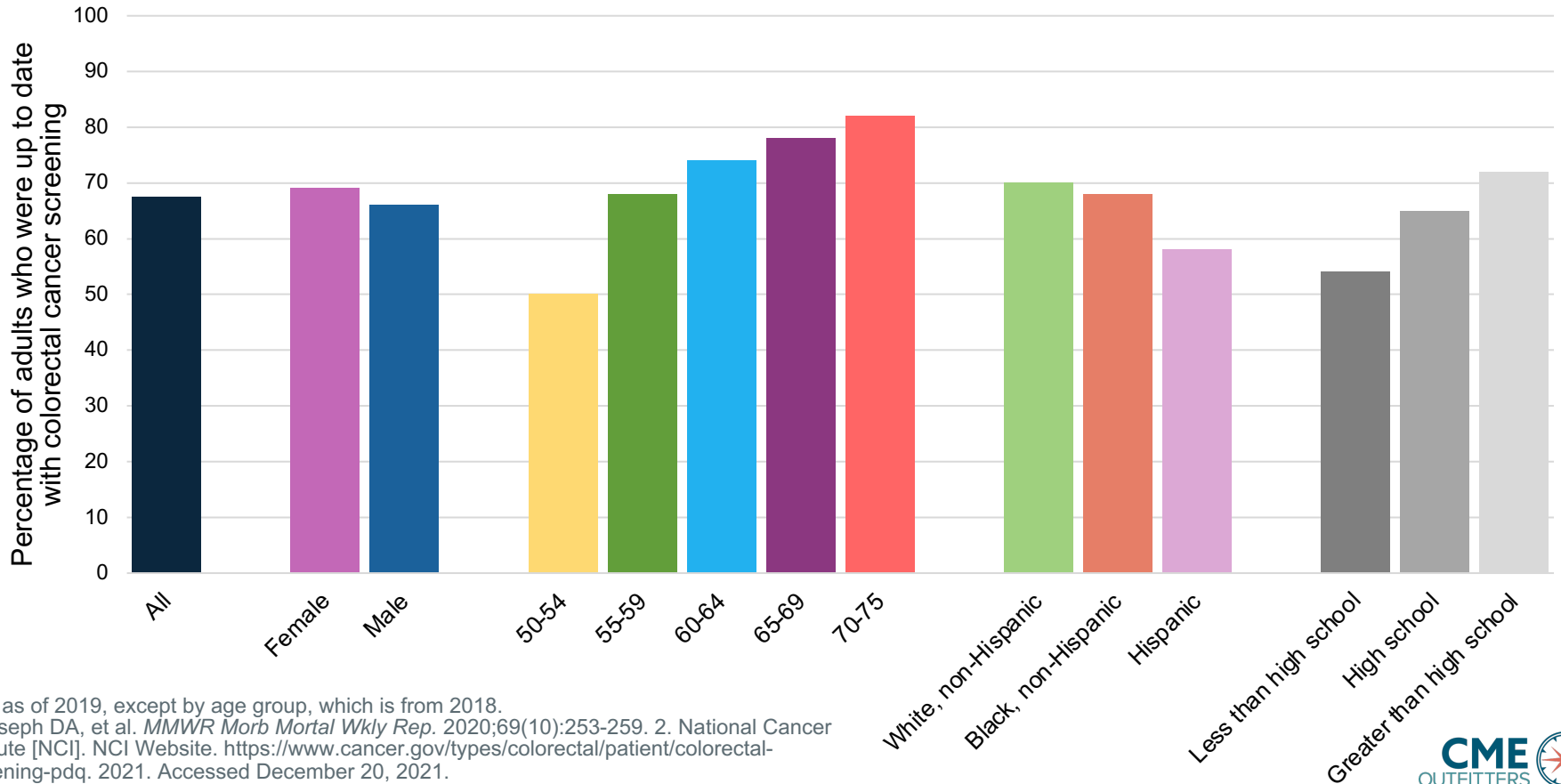
National Cancer Institute [NCI]. *Prostate Cancer Screening*. NCI Website. [https://progressreport.cancer.gov/detection/prostate\\_cancer](https://progressreport.cancer.gov/detection/prostate_cancer). 2021. Accessed December 20, 2021.

# Women Up To Date with Breast Cancer Screening



American Cancer Society [ACS]. *Breast Cancer Facts & Figures 2019-2020*. ACS Website. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/breast-cancer-facts-and-figures/breast-cancer-facts-and-figures-2019-2020.pdf>. 2019. Accessed December 20, 2021.

# Adults Up To Date with Colorectal Cancer Screening



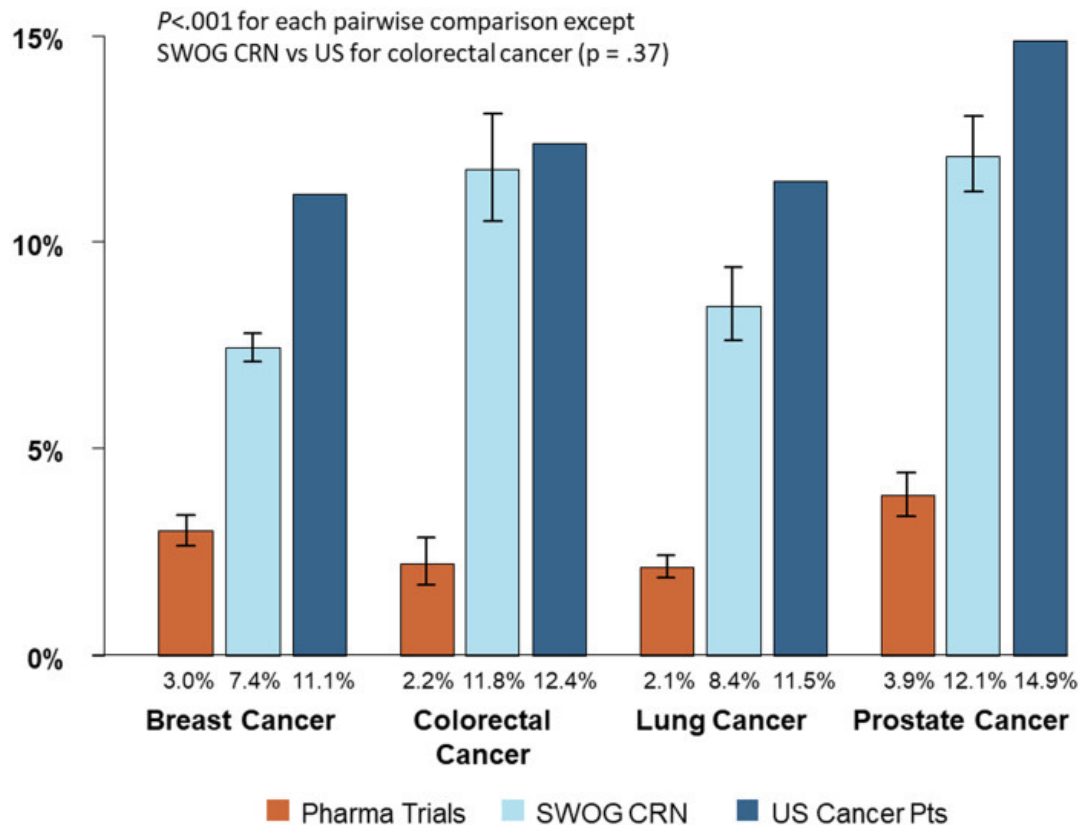
Data as of 2019, except by age group, which is from 2018.

1. Joseph DA, et al. *MMWR Morb Mortal Wkly Rep.* 2020;69(10):253-259. 2. National Cancer Institute [NCI]. NCI Website. <https://www.cancer.gov/types/colorectal/patient/colorectal-screening-pdq>. 2021. Accessed December 20, 2021.

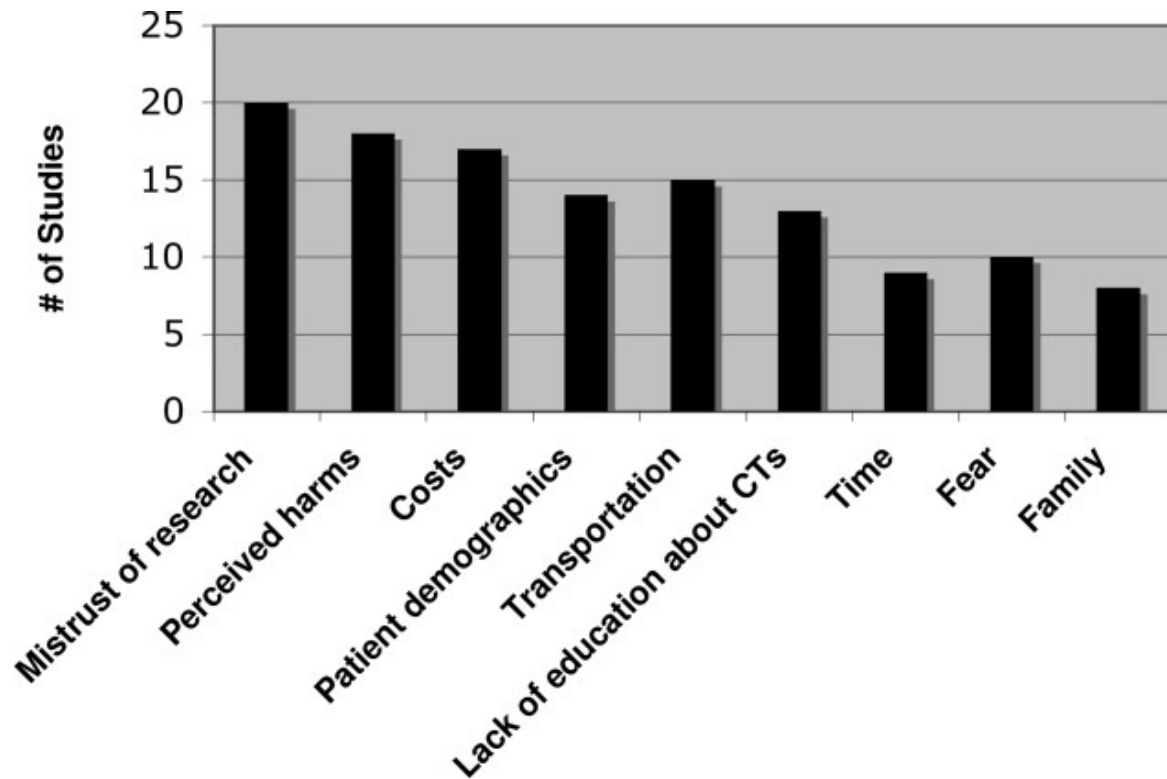
# Racial Difference in National Lung Screening Trial

- Reduction in lung cancer-specific mortality caused by LDCT screening HR 0.61 in Black individuals vs. 0.86 in White individuals
  - But,  $HR_{(\text{death from lung cancer})}$  was 4.10 in Black vs. 2.25 in White current smokers
    - Black patients were younger, more co-morbidities, less educated
  - LDCT reduced mortality, but chest x-ray did not
- Highlights the importance of good access to health care in low-SES groups

# Black Patient Representation in Clinical Trials



# Patient Barriers to Diverse Clinical Trial Enrollment



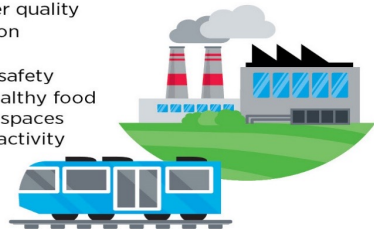


# US Cancer Disparities

Complex and interrelated factors contribute to cancer health disparities in the United States. Adverse differences in many, if not all, of these factors are directly influenced by structural and systemic racism. The factors may include, but are not limited to, differences or inequalities in:

## ENVIRONMENTAL FACTORS

- Air and water quality
- Transportation
- Housing
- Community safety
- Access to healthy food sources and spaces for physical activity



## BEHAVIORAL FACTORS

- Tobacco use
- Diet
- Excess body weight
- Physical inactivity
- Adherence to cancer screening and vaccination recommendations



## SOCIAL FACTORS

- Education
- Income
- Employment
- Health literacy



## CLINICAL FACTORS

- Access to health care
- Quality of health care



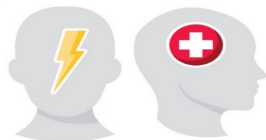
## CULTURAL FACTORS

- Cultural beliefs
- Cultural health beliefs



## PSYCHOLOGICAL FACTORS

- Stress
- Mental health



## BIOLOGICAL AND GENETIC FACTORS



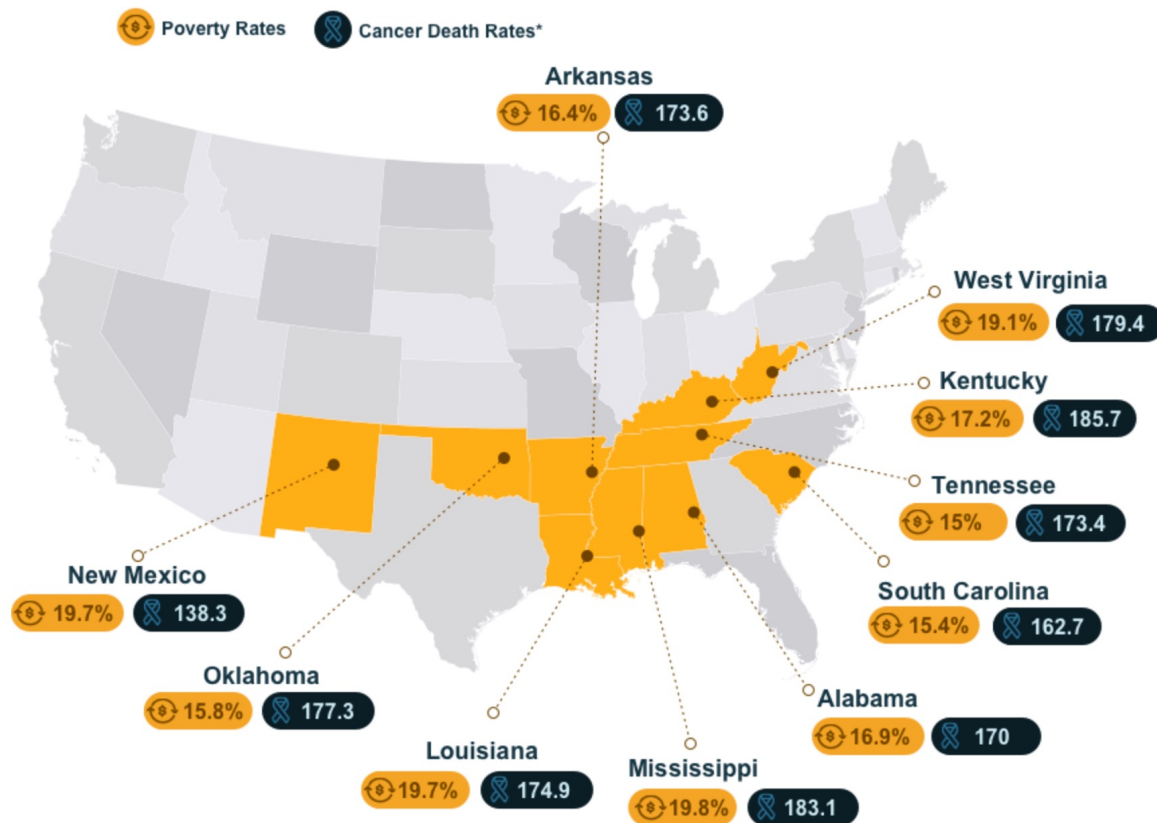
# Social Factors

- Income
- Education
- Employment
- Health Literacy



21% of African Americans, 18% of Hispanics, and 8% of non-Hispanic whites were **living below the federal poverty level in 2018.**

# Poverty and Accelerated Cancer Death



US Census Bureau. 2016. [https://www.census.gov/library/visualizations/2016/comm/cb16-158\\_poverty\\_map.html](https://www.census.gov/library/visualizations/2016/comm/cb16-158_poverty_map.html). Accessed June 15, 2022.

CDC. 2022. [https://www.cdc.gov/nchs/pressroom/sosmap/cancer\\_mortality/cancer.htm](https://www.cdc.gov/nchs/pressroom/sosmap/cancer_mortality/cancer.htm). Accessed June 15, 2022.

# Environmental Factors



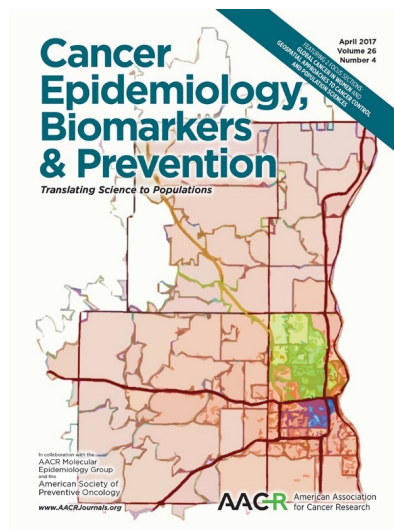
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JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

## How Do Social Factors Explain Outcomes in Non–Small-Cell Lung Cancer Among Hispanics in California? Explaining the Hispanic Paradox

*Manali I. Patel, Clayton W. Schupp, Scarlett L. Gomez, Ellen T. Chang, and Heather A. Wakelee*



# Polling Question

**From 2010 to 2022, what has been the change in the number of rural hospitals in the US?**

- A. Increased >100
- B. Increased 25-100
- C. Stayed about the same
- D. Decreased 25-100
- E. Decreased >100
- F. I'm not sure

# Polling Results

From 2010 to 2022, what has been the change in the number of rural hospitals in the US?

Increased >100

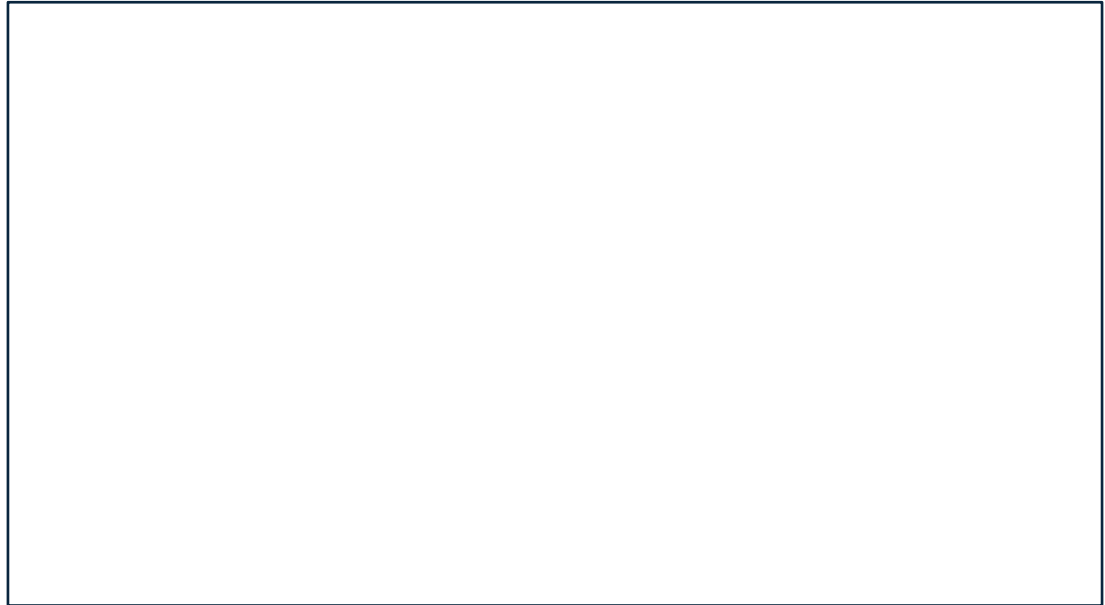
Increased 25-100

Stayed about the same

Decreased 25-100

Decreased >100

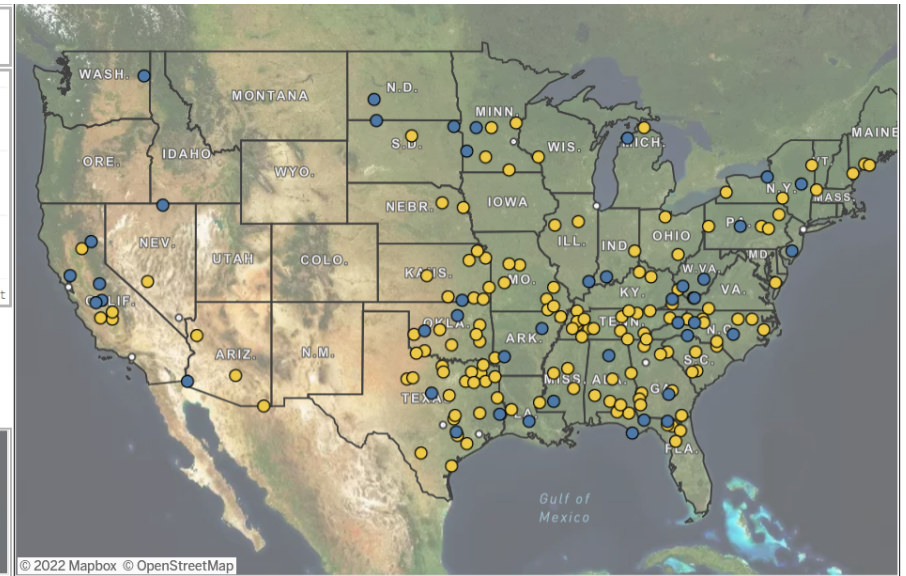
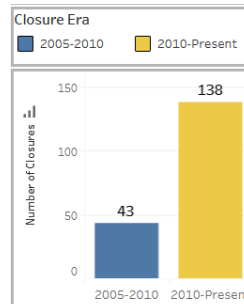
I'm not sure



# Barriers to Cancer Care Among Rural Communities

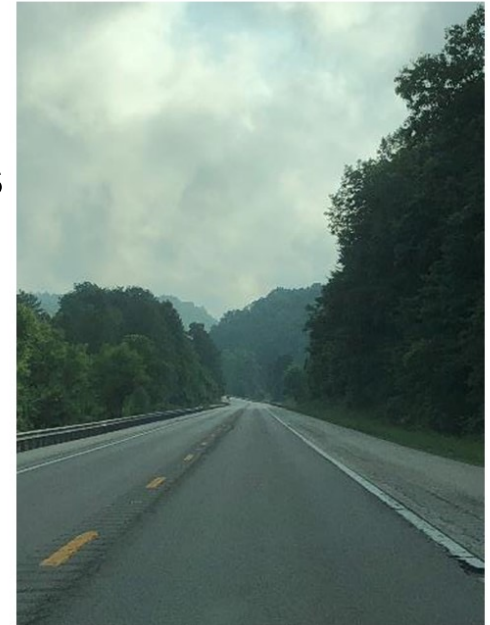
- Availability of and access to care:

- Primary care, cancer screening, cancer treatment, survivorship care, psychosocial and mental health services
- Limited access to cancer clinical trials
- Hospital closures
- Increased financial and mental health hardships
- Shortage of oncology specialists



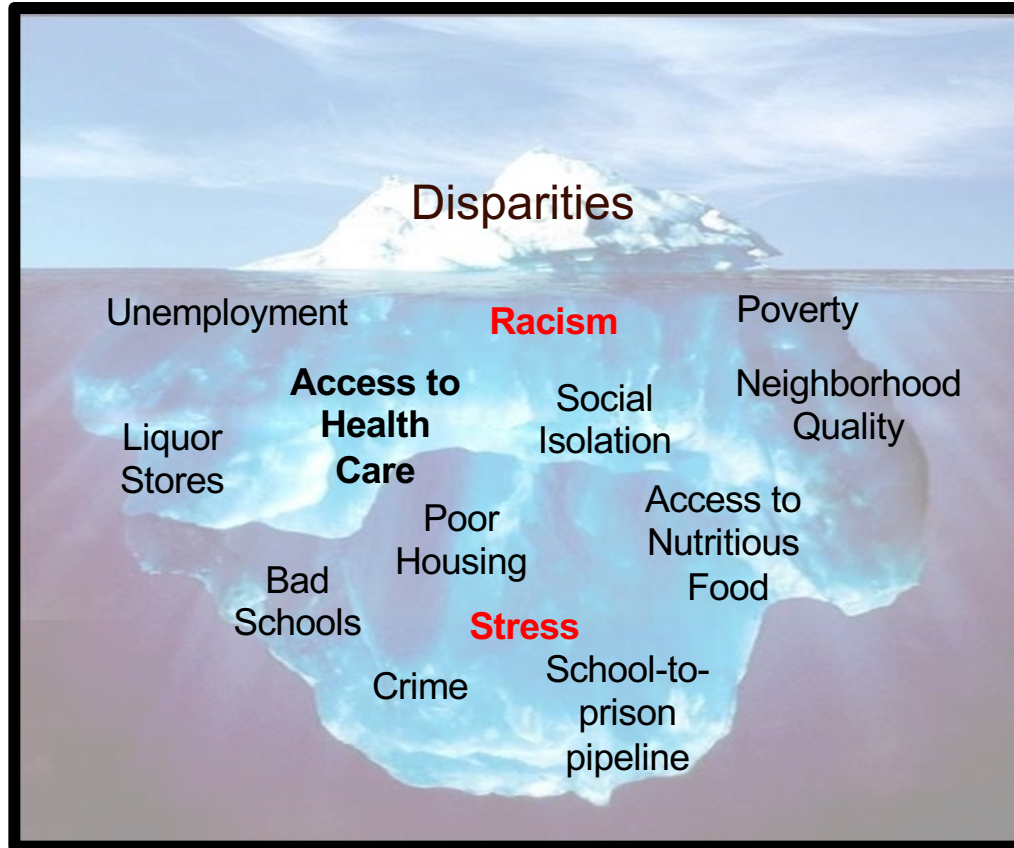
# Tyranny of Distance

- Meta-analysis revealed that cancer patients living > 50 miles from a hospital routinely presented with
  - More advanced stages of disease at diagnosis
  - Lower adherence to recommended treatments
  - Worse prognoses
  - Decreased quality of life





# Cancer Disparities: Just the Tip of the Iceberg



# Health Equity: Definition

Health equity is defined as

**Everyone** having a **fair** and **just** opportunity to be as healthy as possible

Ethical and human rights principle that motivates us to eliminate health disparities

Health disparities are the result of **structural racism** and **marginalization**

If left unaddressed, will continue to reinforce social and economic inequities, bias, and poor outcomes that affect the entire society

# Current State of Affairs for Oncology Patients of Color

- Racial and ethnic minority groups in the United States experience striking disparities in incidence and death rates for various types of cancer.
  - The Black population still shoulders a disproportionately high burden of overall cancer mortality compared with other racial and ethnic groups.

# Therapeutic Efficacy for Black Patients with Prostate Cancer in Standardized Care Environments

Author	Agent Investigated	Trial and Analysis Type	Number of Patients	Endpoint	Outcomes
Halabi et al <sup>68</sup>	Docetaxel	Meta-analysis	8,820 (White, 7,528 [85%]; Black, 500 [6%])	Median OS and risk of death	Median OS, 21.0 vs. 21.2 months; (multivariable HR, 0.81; 95% CI, 0.72–0.91; p < .001)
Ramalingam et al <sup>64</sup>	Abiraterone	Case control analysis	135 (White, 90 [66%]; Black, 45 [33%])	PSA response	68.9%; ≥ 50% PSA level decline in Black patients vs. 48.9% in White patients (p = .028)
Efstathiou et al <sup>70</sup>	Abiraterone	Retrospective subset analysis	28 Black patients (of 1,088 total patients in COU-AA-302)	PSA response, radiographic PFS	> 90% PSA in 53% of Black patients vs. 31% of White patients; radiographic PFS, 16.6 months in Black patients vs. 11.1 in White patients
McNamara et al <sup>71</sup>	Abiraterone or enzalutamide in CRPC	Retrospective medical record review of VA database	787 Black patients and 2,123 White patients with CRPC	Median OS and risk of death	Median OS, 918 days for Black patients and 781 days for White patients (multivariable HR, 0.826; 95% CI, 0.732–0.93; p = .0020)
George et al <sup>65</sup>	Abiraterone in metastatic CRPC	Prospective parallel group study	50 Black patients and 50 White patients	PSA, PFS, PSA response	Median PSA PFS, 16.6 months for Black patients vs. 11.5 for White patients; > 90% PSA decline in 48% of Black patients vs. 38% of White patients
Sartor et al, <sup>66</sup> Higano et al <sup>67</sup>	Sipuleucel-T	Registry cohort analysis	1,976 (White, 1,649 [83.4%]; Black, 221 [11.1%])	Median OS and risk of death	Median OS, 25.8 vs. 35.3 months (HR, 0.81; 95% CI, 0.68–0.97; p = .03) in all patients (HR, 0.70; 95% CI, 0.57–0.86; p < .001) in PSA-matched set (HR, 0.60; 95% CI, 0.48–0.74; p < .001)
Zhao et al <sup>69</sup>	Radium-223	Retrospective medical record review of VA database	87 Black patients (27%) of 318 patients treated with radium-223	Risk of death	Black race was associated with decreased risk of mortality (HR, 0.75; 95% CI, 0.57–0.99; p = .045)

Abbreviations: OS, overall survival; PSA, prostate-specific antigen; PFS, progression-free survival; CRPC, castration-resistant prostate cancer; VA, Veterans Affairs.

Data adapted from Carthon et al.<sup>72</sup>

# Breast Cancer Diagnostic Strategies to Overcome Disparities

- Same-day biopsy
  - Decreased time to diagnosis
  - Decreased time of patient anxiety
  - Minimized patient handoffs
  - Patient convenience
  - Ensuring a tissue diagnosis

# Addressing CRC Screening Disparities

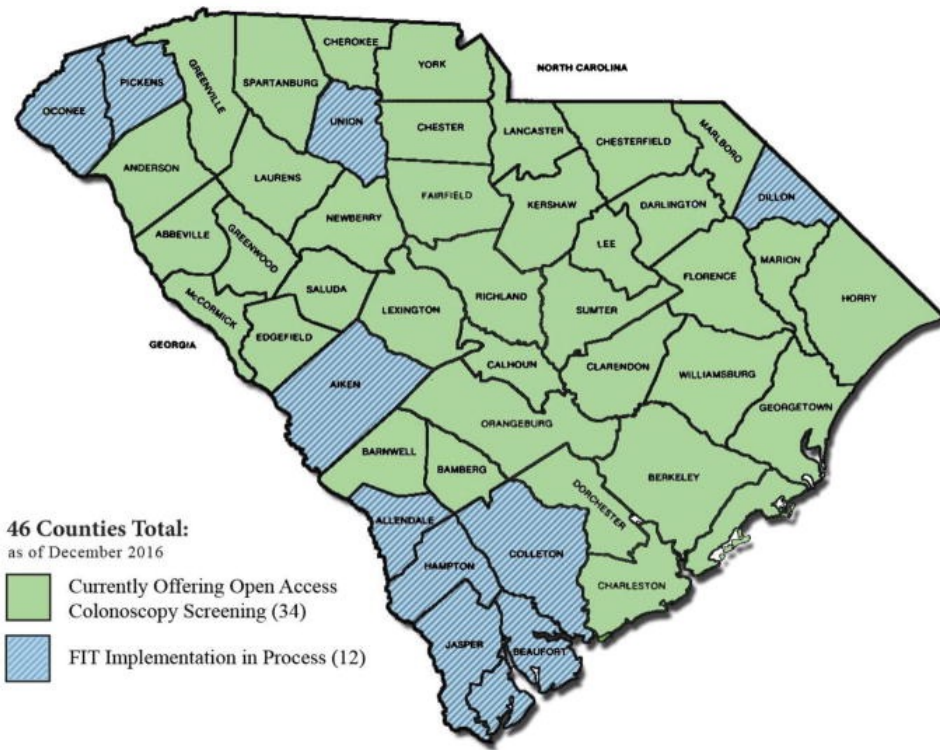
- Colorectal Cancer Prevention Network (CCPN) provides access to colonoscopy screening at no cost to uninsured, asymptomatic patients aged 50–64 (African Americans age 45–64 are eligible) who live at or below 150% of the poverty line
- Seek medical care in free medical clinics, federally qualified health centers, or hospital-based indigent practices in SC.
- >4,000 patients referred to the program, 1,854 were deemed eligible, 1,144 attended an in-person navigation visit, and 909 completed a colonoscopy.
- The polyp detection rate (PDR) and adenoma detection rate (ADR) were 63% and 36%
- Over 13% of participants had an advanced polyp, and 1% had a cancer diagnosis or surgical intervention.

# Example: Addressing CRC Screening Disparities

CCCR Screening Program Participant Characteristics by Place of Residence, May 2014 – May 2016

	Rural	Urban	p-value
<b>Individual Factors, n (%)</b>	295 (32.45)	614 (67.55)	
<b>Gender</b>			0.5078
<b>Female</b>	178 (60.34)	386 (62.87)	
<b>Male</b>	117 (39.66)	228 (37.13)	
<b>Age<sup>a</sup></b>			0.816
<b>45-49</b>	15 (5.08)	32 (5.21)	
<b>50-54</b>	125 (42.37)	280 (45.60)	
<b>55-59</b>	97 (32.88)	191 (31.11)	
<b>60-64</b>	58 (19.66)	111 (18.08)	
<b>Race/ethnicity</b>			0.2286
<b>Non-Hispanic White</b>	105 (35.71)	230 (37.46)	
<b>Non-Hispanic Black</b>	166 (56.46)	317 (51.63)	
<b>Other</b>	23 (7.82)	67 (10.91)	
<b>Language</b>			0.0753
<b>English</b>	291 (98.64)	591 (96.25)	
<b>Non-English</b>	4 (1.36)	23 (3.75)	
<b>Education</b>			0.8883
<b>Less than HS</b>	83 (28.14)	166 (27.08)	
<b>HS Diploma</b>	121 (41.02)	245 (39.97)	
<b>Some College</b>	73 (24.75)	157 (25.61)	
<b>Bachelors or Higher</b>	18 (6.70)	45 (7.34)	

<sup>a</sup> Age at inclusion; the age group of 45-49 includes African Americans only



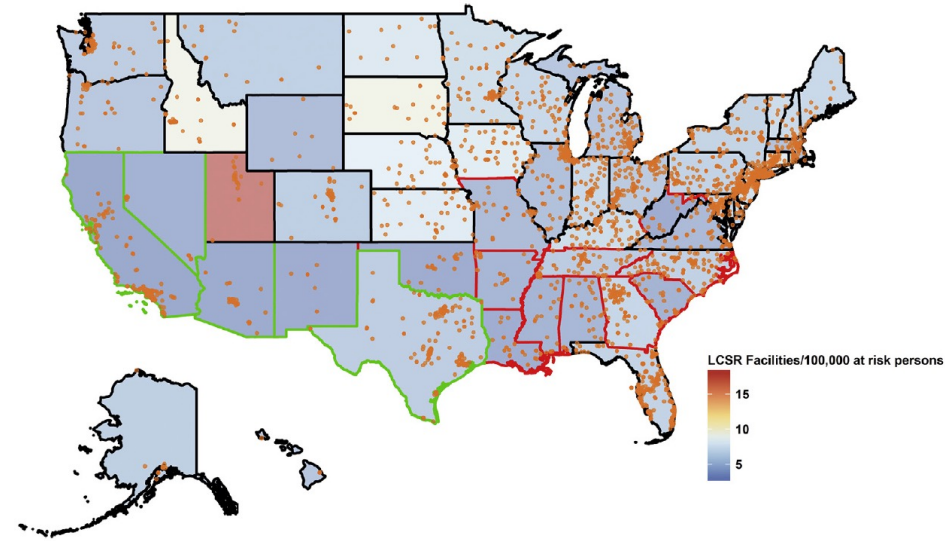
# Addressing Colorectal Cancer Screening Disparities

- Redesigning colorectal cancer care delivery paradigms
  - Access to high-quality care
  - Access to research
- Implementing evidence-based adaptable interventions
  - Community engagement
  - Representation
  - Measurable outcomes
  - Success metrics



# DFCI Cancer Care Equity Program: Lung Cancer

- Goal to improve local cancer-related outcomes for underserved by facilitating clinical access to preventative medicine, treatment, and clinical trials
  - Decrease wait times for diagnosis and treatment of cancer
  - Increase awareness and knowledge of cancer prevention and treatment
  - Foster trust with providers and patients
  - Create a research cohort of patients for observational and interventional studies
  - Increase enrollment of diverse populations in clinical trials

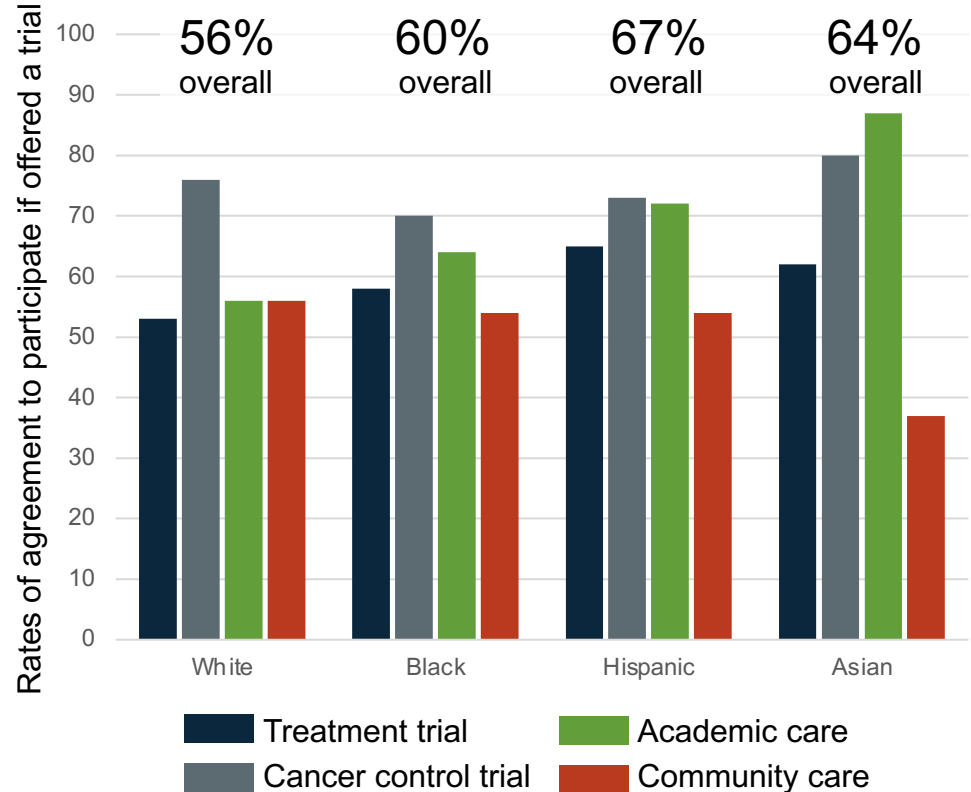


DFCI = Dana Farber Cancer Institute

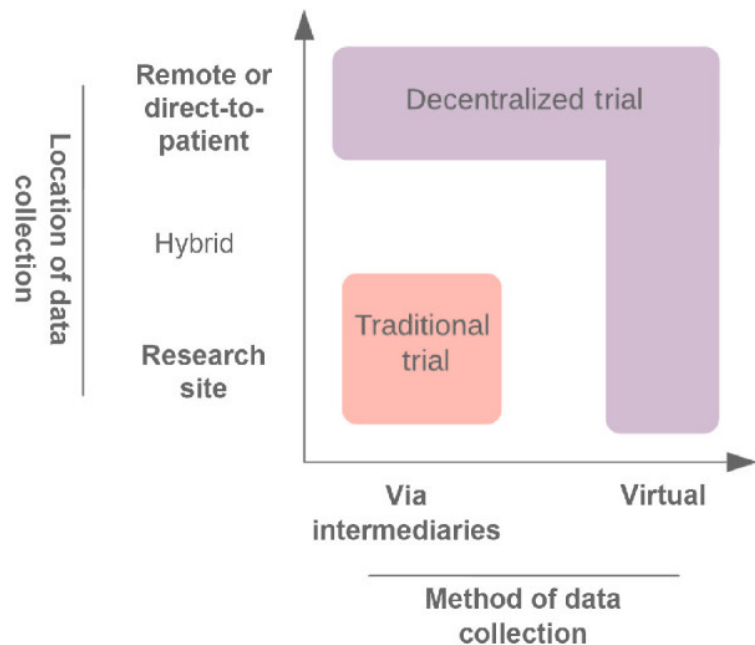
Dana Farber Cancer Institute. Cancer Care Equity Program Website. 2022 <https://www.dana-farber.org/research/departments-centers-and-labs/departments-and-centers/cancer-care-equity-program/>. Accessed June 8, 2022.

# "If They Are Offered the Opportunity"

- Meta-analysis (35 studies, 9759 patients, all cancer types)
  - > Half of patients participate in clinical trials, **if they are offered the opportunity**
  - No difference by race
- The main reasons for nonparticipation were treatment choice or lack of interest
  - 24% desire for other treatment
  - 20% not interested in trial participation
  - 8% passive refusal
  - 8% fear of side effects
  - 7% financial
  - 7% dislike being part of experiment



# Advancing Oncology Decentralized Trials



- Patient-centered approach
  - Increased patient convenience, decreased travel and financial strain
- Increased patient diversity
  - Reaches patients outside traditional clinical trial networks
- Aids in patient recruitment
  - Increased access to innovative treatments
- Promotes patient retention
  - Less missing data, better follow up of responses

# How do we improve delivery of care?

- Provide team-based health care to address the whole patient and social determinants of health (for example, through navigators, social workers, and patient advocates).
- Counsel and coach to encourage healthful behaviors.
- Participate in value-based cancer care models.
- Develop and implement novel stakeholder-engaged approaches to deliver high-value cancer care.
- Advocate policies and procedures to improve equitable cancer care delivery.
- Address unmet needs and barriers to care.

# SMART Goals

Specific, Measurable, Attainable, Relevant, Timely

- Individuate patient interaction – each person is unique, not simply a representative of some racial/ethnic group
- Practice patient-centered communication skills
- Create a sense of common in-group identity
- Increase treatment standardization
- Become aware of where disparity is at its greatest (early stage)
- Encourage social media discussions

## To Ask a Question

Please click on the *Ask Question* tab and type your question. Please include the faculty member's name if the question is specifically for them.

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THE SHOW

Questions & Answers



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