

DEFINING THE PROBLEM AND EVIDENCE BASED INTERVENTIONS

GA Core/GASCO: Cancer Clinical Trials Disparities Summit

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Disclosures

- Consultant:
 - Eisai
 - Pfizer
 - Gilead
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 - Bristol Myers-Squibb
 - Immunomedics
 - AstraZeneca
 - Alkermes

Objectives

- Broadly discuss an overview of the problem
- Discuss successful strategies to help alleviate healthcare disparities and improve diversity among clinical trial enrollment
- Provide useful examples of provider and systemic approaches to address barriers in research and healthcare

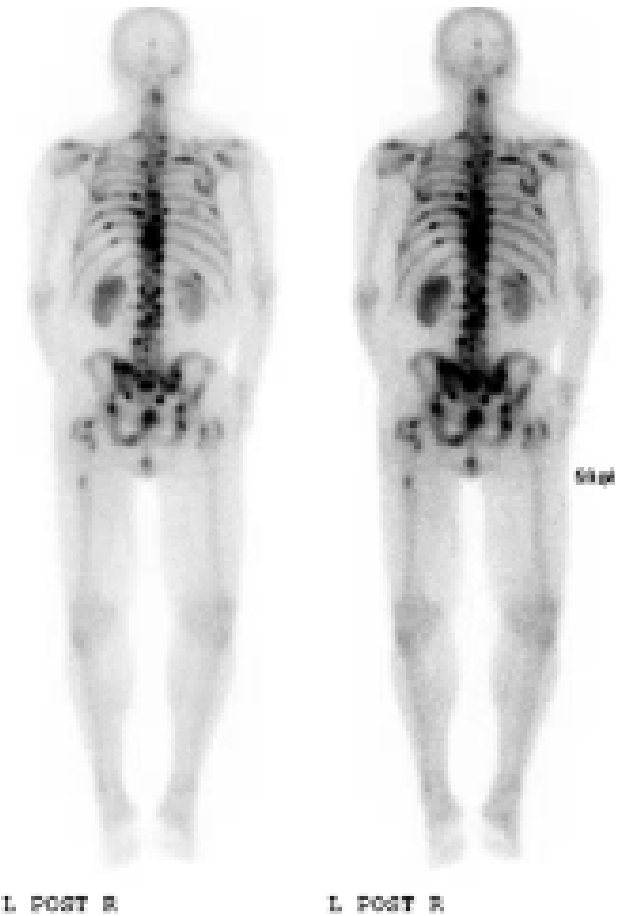
Mr. M.

81-year-old gentleman with history of Gleason 4 + 3 = 7, GG3 prostate cancer who presented for a post discharge consultation.

- Diagnosed with PCA in 2005 after urinary symptoms. Denied any PSA screening.
- Biopsy in 2005 showed Gleason 4 + 3 = 7 disease.
- Per family, Mr. M. declined surgery and stopped radiation after 1 fraction.
- He deferred further treatment due to concerns on side effects and travel.
- Mr. M. was recently confused and was admitted to OSH Hospital x 1 month. He was found to have sepsis and widespread metastatic prostate cancer.

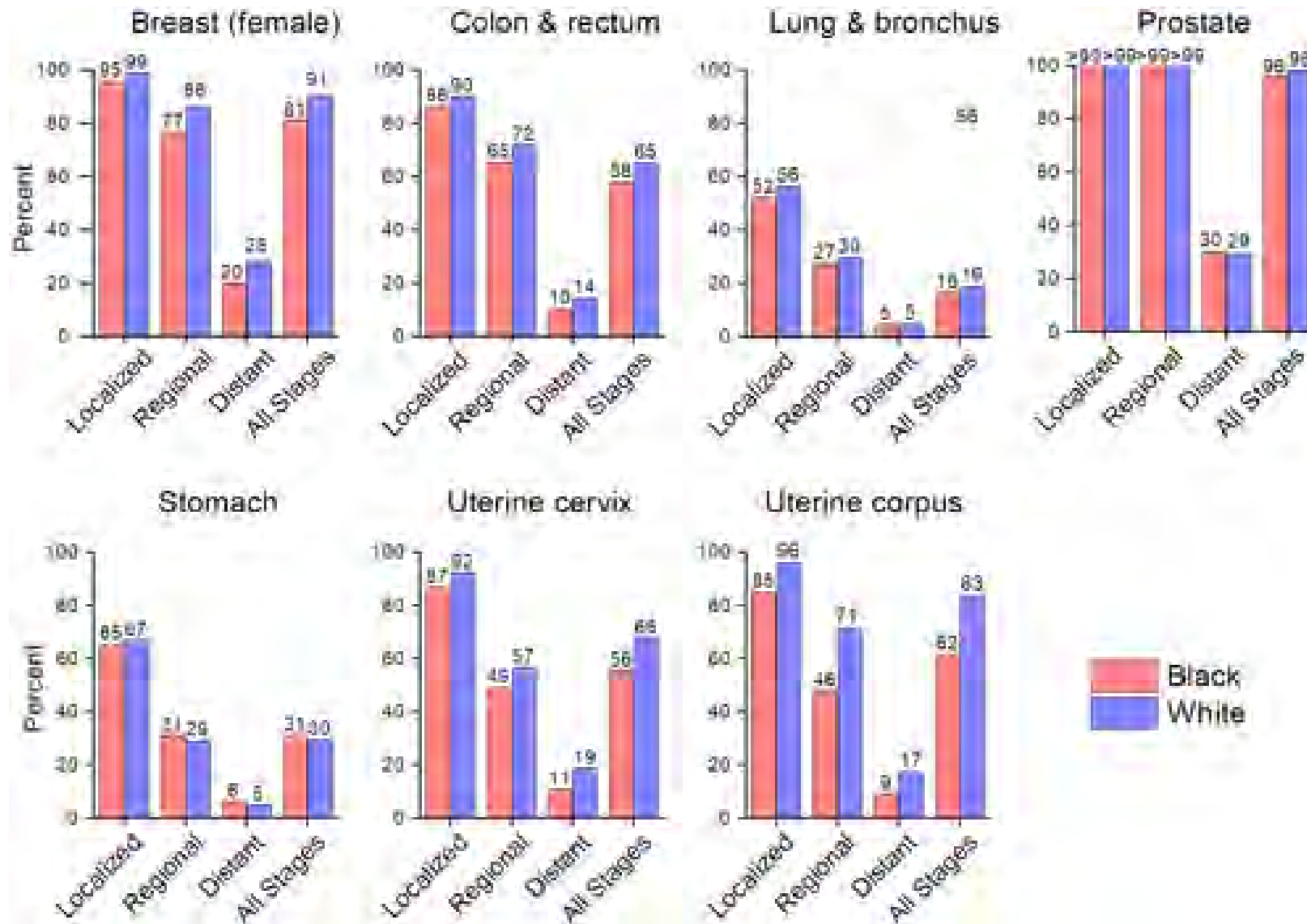
Points to Consider:

Definitive therapy? Medical mistrust? Navigation? Current treatment options? Genomics?



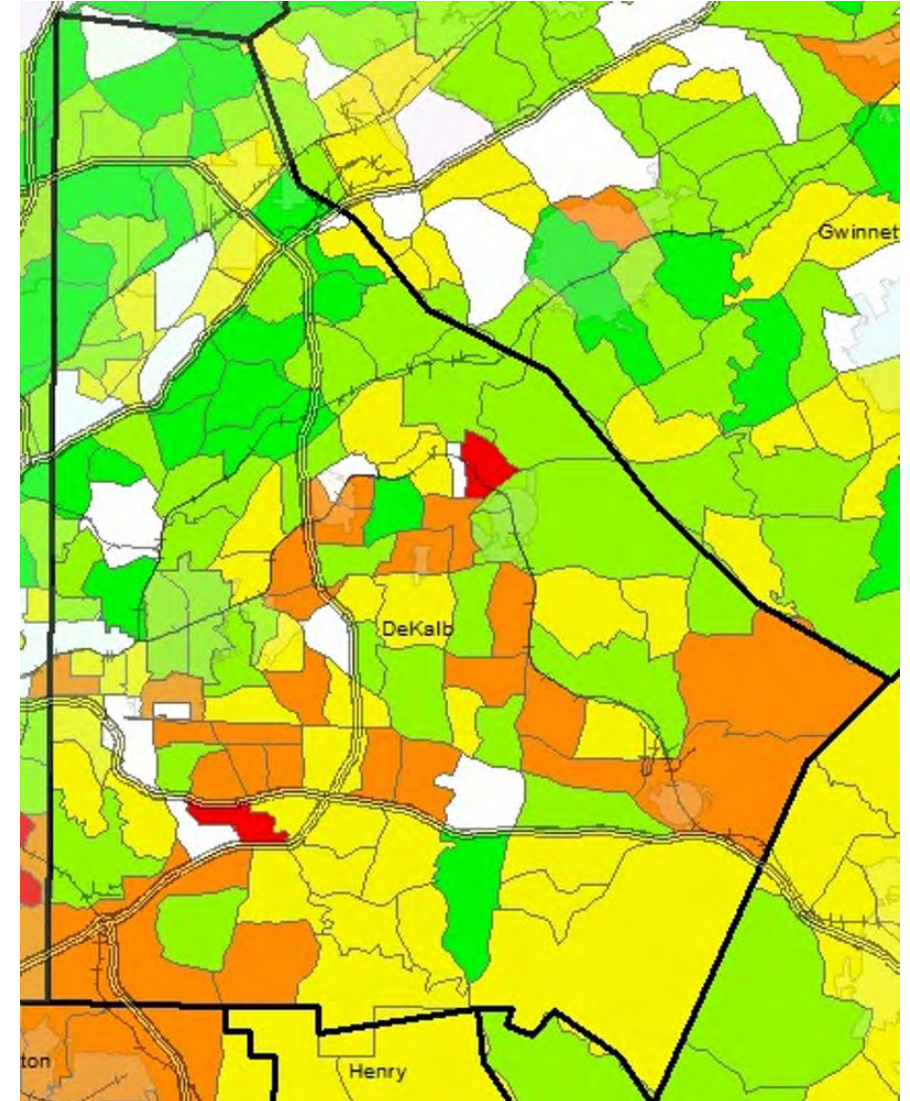
Cancer Statistics for African Americans

Five Year Survival Rates

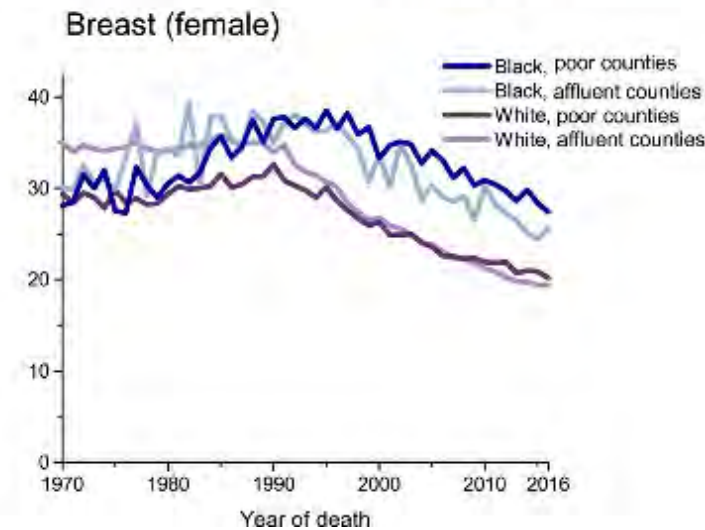
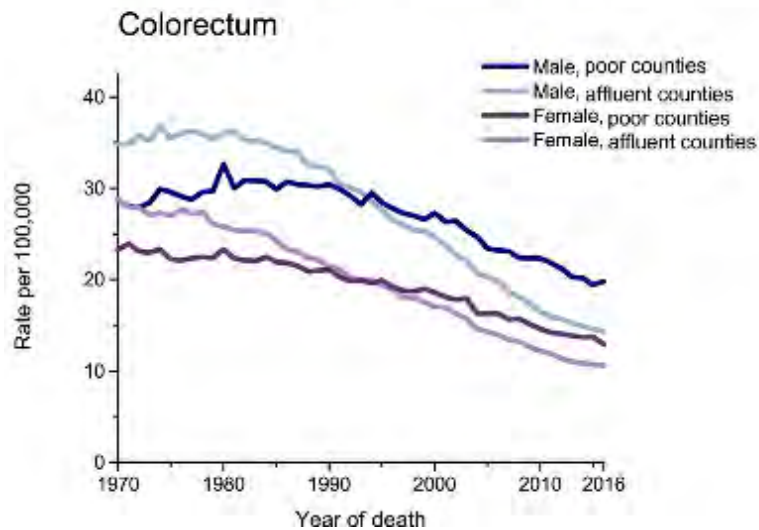
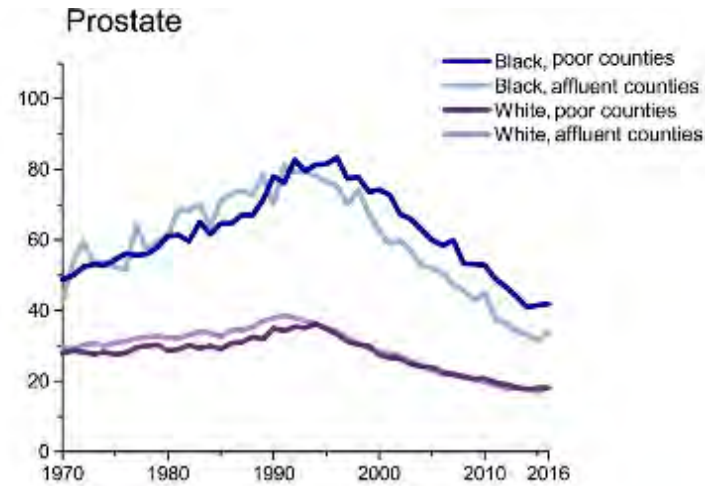
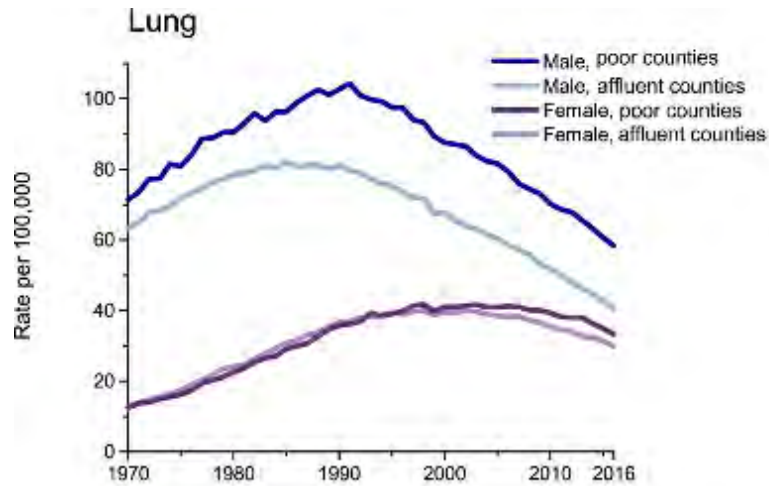


Metro Atlanta Life Expectancy

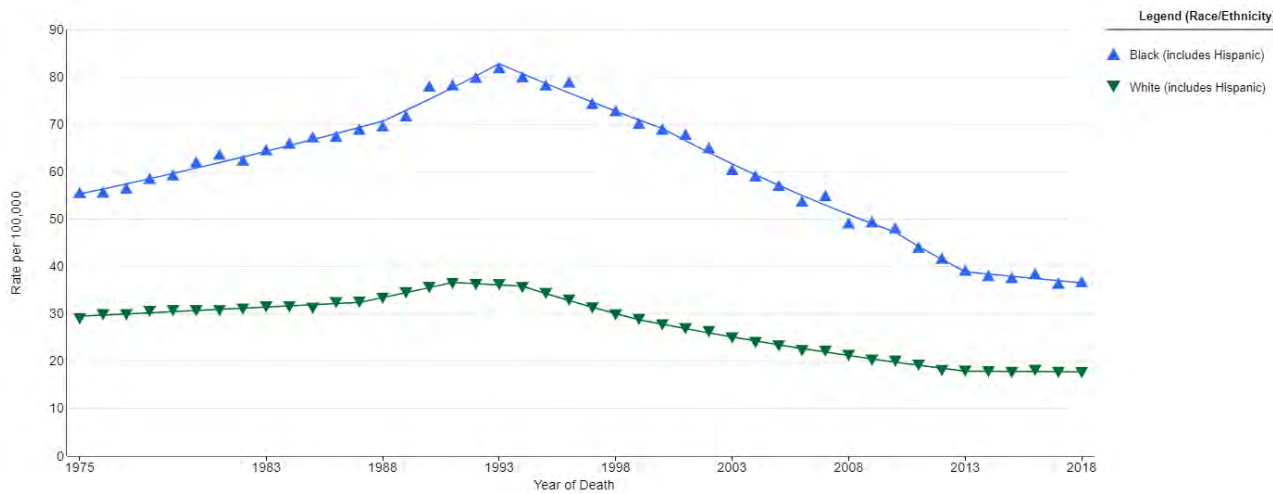
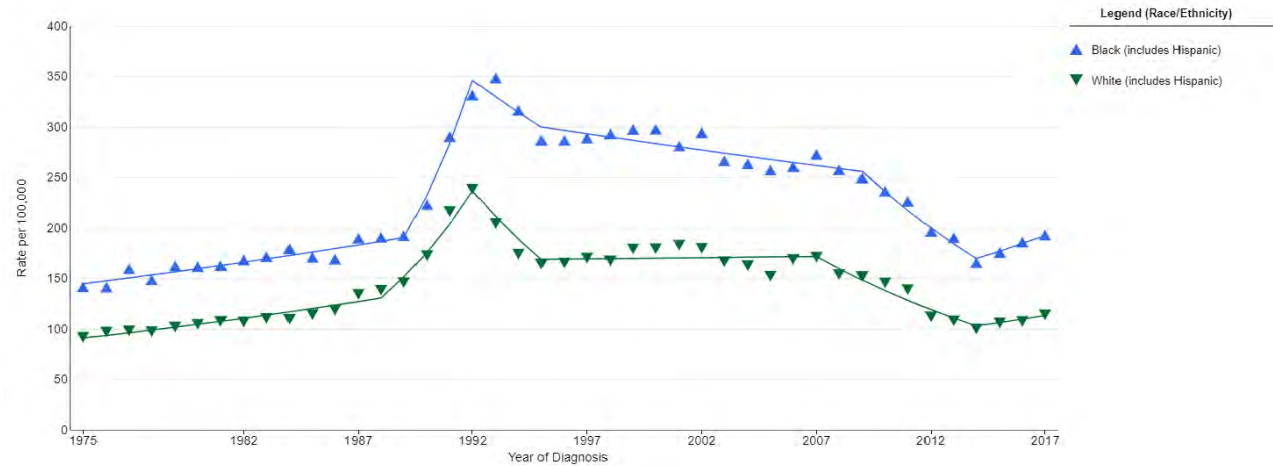
- U.S. Small-area Life Expectancy Estimates Project (USALEEP) is a product of the National Center for Health Statistics and the National Association for Public Health Statistics, and Information Systems along with the Robert Wood Johnson Foundation.
- Georgia's statewide average: 77.4 years old,
- National Average: 78.6 years old.
- Highest in Metro Atlanta: 87.6 years for residents of Vinings.
- Lowest in Metro Atlanta: Bankhead at 63.6 years on average.
- Dekalb County Average: 79.14 years.
- Highest in Dekalb: 86.6 years in Dunwoody near Brook Run Park
- Lowest in Dekalb: 68.4 years old in the part of Stone Mountain off Juliette Road and Ponce De Leon Avenue.



Cancer Mortality Rates In Poor vs. Affluent Counties by Race



Prostate Cancer Disparities Have Narrowed - Not Disappeared



Surveillance, Epidemiology, and End Results (SEER) Program. Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Prostate Cancer Incidence - SEER Research Data, 18 Registries, N (1975-2017), National Cancer Institute, DCCPS, Surveillance Research Program, released April 2020, based on the November 2019 submission, 2021.

Black men have a higher lifetime probability of developing and dying from prostate cancer

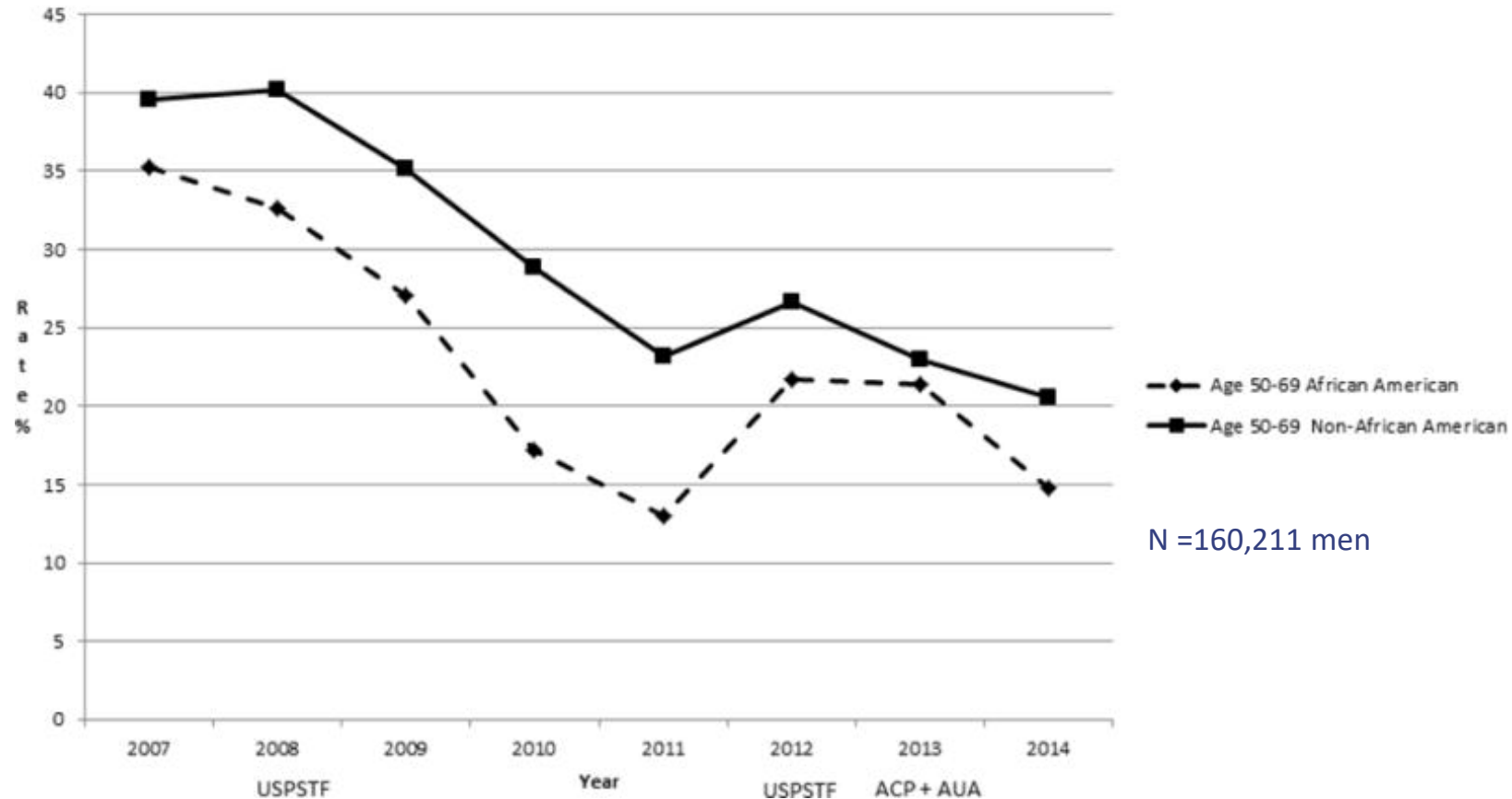
	Black	White
Lifetime Probability of developing prostate cancer	18.2% (1/6)	13.3%(1/8)
Lifetime Probability of prostate cancer death	4.4% (1/23)	2.4% (1/42)

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

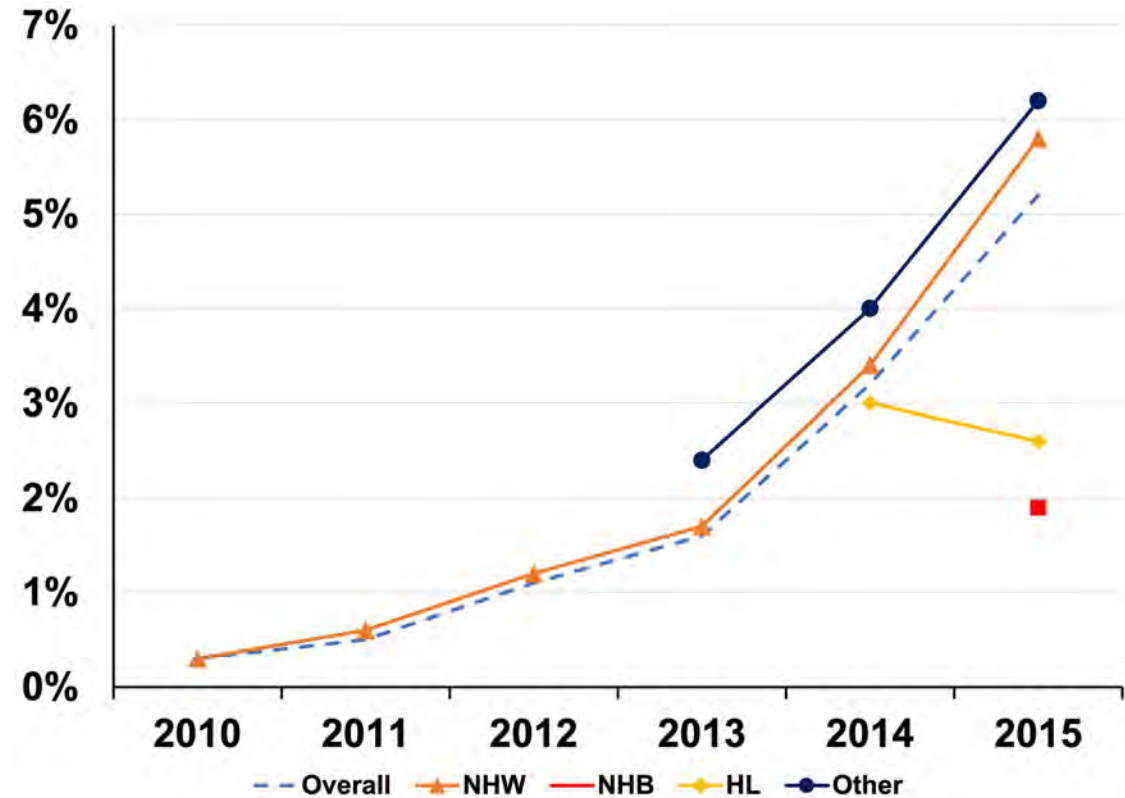
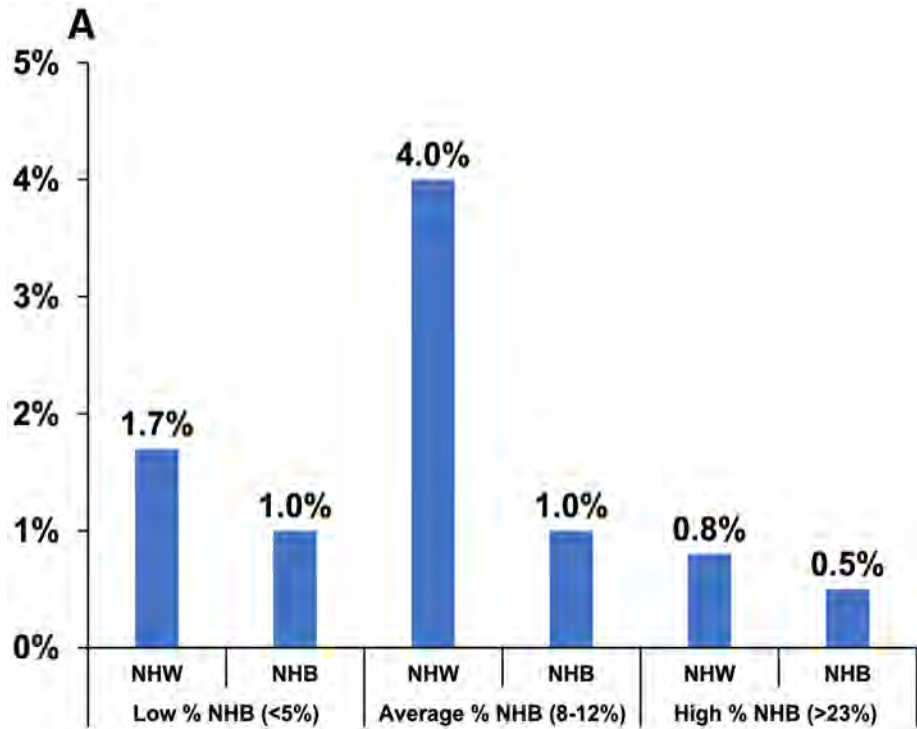
Cancer Facts and Figures for African Americans, 2016-2018

African Americans Underwent Less PSA Screening

PSA Testing Rates Age 50-69: African American and Non-African American Men 2007-2014



AA Patients Less Likely to Have Prostate MRI

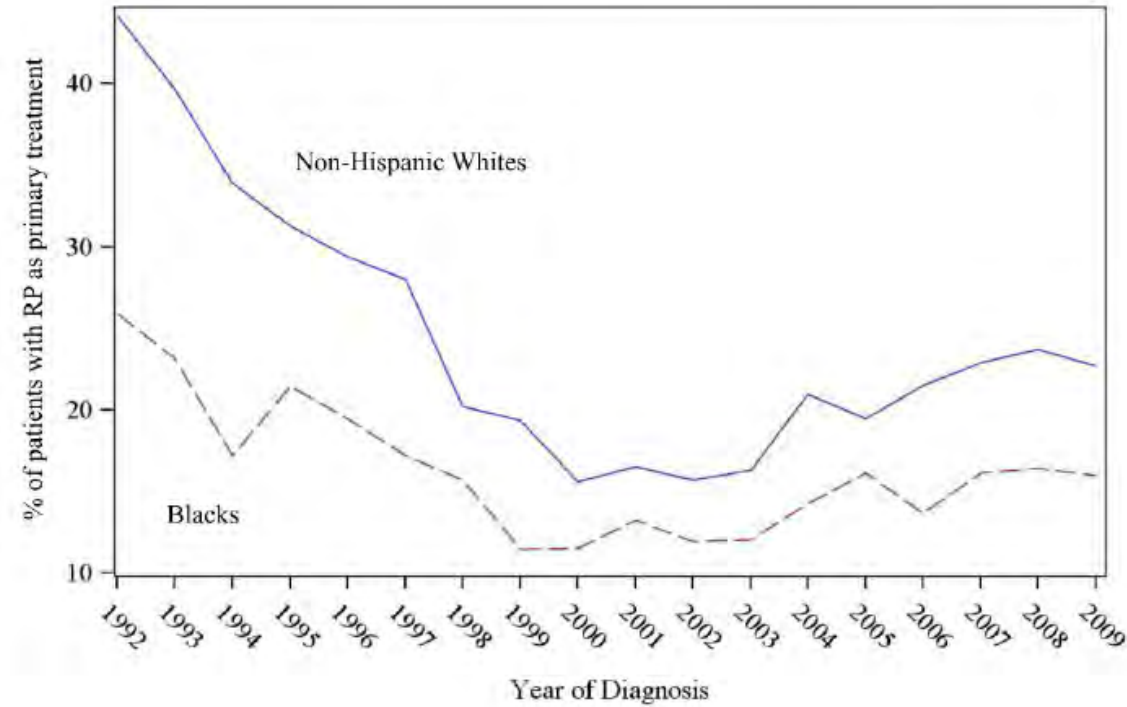


AA Patients Less Likely to Receive Latest PET Based Prostate Cancer Imaging

Characteristics	¹⁸ F-Fluciclovine	⁶⁸ Ga-PSMA	Odds Ratio	<i>P</i>
All Patients	254	1502		
Age (Mean ± SD)	69.8 ± 7.9	69.6 ± 7.7	1.01 (0.99-1.04)	0.097
Body Mass Index (Mean ± SD)	28.1 ± 4.0	27.7 ± 4.5	1.00 (0.97-1.04)	0.761
Race				
Non-Hispanic White	182 (71.6%)	1201 (80.0%)	1.00	
Black or African American	17 (6.7%)	24 (1.6%)	3.88 (1.90-7.91)	<0.001
Hispanic	13 (5.1%)	45 (3.0%)	1.79 (0.84-3.81)	0.131
Asian American or Native Hawaiian / Other Pacific Islander	22 (8.7%)	87 (5.8 %)	1.64 (0.95-2.85)	0.073
Unknown	20 (7.9%)	145 (9.6%)	1.06 (0.55-2.02)	0.87

Disparities in Surgical Treatment

eFigure 1. Trend curves of RP as % of primary treatment stratified by race 1992-2009

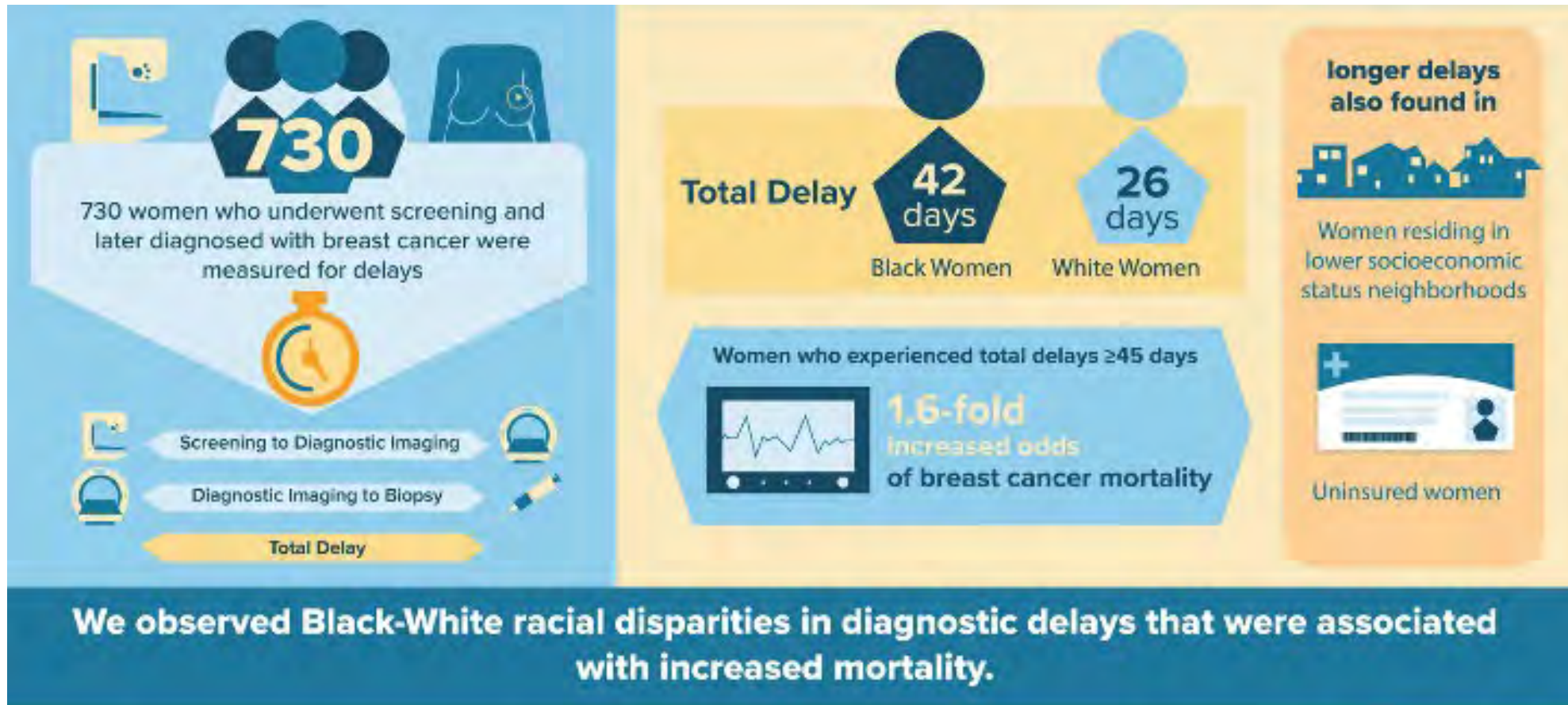


N = 2000 NHB
N = 24,500 NHW
SEER Analysis

Disparities in Prostate Cancer Radiation

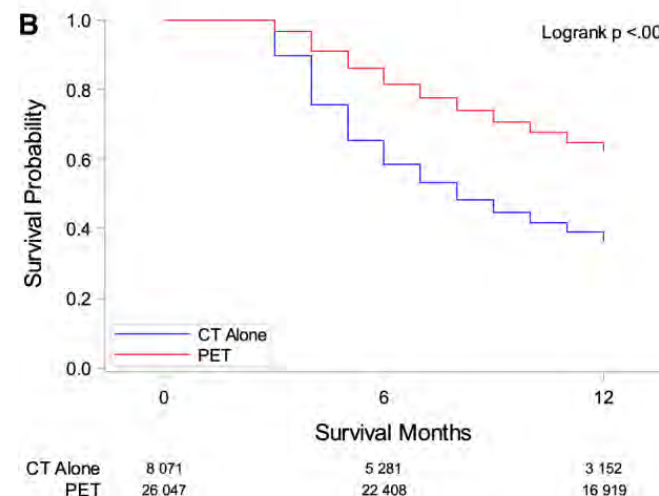
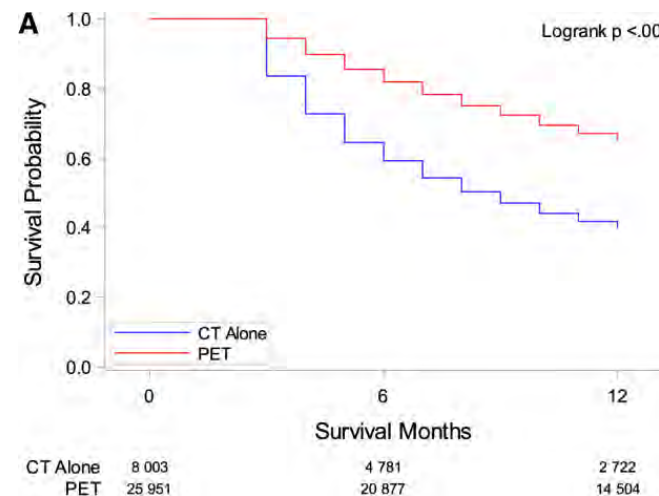
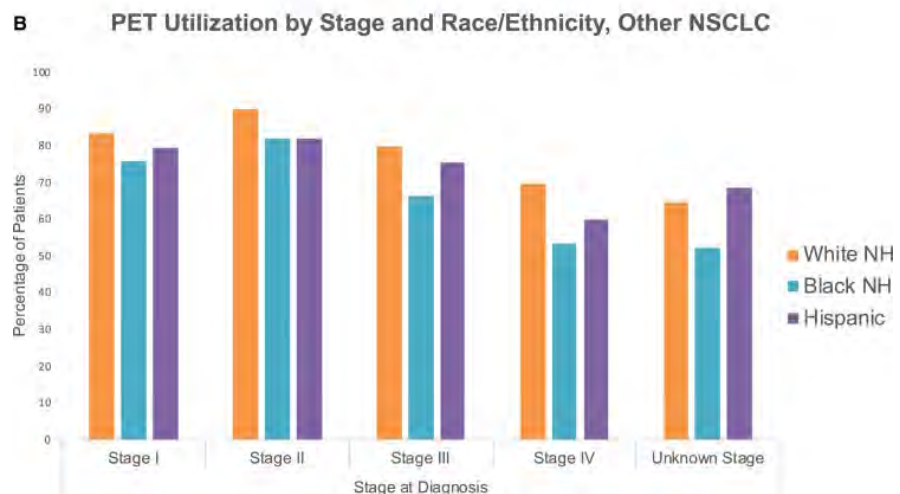
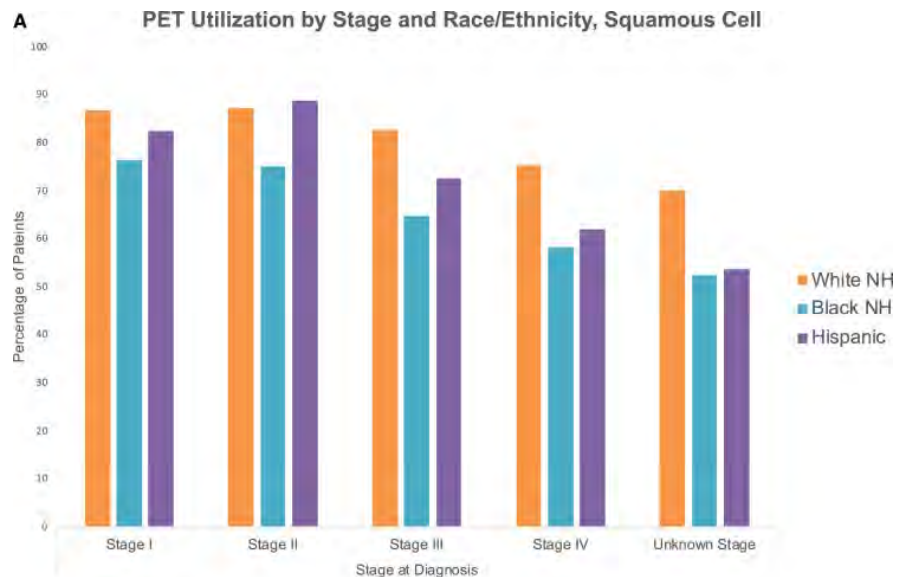
Quality measure	Rationale for quality measure	Compliance with quality measure				p value
		White (N = 447)	Black (N = 119)	Hispanic (N = 38)	Combined (N = 604)	
Receipt of ≥ 75 Gy radiation for men treated with conventional fractionation (1.8 or 2.0 Gy per day)	Dose-escalated radiation improves prostate cancer control	95% (363/381)	87% (87/100)	92% (34/37)	93% (484/518)	0.011
Utilization of image-guided radiation therapy	Image guidance improves the accuracy of radiation, ensuring appropriate targeting of the prostate while limiting dose to the adjacent bowel and bladder	87% (342/395)	88% (86/98)	71% (25/35)	86% (453/528)	0.04
Administration of androgen deprivation therapy with EBRT for high-risk disease	ADT improves prostate cancer survival for high-risk patients receiving EBRT	78% (79/101)	77% (27/35)	100% (9/9)	79% (115/145)	0.283
No androgen deprivation therapy with EBRT for low-risk disease	ADT has side effects and does not improve outcomes for low-risk patients receiving EBRT	94% (121/129)	88% (28/32)	78% (7/9)	92% (156/170)	0.149
Treatment of the prostate only, without lymph node radiation for low-risk disease	Radiation to the pelvic lymph nodes increases acute and late toxicity and does not improve outcomes for low-risk patients receiving EBRT	99% (120/121)	80% (24/30)	100% (9/9)	96% (153/160)	< 0.001
Compliance with all EBRT measures for disease risk group		77% (307/399)	64% (68/106)	64% (23/36)	74% (398/541)	0.012

Racial Disparities in Diagnostic Delay Among Women with Breast Cancer



JACR VISUAL ABSTRACT

Ethnic Disparities in Imaging Utilization at Diagnosis of Non-Small Cell Lung Cancer



Genomic Studies Lack Diversity

- Genomic risk scores are poised to improve risk-prediction and biomedical outcomes
- However, most genomic studies are based on Eurocentric cohorts and therefore tend to be less accurate in others.
- ~80% of all participants in the GWAS catalog are of European descent despite making up 16% of the population.
- Ethical challenge: Potential to worsen disparities without representative studies.

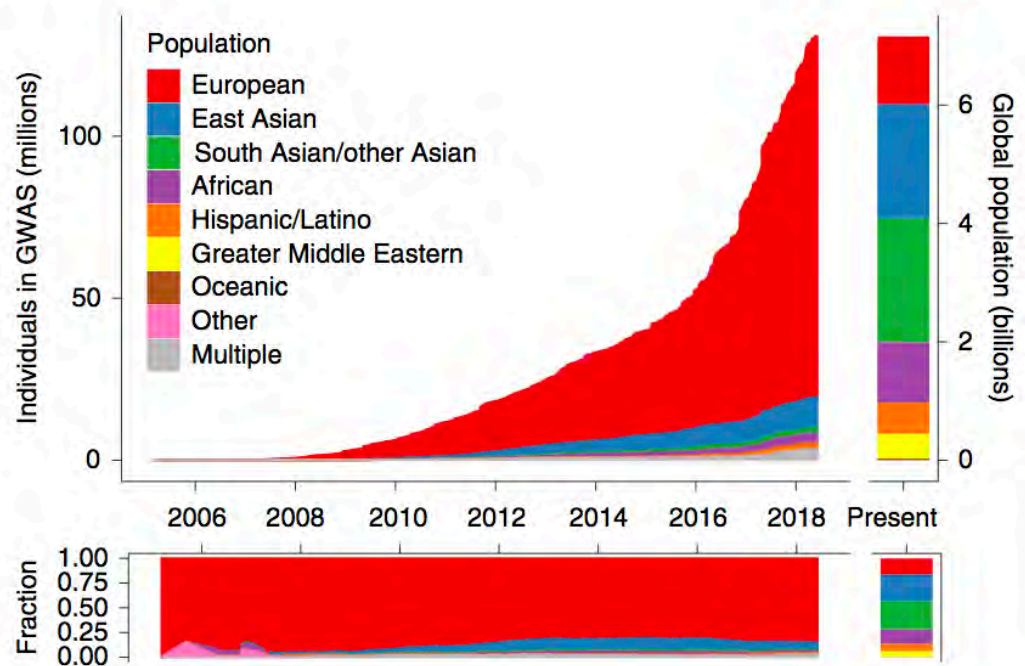
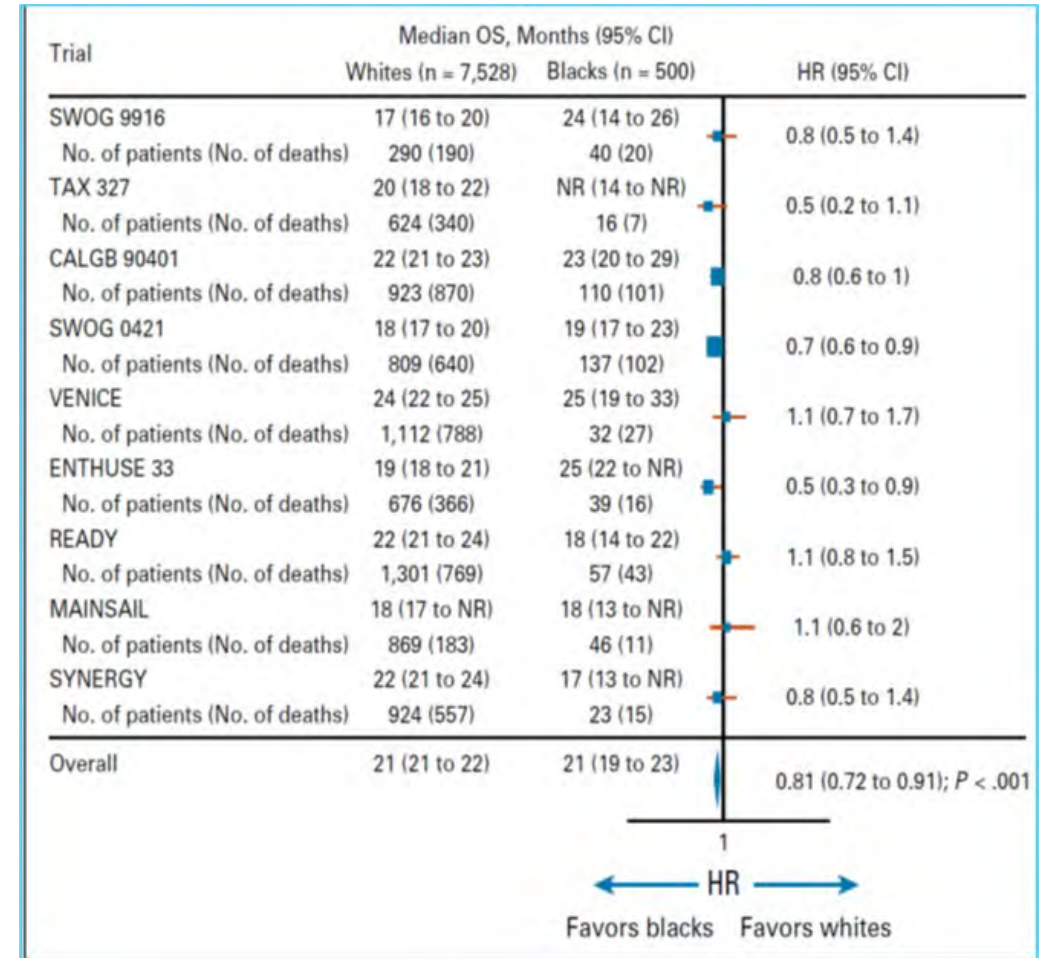


Fig. 1. Ancestry of GWAS participants over time, as compared to the global population.

African American Men Treated in a Controlled
or Research Environment Responded Just As
Well to Novel Prostate Cancer Therapies!

Docetaxel

- Meta-analysis of 10 phase III trials with mCRPC patients treated with docetaxel
- 8,820 patients treated with docetaxel
 - White 85%
 - Black 6%
 - Asian 5%
- Median overall survival 21 months for both white and black men
- Pooled multivariable HR was 0.81 (95% CI, 0.72-0.91) demonstrating that black men have a statistically significant decreased risk of death compared to white men ($p < 0.001$)



Abiraterone

- Abiraterone and prednisone as treatment in front line metastatic CRPC patients
- 100 patients: 50 Black, 50 White
- Median rPFS: 16.8 months in Black and White

	Race	
	Black (%)	White (%)
> 30% PSA Decline	86	76
> 50% PSA Decline	76	66
> 90% PSA Decline	48	38
No PSA Decline	4	8
Median PSA PFS (mo)	16.6 (95% CI 11.5, -)	11.5 (95% CI 8.5, 19.3)

Radium-223

- Retrospective review of all men who received Radium-223 in Veterans Affairs systems
- Cox models to analyze predictors of time from radium-223 start to overall survival (OS) and time to skeletal related events
- 318 patients
- 27% were AA
- AA men were younger age (median age 67 years)
- AA men had higher PSA (median 159 ng/ml)
- On multivariable analysis, black race associated with decreased risk of mortality from time of radium-223 initiation (HR 0.75, 95% CI 0.57-0.99, p=0.045)
- Black men had longer OS than nonblack men

Sipuleucel-T

- Autologous cellular immunotherapy for men with asymptomatic metastatic CRPC
- IMPACT trial
 - Overall survival 4.1 months versus placebo
 - Overall survival 13 month in PSA <22.1
- PROCEED
 - Multicenter, open-label, observational registry
 - 1902 patients
- Overall survival
 - PSA-matched: HR=0.70 (95% CI:0.57-0.86, p<0.001)
 - All patients: HR=0.81 (95% CI:0.68-0.97, p=0.03)
- Potential immunological differences

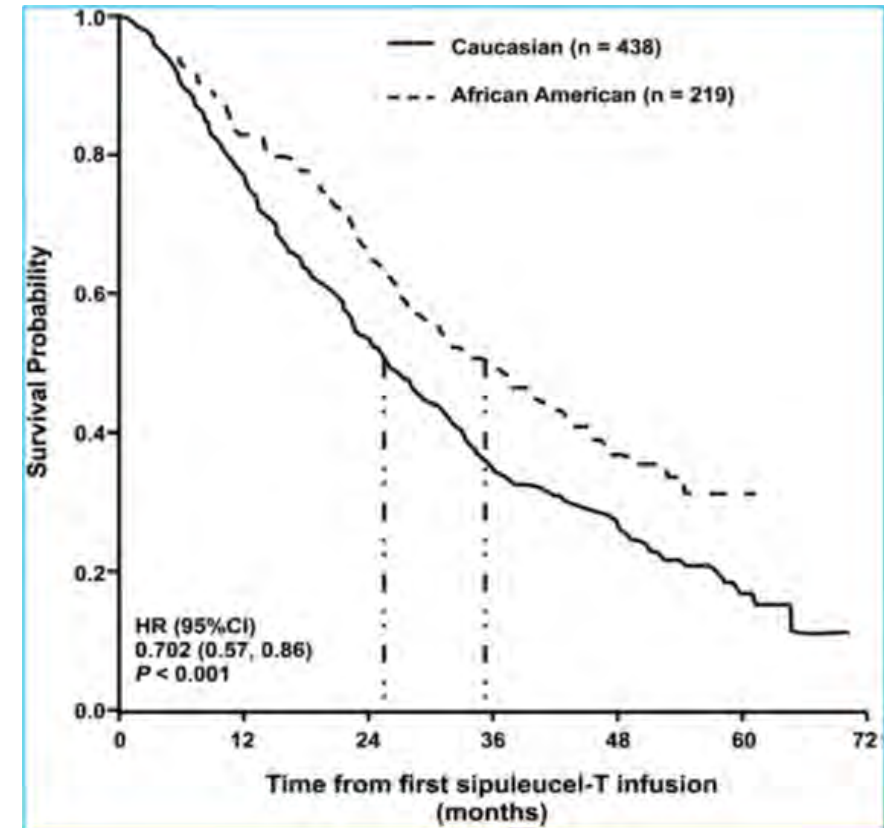


Figure 1. OS in the subset of PSA-matched African American and Caucasian men with mCRPC treated with sipuleucel-T

Therapeutic Efficacy for Black Patients In Standardized Care Environments for Prostate Cancer

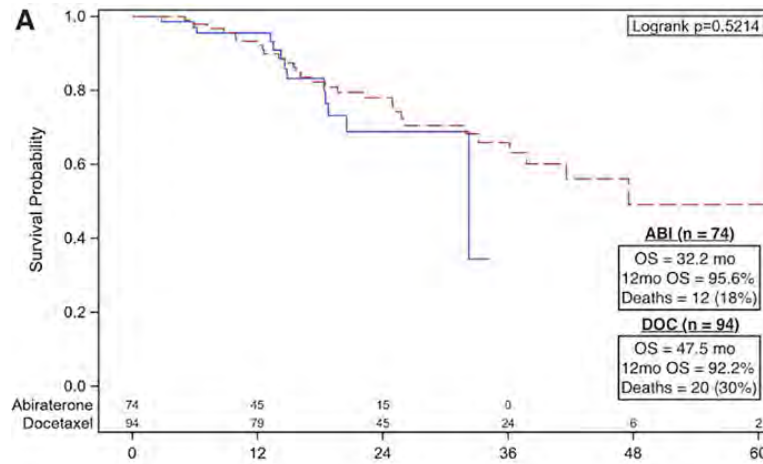
Author	Agent Investigated	Trial and Analysis Type	Number of Patients	Endpoint	Outcomes
Halabi et al ⁶⁸	Docetaxel	Meta-analysis	8,820 (White, 7,528 [85%]; Black, 500 [6%])	Median OS and risk of death	Median OS, 21.0 vs. 21.2 months; (multivariable HR, 0.81; 95% CI, 0.72–0.91; p < .001)
Ramalingam et al ⁶⁴	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 ⁷⁰	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 ⁷¹	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 ⁶⁵	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, ⁶⁶ Higano et al ⁶⁷	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 ⁶⁹	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.

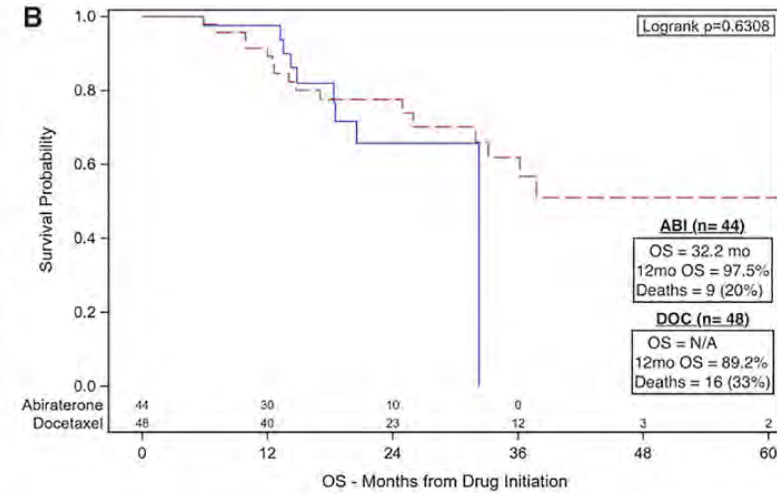
Data adapted from Carthon et al.⁷²

Real World Survival in A Diverse Population Showed Similar Outcomes When Treated for Prostate Cancer at an Academic Center

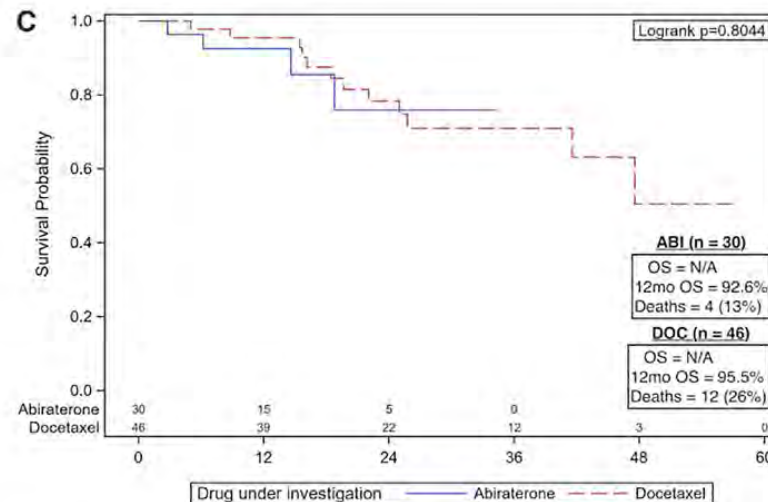
All Patients



AA Patients



Non-AA Patients

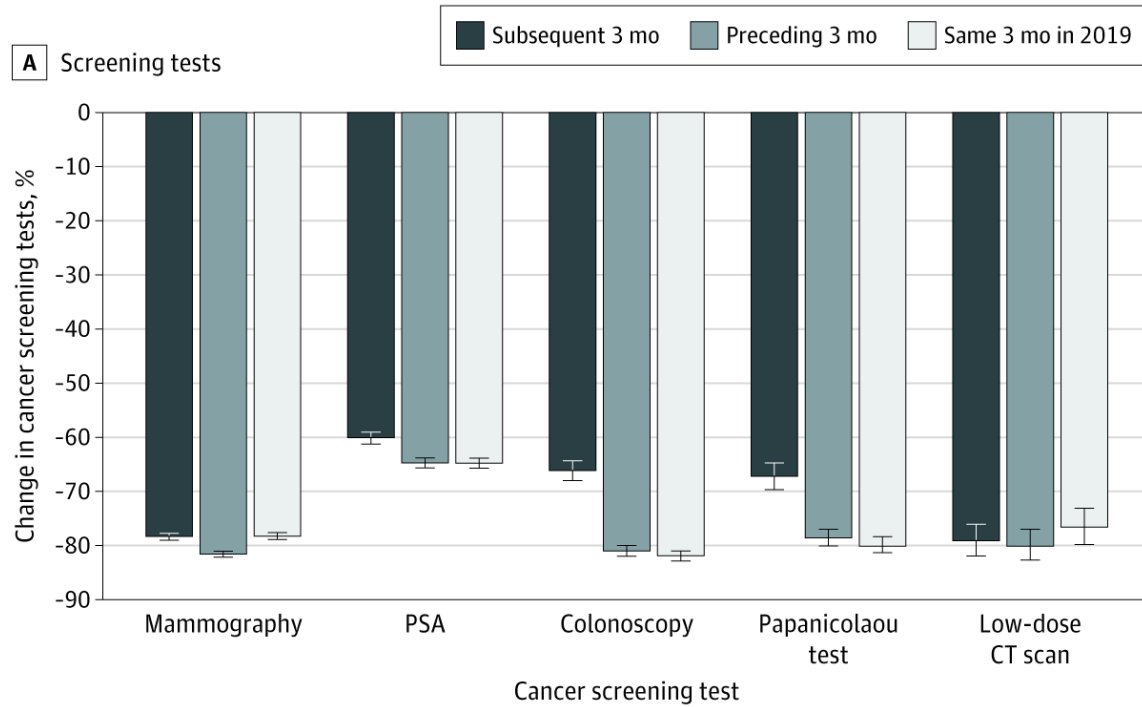


How Do We Improve Outcomes?

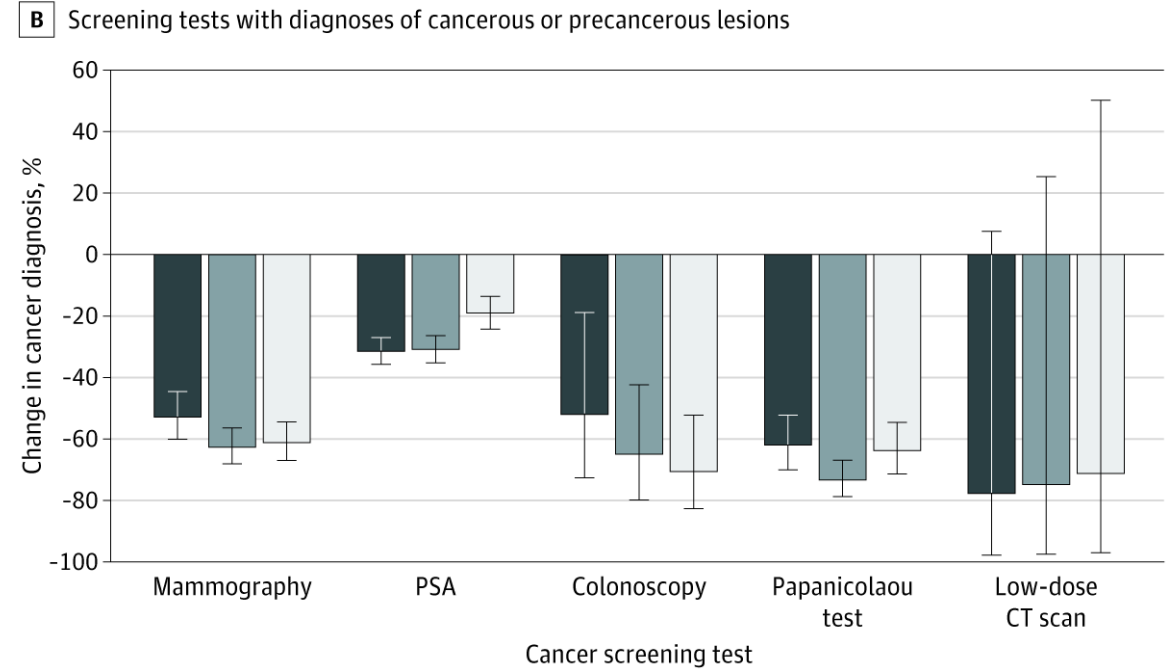
1. Improved Access and Standardization
2. Improved Navigation
3. Clinical Trials and Research

Covid Pandemic: A New Set of Challenges

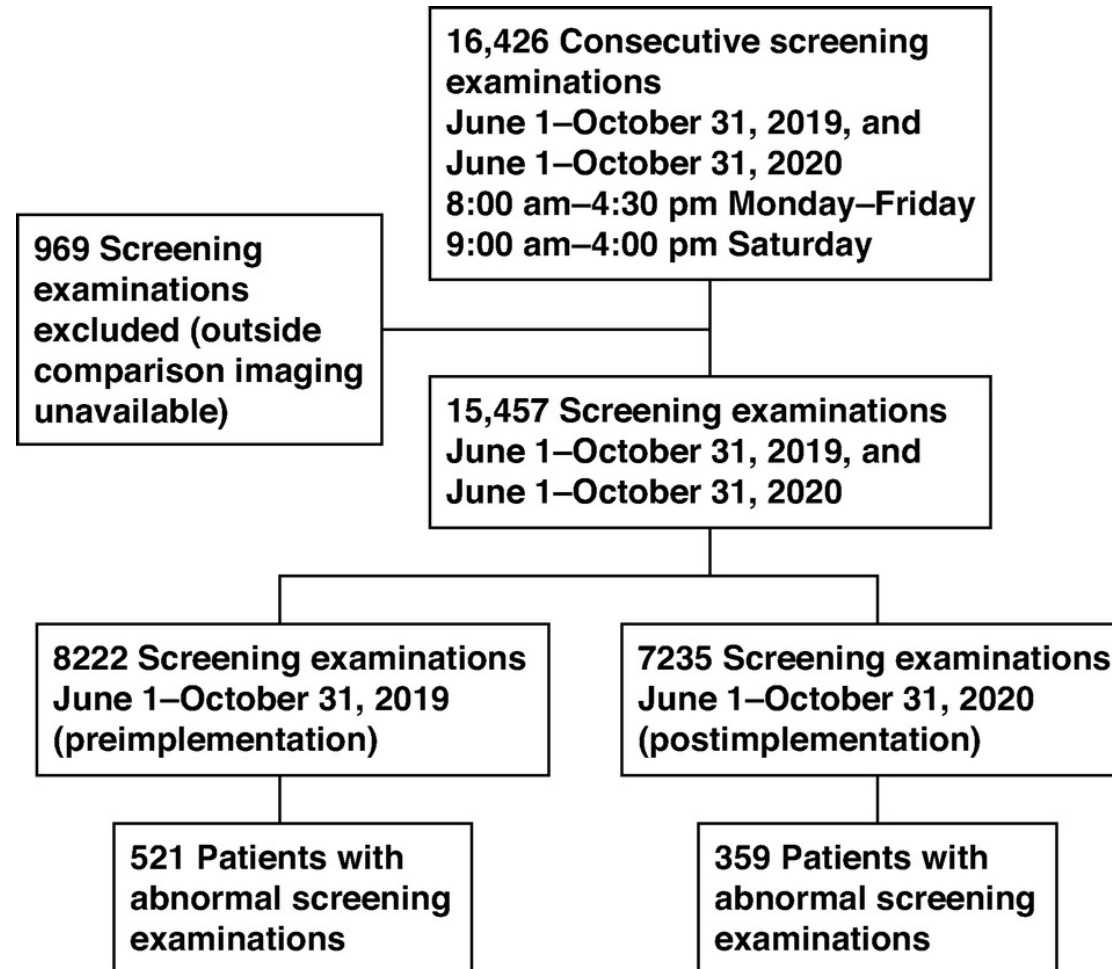
COVID Era Cancer Screening Tests



COVID Era Cancer Diagnoses



Immediate Read Screening Mammography Program



Immediate Read Screening Mammography Significantly Decreased Time to Diagnostic Examinations

TABLE 2: Comparison of Study Measures Before and After Program Implementation

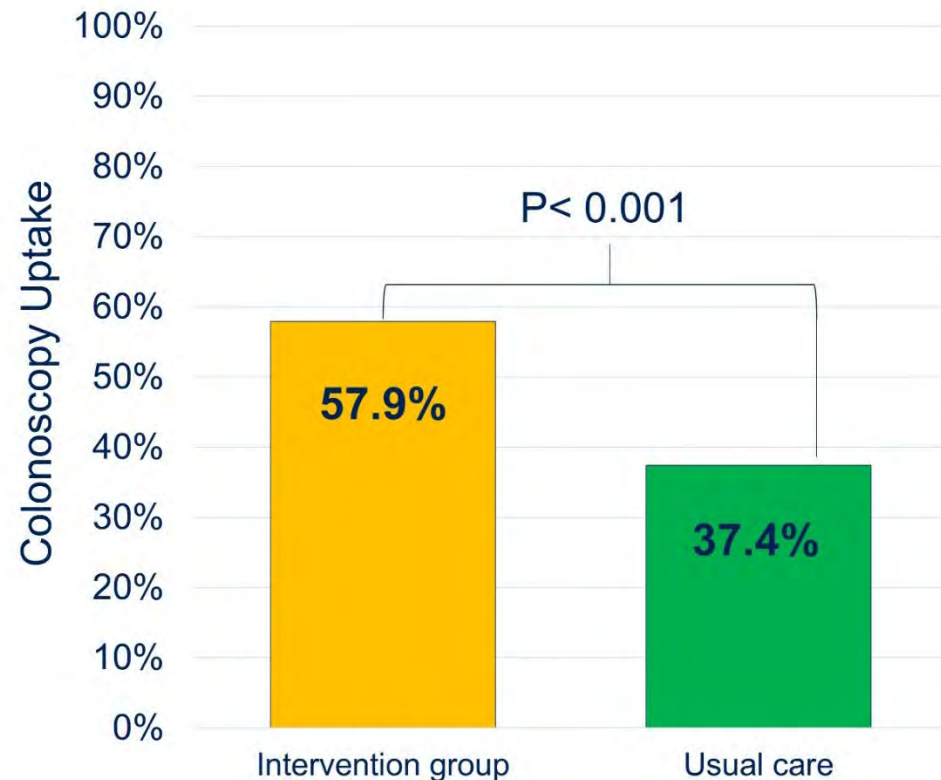
Measure	Preimplementation (n = 521)	Postimplementation (n = 359)	p
Time from screening examination completion to report finalization (min), median (25th, 75th percentiles) [range]	61 (24, 152) [0–14,259]	4 (2, 7) [0–1899]	< .001 ^a
Time to diagnostic examination (d), mean (minimum, maximum)	10 (0, 382)	4 (0, 49)	< .001 ^a
Time to diagnostic examination (d), median (25th, 75th percentiles)	8 (4, 13)	0 (0, 4)	< .001 ^a
Percentage of patients receiving a same-day diagnostic examination after an abnormal screening result (no. of patients)	14.8 (77/521)	60.7 (218/359)	< .001 ^b

^aWilcoxon test.

^bPearson test.

Dontchos BN, et al. Disparities in Same-Day Diagnostic Imaging in Breast Cancer Screening: Impact of an Immediate-Read Screening Mammography Program Implemented During the COVID-19 Pandemic. *AJR Am J Roentgenol.* 2022 Feb;218(2):270-278.

Colon Cancer Screening Interventional Study



Patients, setting: Safety-net system (8 clinics); Majority Black and Latino patients age 50-75 years. N=10,820.

Design: Cluster randomized trial

Intervention

Arm 1: Mailed postcard + telephone call + mailed FIT kit + Reminder call

Arm 2: Usual care

Outcome: Screening participation at 1 year

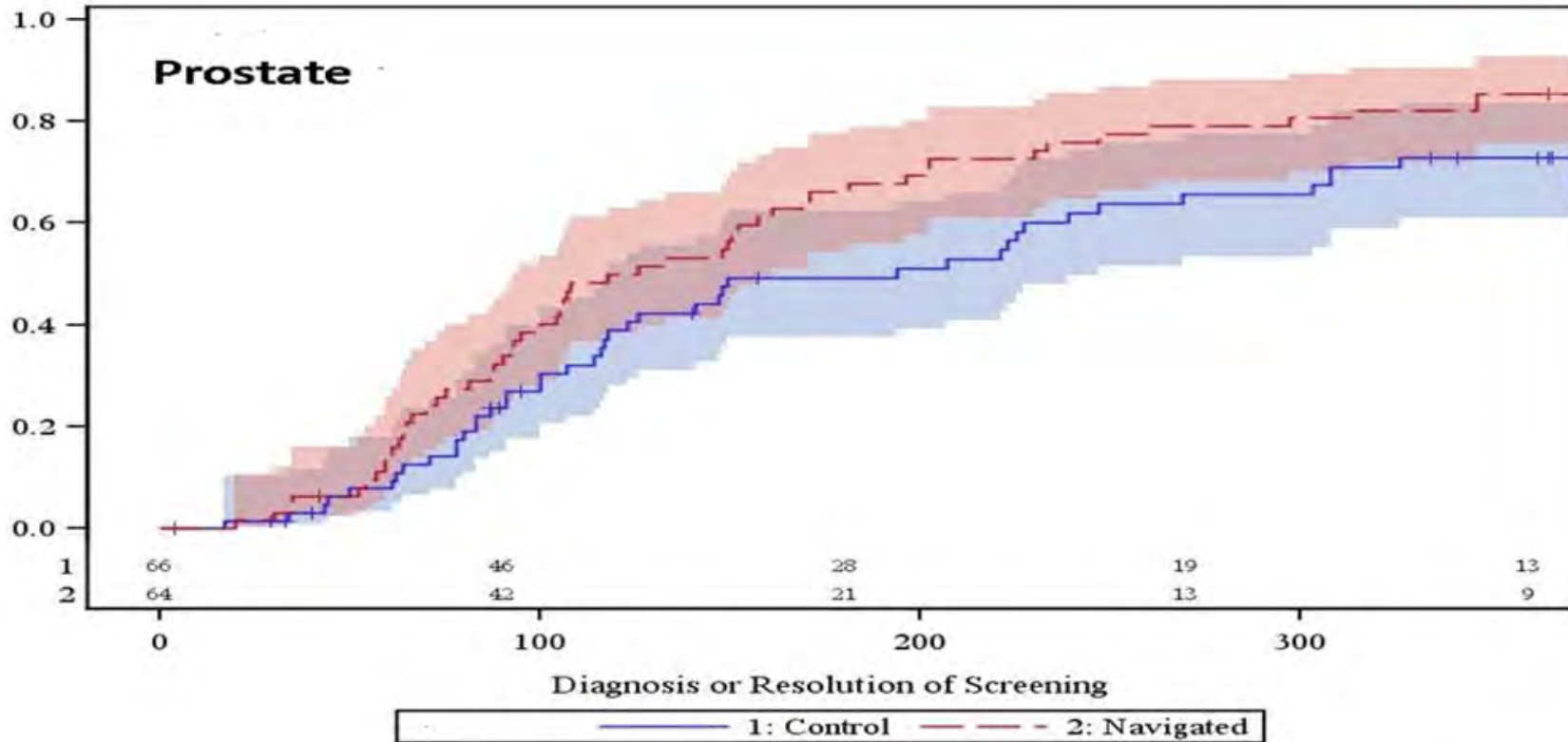
Somsouk et al, JNCI J Natl Cancer Inst. 2020.

Presented By:  @drfolamay

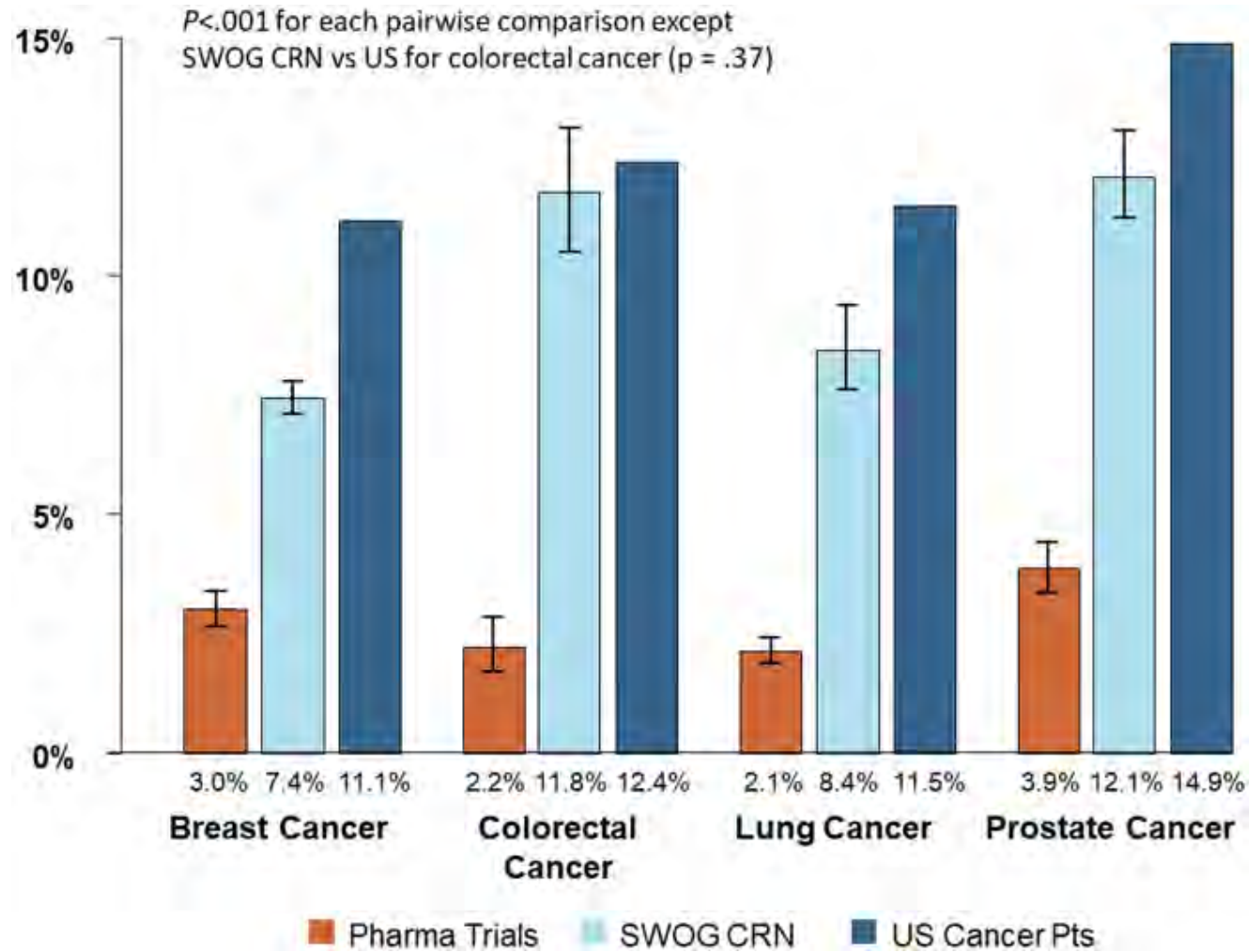
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ANNUAL MEETING

Patient Navigation In Prostate Cancer Diagnosis or Resolution of Screening

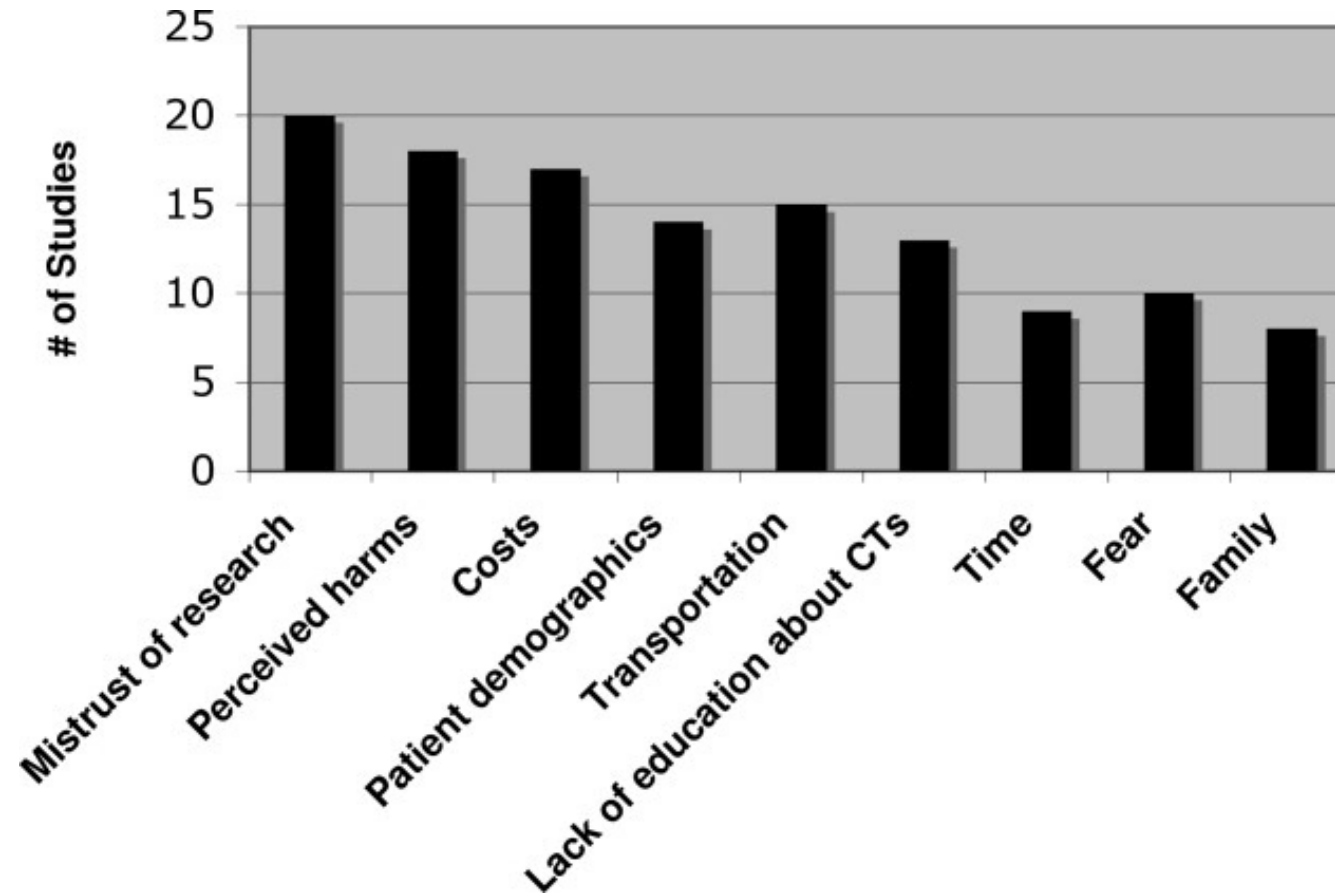


Black Patient Representation in Clinical Trials



Unger JM, Hershman DL, Osarogiagbon RU, Gothwal A, Anand S, Dasari A, Overman M, Loree JM, Raghav K. Representativeness of Black Patients in Cancer Clinical Trials Sponsored by the National Cancer Institute Compared With Pharmaceutical Companies. *JNCI Cancer Spectr.* 2020 Apr 24;4(4):pkaa034.

Patient Barriers to Diverse Clinical Trial Enrollment

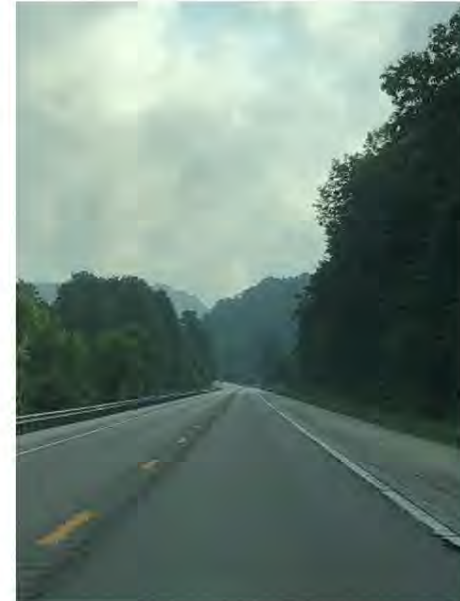


Ford JG, Howerton MW, Lai GY, Gary TL, Bolen S, Gibbons MC, Tilburt J, Baffi C, Tanpitukpongse TP, Wilson RF, Powe NR, Bass EB. Barriers to recruiting underrepresented populations to cancer clinical trials: a systematic review. *Cancer*. 2008 Jan 15;112(2):228-42.

The Tyranny of Distance

- A meta-analysis revealed that cancer patients living more than 50 miles away from a hospital routinely presented with more advanced stages of disease at diagnosis, lower adherence to recommended treatments, worse prognoses, and decreased quality of life.

Oncologist. 2015 Dec; 20(12): 1378–1385.

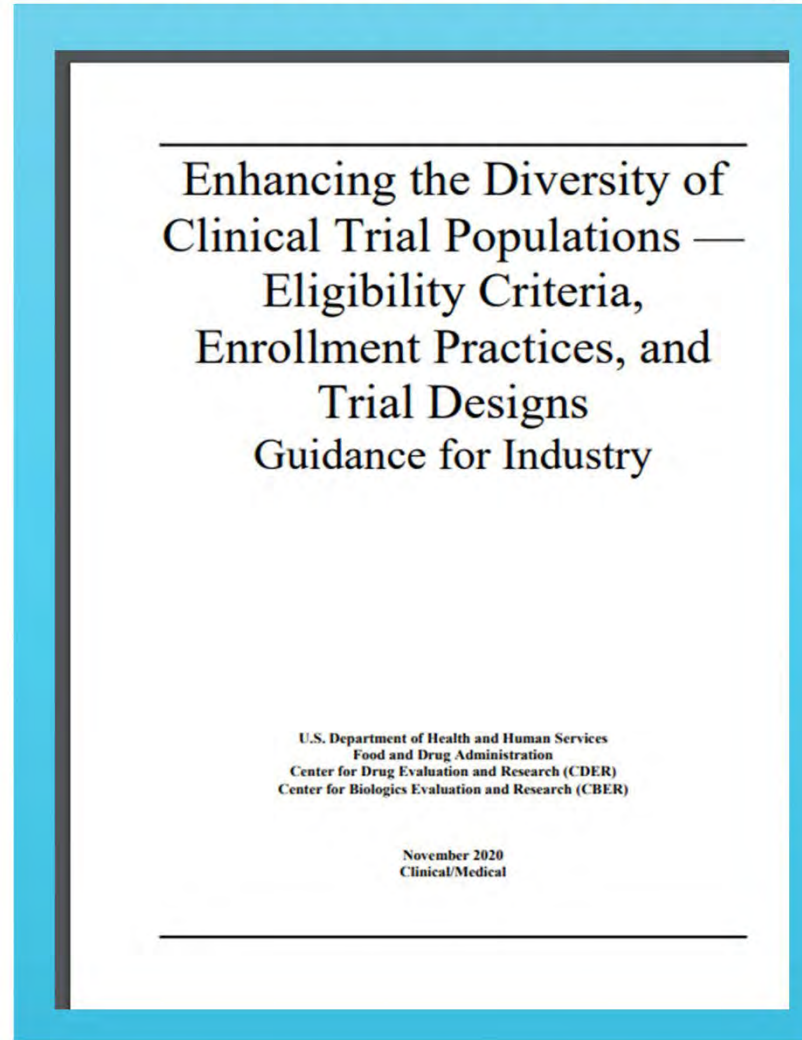
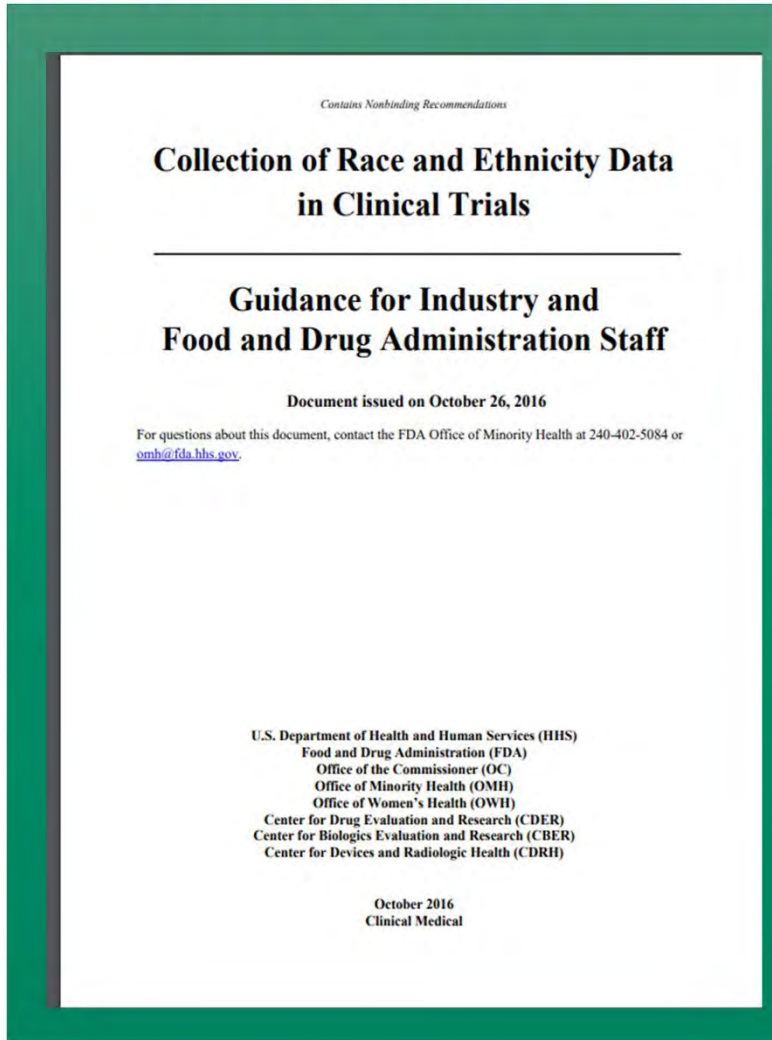


Barriers to Cancer Care among Rural Communities

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



FDA Guidance on Racial/Ethnic Diversity



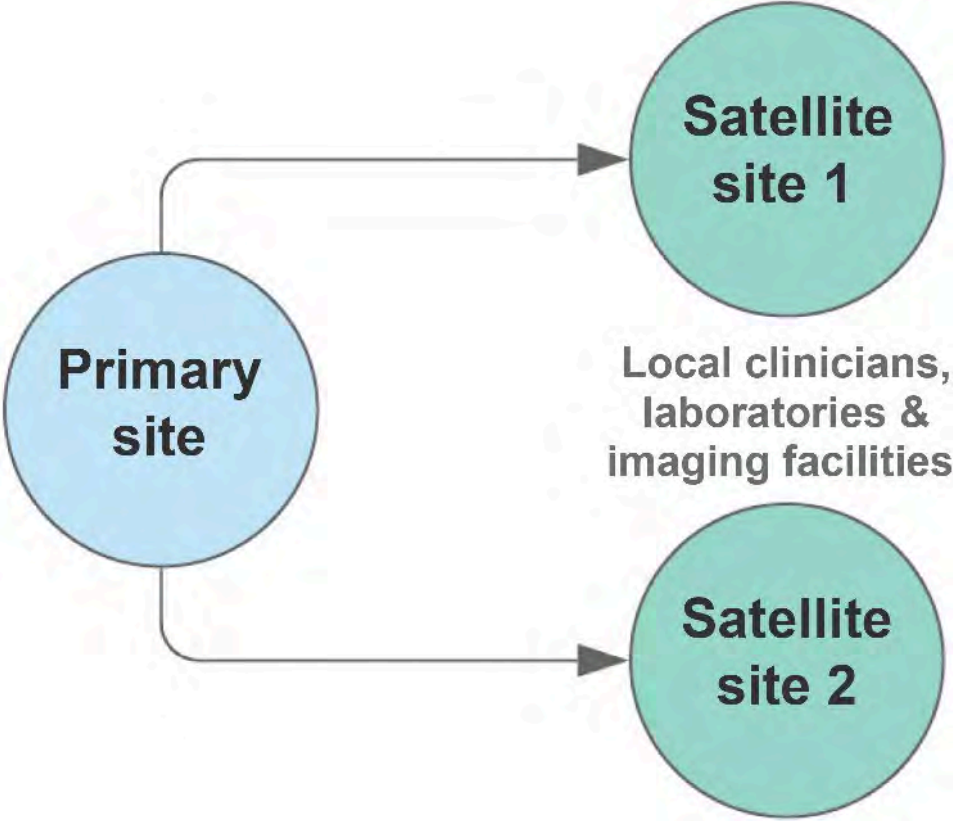
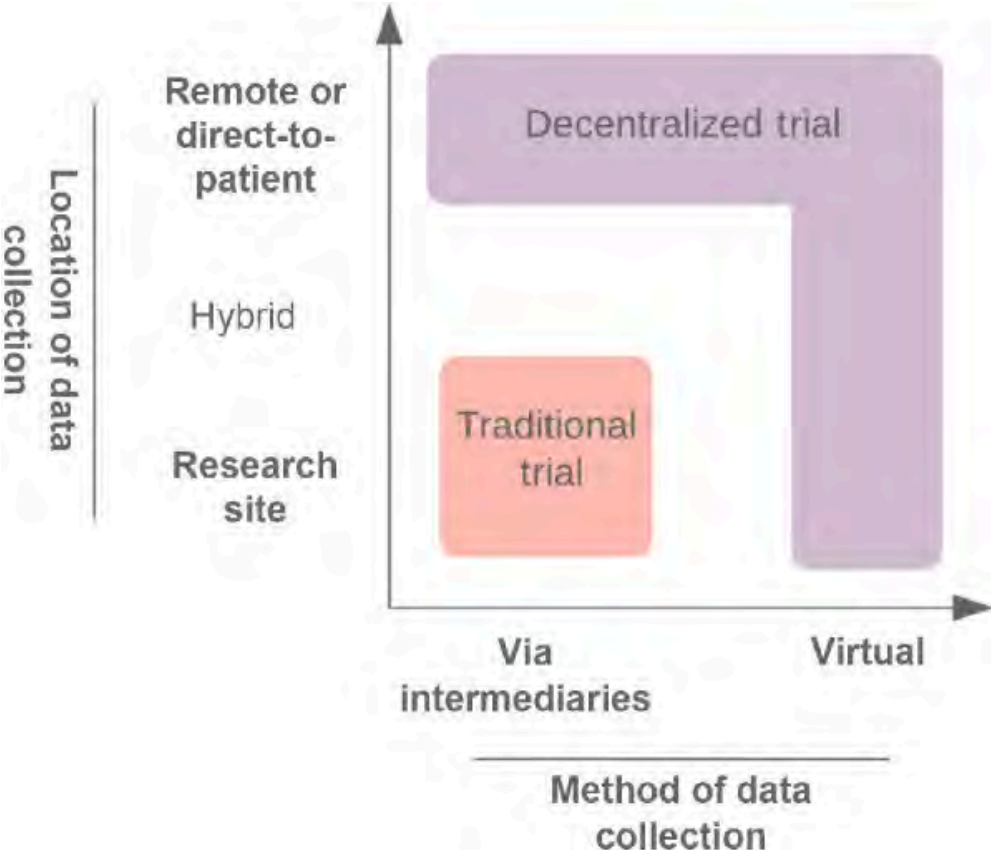
These guidance documents offer considerations for clinical trial design to increase enrollment of patients based on both demographic and non-demographic characteristics

Presented By: **Jamie Brewer, MD**

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Decentralized Trials in Cancer Care



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

GeorgiaCancerInfo.org



Georgia's Online Cancer Information Center



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Doctor Name

Proximity

and/or

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Clinical Trials, Doctors & Cancer Centers

Clinical Trials, Doctors & Cancer Centers Home

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Find Cancer Centers in Georgia

Clinical Research

Clinical Trials Navigator Pilot

- **Three-year pilot project**
- **Goal:** increasing participation in cancer clinical trials with an emphasis on under resourced and minority populations

- **Research Questions:**

Will a Clinical Trials Navigator, who will work directly with oncology providers and their staff to keep an updated database of clinical trials and identify potential trials and locations for specific patients, improve clinical trial access and participation rates in Georgia?

What impact will the addition of this position have on participation rates for minority under resourced and rural populations in the state?

What Can Providers Do?

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

Acknowledgements

Georgia Core/GASCO Disparities Conference Organizers

GASCO Members and Staff

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Questions:

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