

ASCO Direct 2021: Healthcare Services/Quality/Care Delivery

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Disclosure of Conflict(s) of Interest

- Jennie R. Crews, MD MMM FACP reported no relevant financial relationships or relationships with ineligible companies of any amount during the past 24 months.

Health Service/Quality/Care Delivery: Themes from ASCO 2021

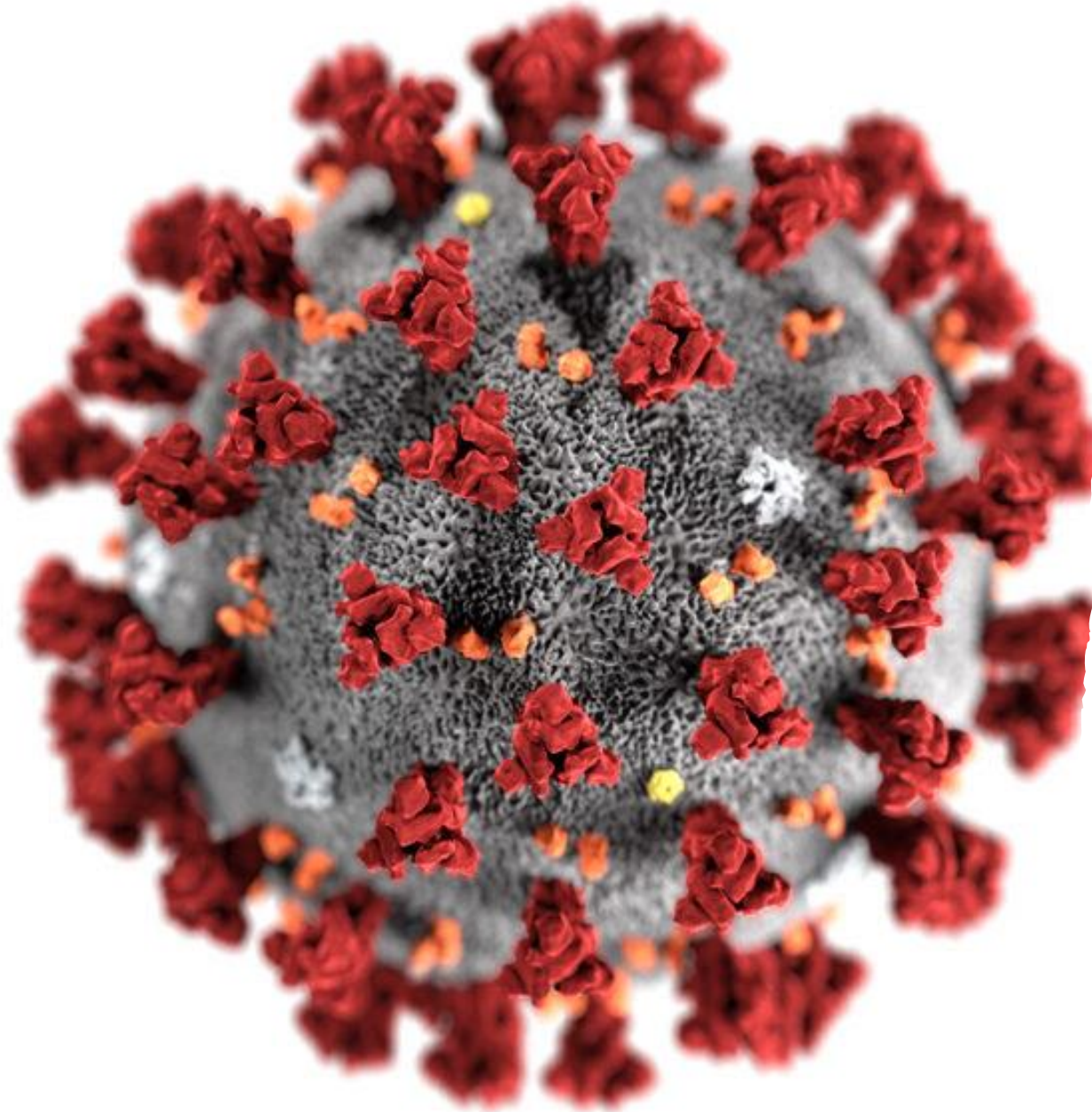
ASCO 2021: **“Equity: Every Patient. Every day. Everywhere.”**

1. Disparities related to COVID-19

- Abstracts: 1500, 6500, 6501, 6502

2. Disparities in Access to Care

- Abstracts: 100, 101, 6507, 12008



COVID-19:

- Restructured healthcare delivery
 - Telehealth visits increased
- Magnified disparities in healthcare
 - Worse outcomes in racial and ethnic minorities
 - Decreased life expectancy for Latinx Americans (3 y), Black Americans (1.9 y) and White Americans (0.94 y)
(JAMA Netw Open 2021;4)
- Made cancer patients more vulnerable
 - Increased risk of infection and death
- Decreased cancer screening rates

(Fisher-Born, Prev Med 2021)

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Outcomes of COVID 19 in Cancer Patients: Report from the National COVID Cohort Collaborative (NC3): Abst # 1500 (Sharafeldin)

NC3: Largest COVID database

- 54 Sites
- 5.8M Persons
- 1,608,854 COVID +
- 3.0B Lab Results
- 1.1B Medication Records
- 324.5M Procedures
- 307.3M Visits

Covid.cd2h.org/dashboard/

Study Design

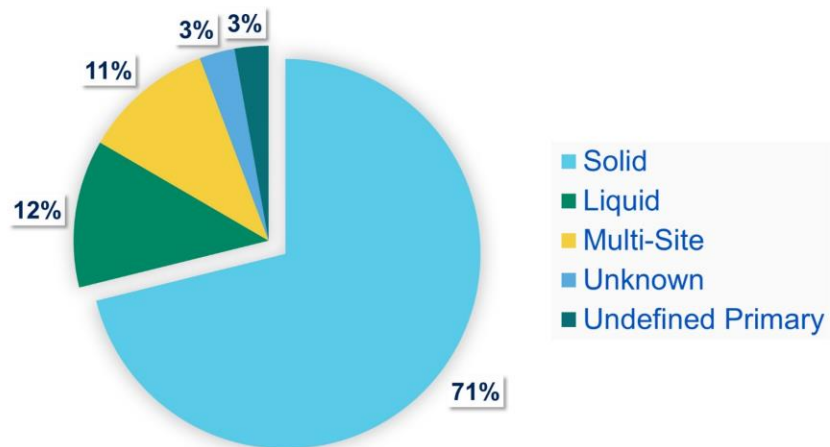
- Used ICD10 for Cancer Dx mapping
- Used Cancer treatment in past 30 days as treatment group
- Primary Outcome: All cause mortality
- Secondary Outcomes: Clinical severity indicators requiring hospitalization

N = 38,614 COVID + cancer patients

N = 335,166 COVID – cancer patients

Demographic, clinical, and tumor characteristics

COVID-19 Positive



Other:

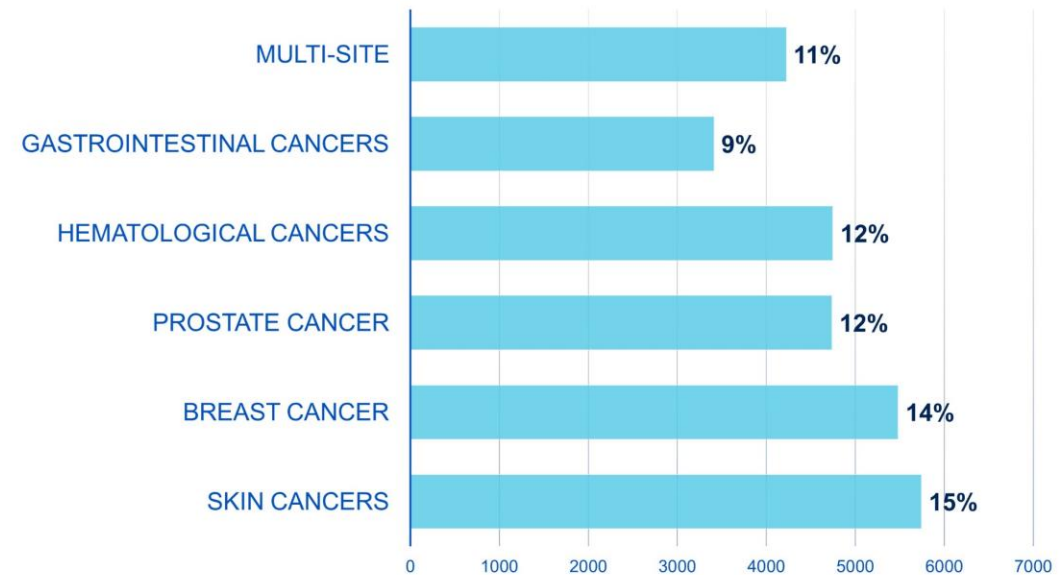
14% current or former smoker

51% female 49% male

54% age 65+ 31% age 50-64

61% NHW, 22% NHB, 4% H

Type of primary malignancy



Presented By: **Noha Sharafeldin, MBBCh, PhD**

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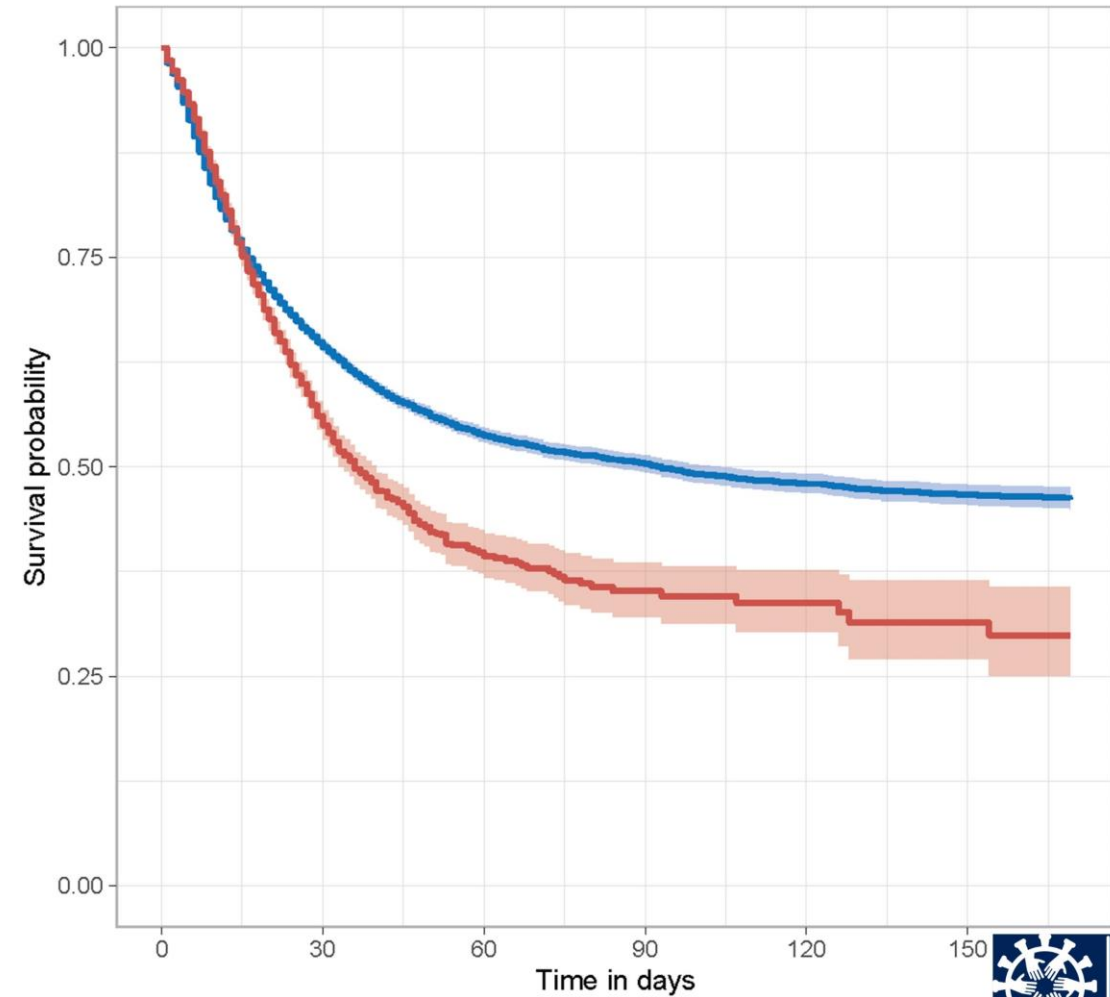
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COVID-19 ■ Negative ■ Positive

Survival Probability – by COVID status

HR = 1.20 (95%CI: 1.15 – 1.24, p<0.001)



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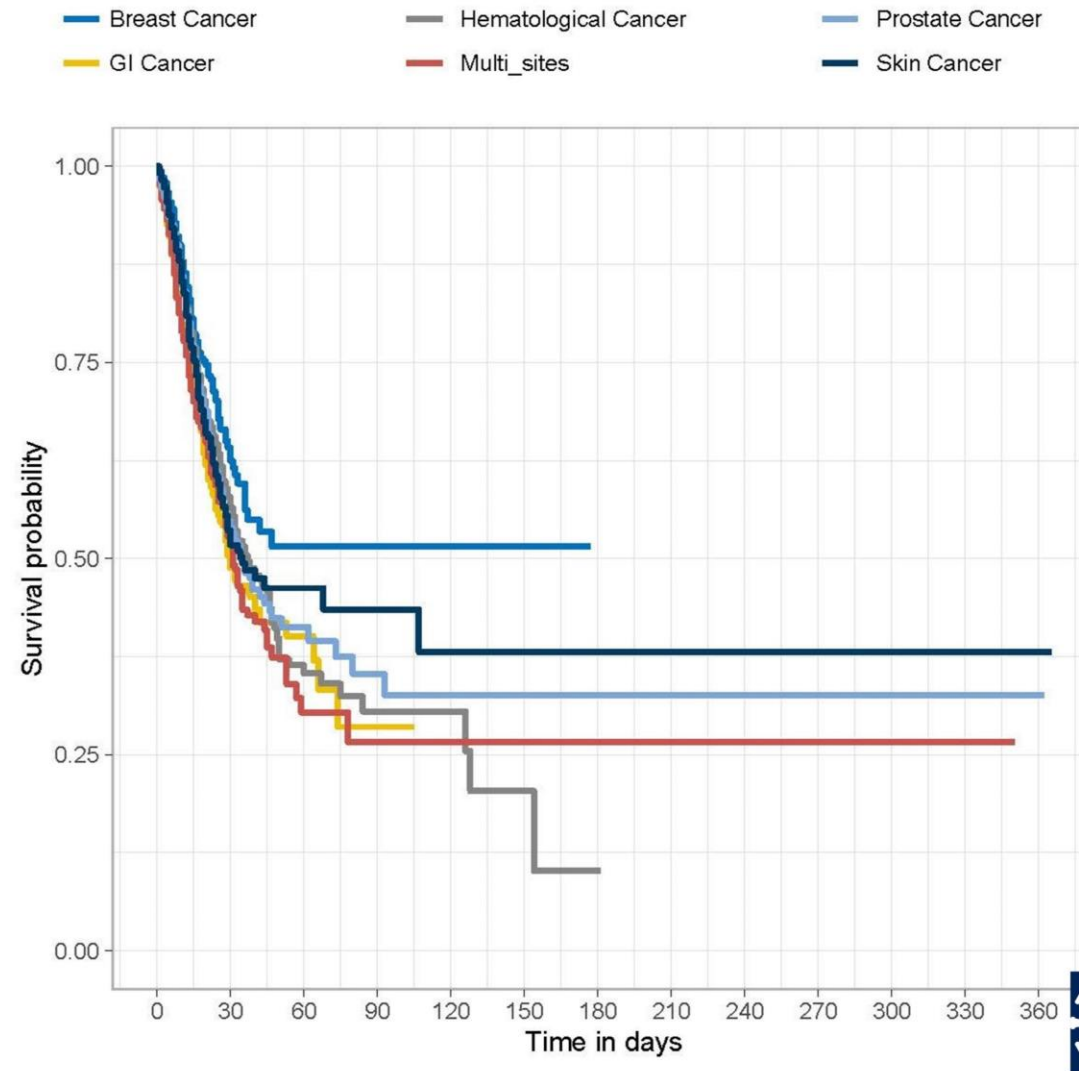
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Survival Probability by cancer type among COVID positive patients



Other Key Findings:

- Older age, males, higher co-morbidities and hematologic malig assoc. with increased mortality
- Patients who had received recent immune or targeted therapy were not at increased risk

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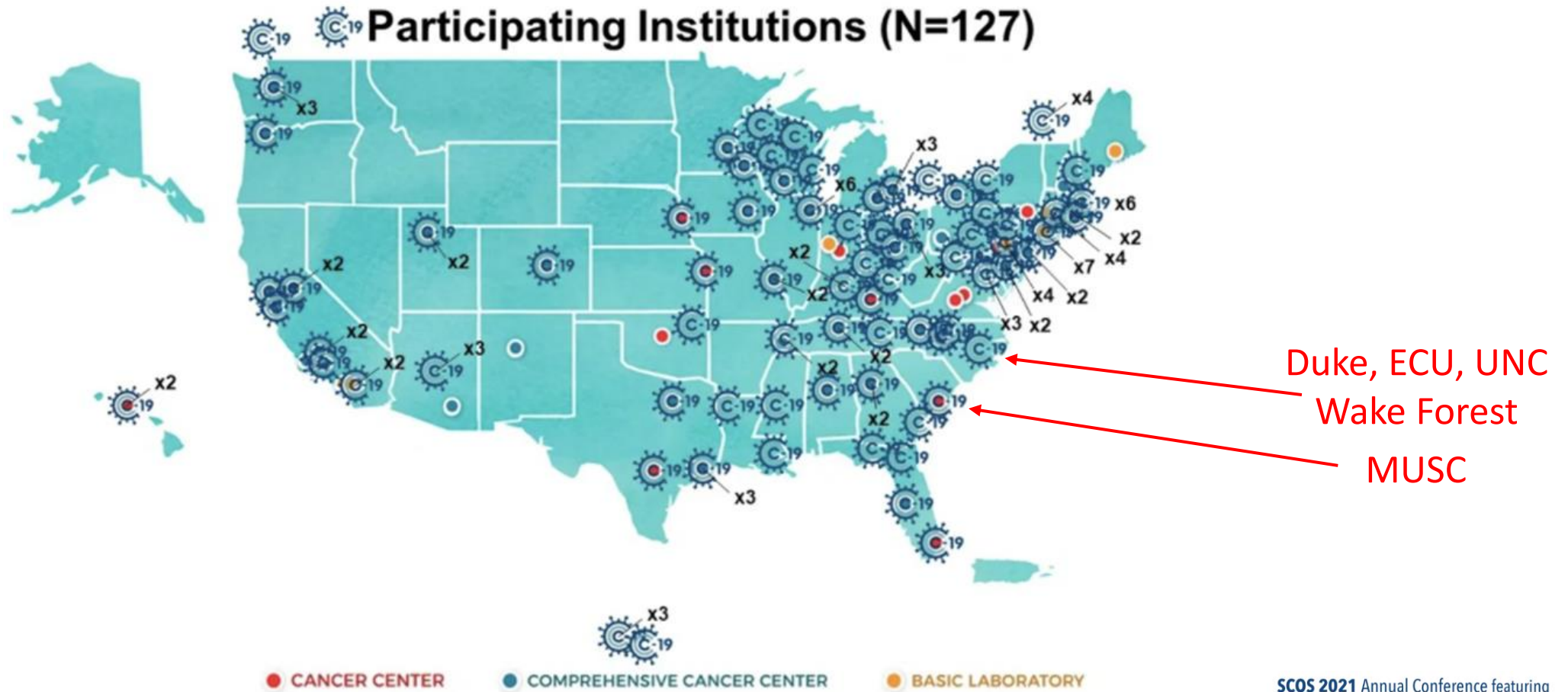
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Racial and Ethnic Disparities Among Patients with Breast Cancer and COVID 19

Abst # 6500 (Nagaraj)

CCC19: Covid 19 and Cancer Consortium



Racial and Ethnic Disparities Among Patients with Breast Cancer and COVID 19

Abst # 6500 (Nagaraj)

Compared to NHW, Black and Hispanic patients are at risk for

- Acquiring COVID-19
- Having severe COVID-19, complications or death from COVID-19

CCC19 previous analysis showed Black and Hispanic patients with cancer had worse outcomes with COVID compared to NHW

- Purpose: To compare clinicopathologic characteristics and COVID outcomes in patients with breast cancer stratified by race/ethnic groups
- Outcomes: no complications, hospitalization, ICU, ventilation, death

Racial and Ethnic Disparities Among Patients with Breast Cancer and COVID 19

Abst # 6500 (Nagaraj)

N = 1089 women with breast cancer

| Group | N | Patient Characteristics | Disease Characteristics | Treatment (within 3mo COVID +) |
|----------|-----|--|---|---|
| NHW | 567 | | | |
| Black | 242 | Higher obesity, higher DM | Higher TN | |
| Hispanic | 186 | Younger, fewer smokers, better ECOG, lower CVD | Higher HER 2 + Higher TN Higher active ds | More cytotoxic chemo More w/in 4 weeks |
| AAPI | 35 | Younger, fewer smokers, higher DM | Higher active ds | More cytotoxic chemo More w/in 4 weeks |
| Other | 59 | Higher DM | | |

Multivariable Ordinal Logistic Regression Model for COVID-19 Severity

| Adjusted ORs and 95% CI by Race/Ethnicity compared to NHW | |
|---|--------------------------|
| Black | 1.58 (1.09- 2.30) |
| Hispanic | 1.23 (0.78- 1.93) |
| AAPI | 3.74 (1.71- 8.18) |
| OTHER | 2.49 (1.34- 4.65) |

Lack of difference may be due to younger age, less smoking, better PS

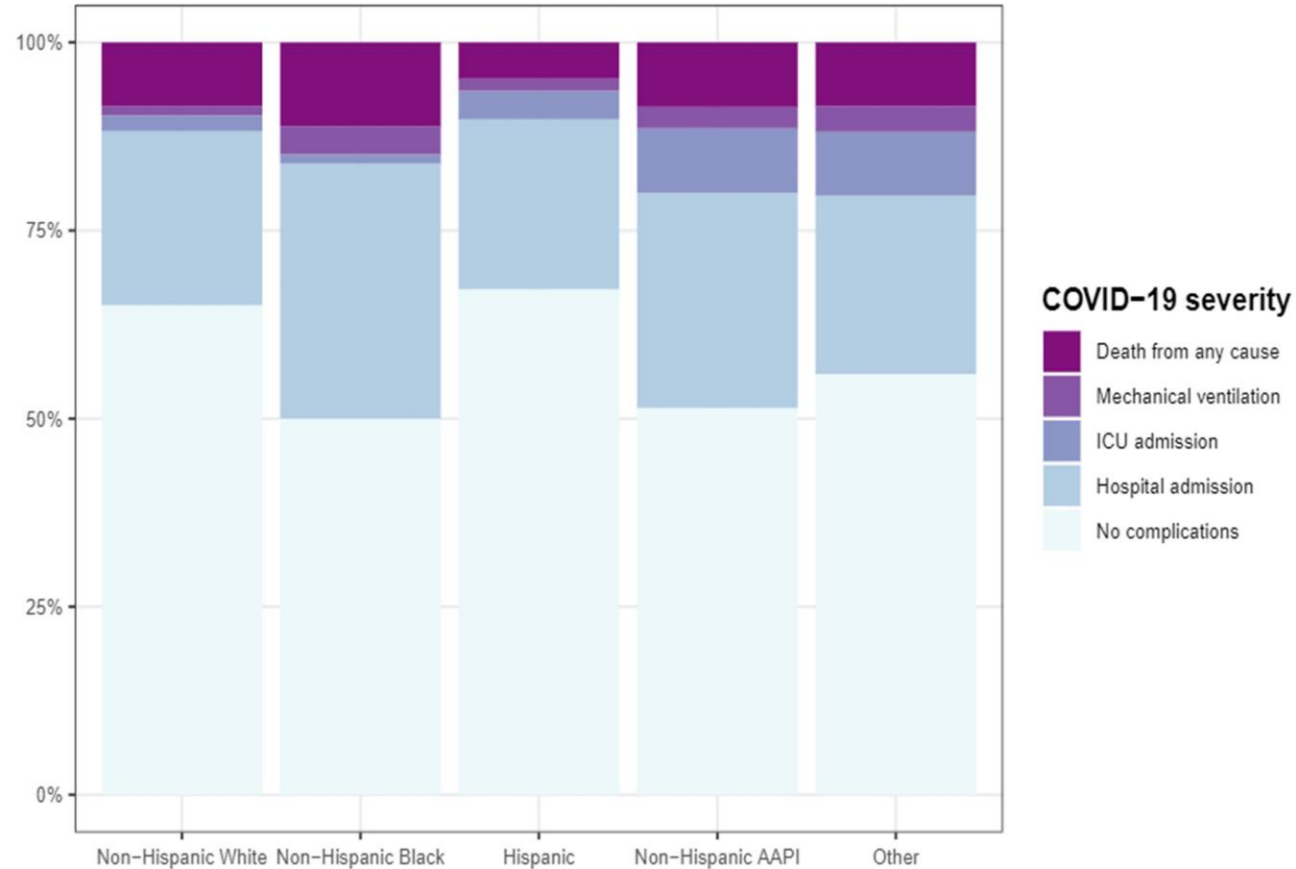
Adjusted model for (ordinal) COVID-19 severity with adjustment for age; obesity; cardiovascular, pulmonary, and renal comorbidities; diabetes; ECOG PS; receptor status; cancer status; chemotherapy, targeted, and endocrine anti-cancer therapies; calendar time; and region.

4 degree of freedom test (null is all ORs=1) is P=0.001

COVID-19 Severity in Patients with Breast Cancer, stratified by Race/Ethnicity (N=1089)

Compared to NHW and H B and AAPI had more severe COVID-19 as defined by:

- Hospitalization
- Mechanical ventilation
- ICU admission
- Death



Presented By: **Gayathri Nagaraj, MD**

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The Impact of COVID 19 on Stage at Diagnosis of Breast and Colorectal Cancers

Abst # 6510 (Zhou)

- In 3/2020 screenings for breast, colon and cervical cancers decreased 86-94%¹
- Deficit for breast, colon & prostate screening of 9.4 million since pandemic²
- Concern is there will be delayed diagnosis of common cancers

Study Design

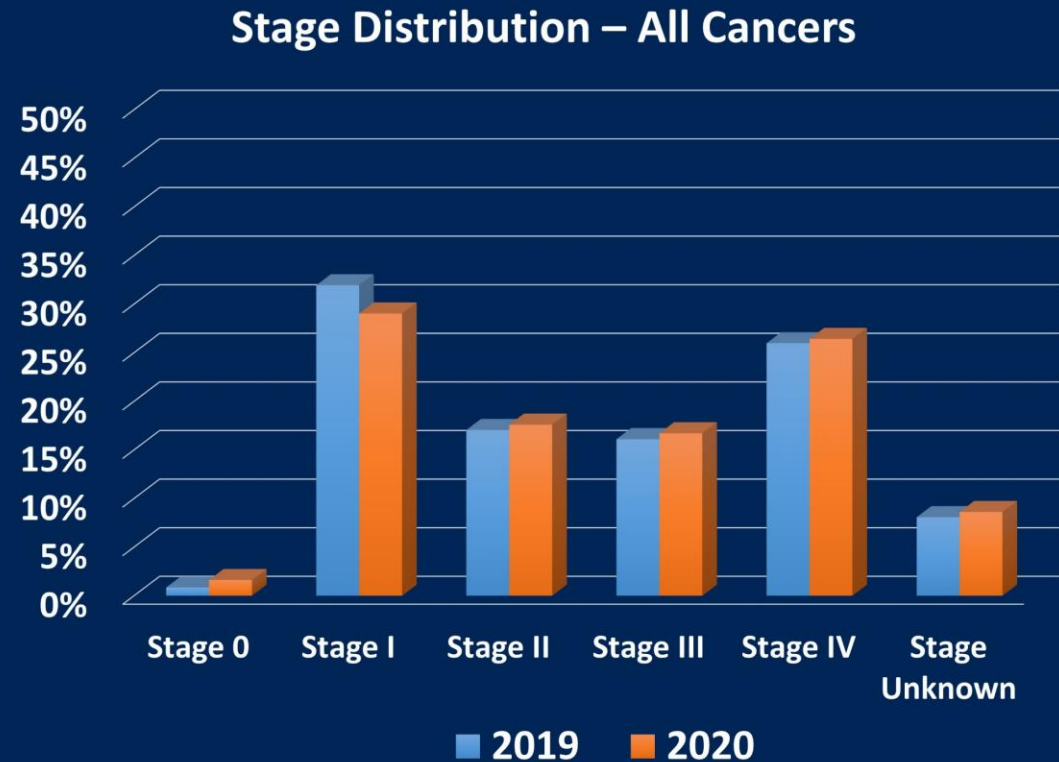
- Retrospective study of patients presented with a diagnosis of malignancy at UC San Diego outpatient clinics
- Collected data on stage at presentation for 2019 and 2020 for all cancers, breast, and colorectal and compared across years.

¹ Mitchell J Natl Med Assoc 2020

² Chen JAMA Oncology 2021; 7(6) 878-884

Results

- Total volume of new patients with malignancy diagnosis were similar in 2019 and 2020 (1894 vs 1915 patients)
- Stage distribution for all cancer patients was similar:
 - Stage I: 32% in 2019 vs 29% in 2020
 - Stage IV: 26% in both 2019 and 2020



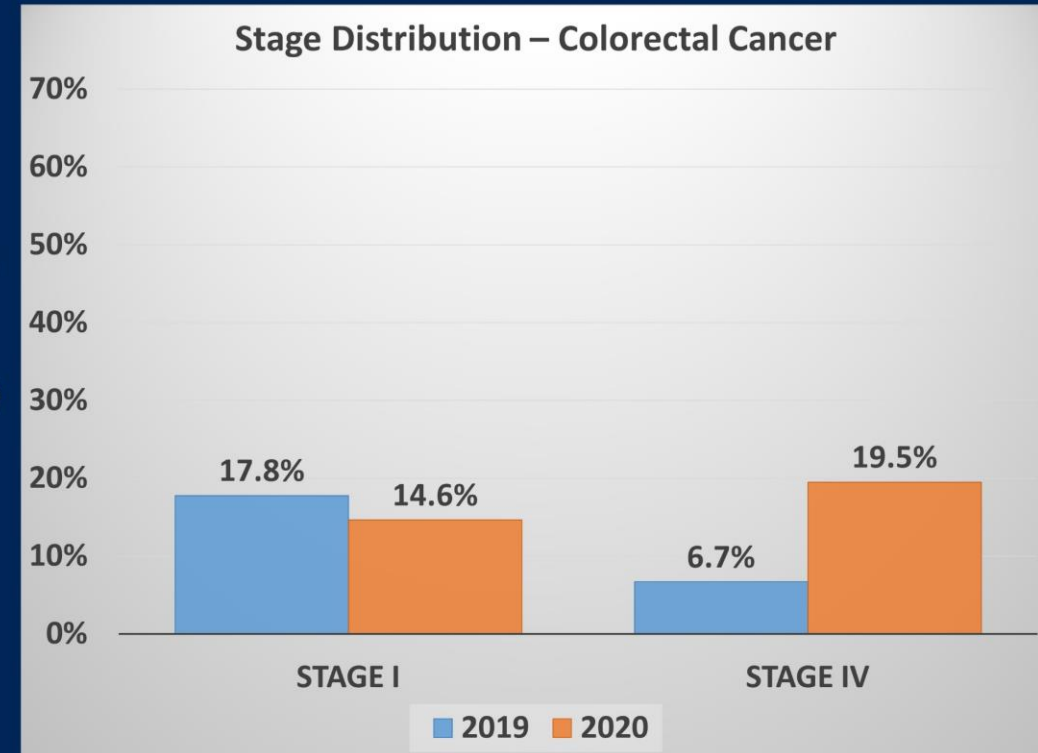
Presented By: **Jade Zhou, MD, PhD**
UCSD Moores Cancer Center

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Results

- Stage distribution among colorectal cancer (N=45 patients in 2019; N=41 in 2020)
 - Lower percentage of patients presenting with stage I disease in 2020 (14.6%) vs 2019 (17.8%)
 - Higher percentage of patients presenting with stage IV disease in 2020 (19.5%) vs 2019 (6.7%)



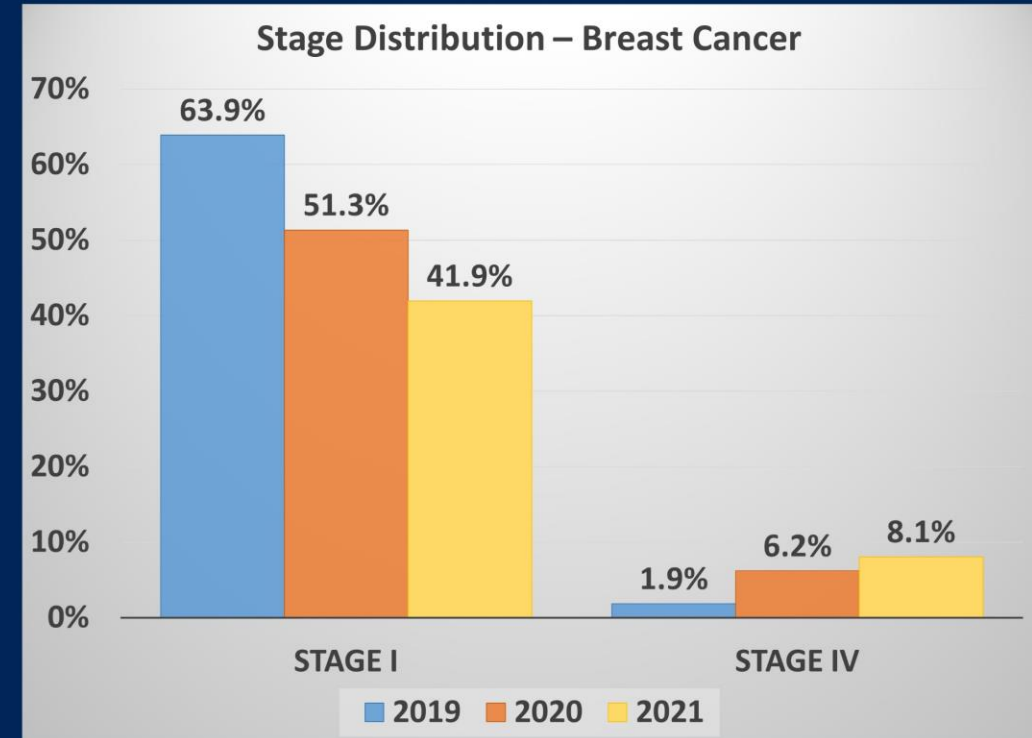
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Results

- Stage distribution among breast cancer (N=216 patients in 2019; N=226 in 2020)
 - Lower percentage of patients presenting with stage I disease in 2020 (51.3%) vs 2019 (63.9%)
 - Higher percentage of patients presenting with stage IV disease in 2020 (6.2%) vs 2019 (1.9%)
- Similar trend seen thus far in Jan-March 2021 (N=62)
 - 41.9% of breast cancer patients presenting with stage I disease vs 8.1% presenting with stage IV



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UCSD Moores Cancer Center

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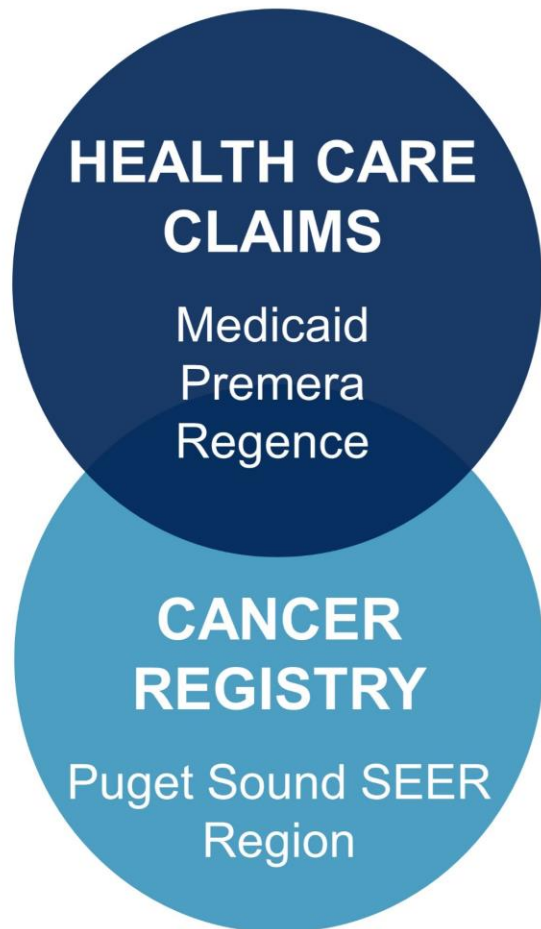
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Medicaid Patients More Likely to Die at Home without Hospice During the Pandemic than Before

Abst # 6502 (Panattoni)

- From 1995 and 2015 hospital as a site of death decreased by 1/3
- Ongoing factors associated with dying in hospital
 - Younger age
 - Hispanic
 - Black or Asian
- In this study, Medicaid patients were more likely to
 - Be Black
 - Have lung cancer
 - Live in an impoverished neighborhood

Setting: Community, Insured, WA State



➔ 610 Patients

Died during 2 periods:

Pre-COVID: March-June 2017-2019
(N=78%)

COVID: March-June 2020
(N=22%)

Ages 18-64

Solid tumor malignancies

Enrollment 1 month prior to death

Place of Death

➔ **Hospital**
(N=41%)

➔ **Hospice - Home or Facility**
(N=37%)

➔ **Home without Hospice**
(N=22%)

Presented By: **Laura Panattoni, PhD**



FRED HUTCH
Hutchinson Institute for
Cancer Outcomes Research

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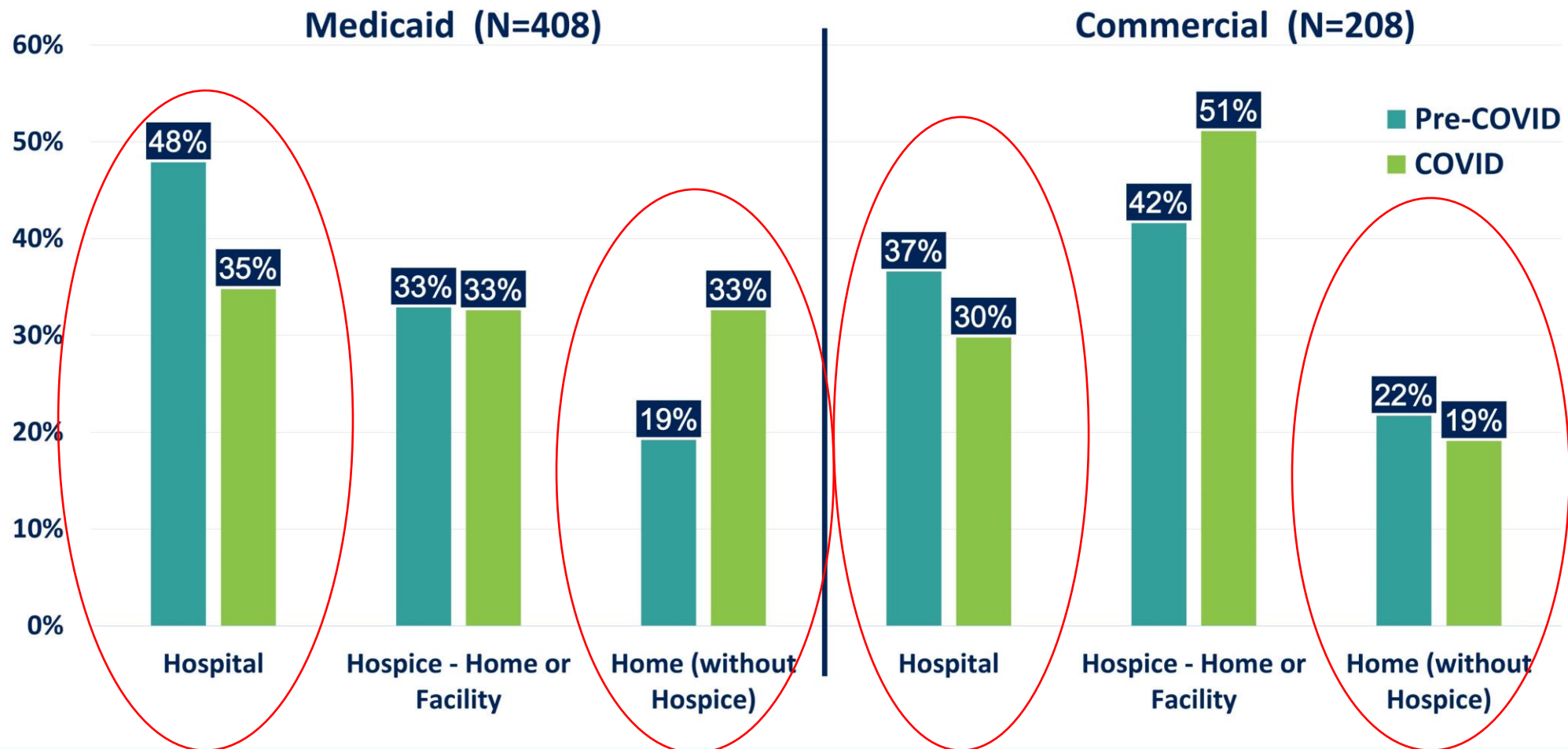
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Place of Death and Hospice Utilization



Presented By: **Laura Panattoni, PhD**



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Conclusions: Disparities Related to COVID 19

COVID 19 magnified the disparities already present in healthcare

- COVID 19 in cancer patients was associated with increased mortality for patients who were older, male, had comorbidities, hematologic malignancy
- Black and AAPI patients with breast cancer had disproportionately higher rates of COVID 19 severity
 - Cancer patients with COVID more likely to be NHB, have co-morbidities and have income <\$30K (*Hwang Cancer Reports 20 May 2021*)
- At a single institution, more patients with breast and colon cancer presented with advanced vs. early disease during COVID vs. pre-COVID
 - Screenings rebounded in Q4 of 2020 but not for NHB or Hispanic populations (*Labaki Cancer Cell June 30,2021*)
- Medicaid patients were more likely to die at home without hospice during COVID pandemic than before compared to patients with commercial insurance.

Disparities in Access to Care

Cancer Health Disparity: Differences in incidence, prevalence, mortality and burden of cancer and related adverse health conditions that exist among specific population groups in the US (NCI)

Outcomes in cancer are too often determined by race, ethnic group, zip code, socio-economic status, insurance, access to clinical trials, etc.

The following abstracts examine disparities AND solutions to:

- Screening
- Time to Cancer Intervention
- Clinical Trials

Mobile Low Dose Computerized Tomography (LDCT): 3 Year Follow up of Solution for Early Diagnosis of Lung Cancer in Underserved Populations

Abst #6507 (Raghavan)

- National Lung Screening Trial (NLST) and the Dutch-Belgian Trial demonstrated decreased mortality with lung cancer screening in over 66,000 patients screened
- <5% of patients in the National Lung Screening Trial were minorities*
- Underinsured, uninsured and Medicaid patients have limited access to LDCT
- Recent expansion of eligibility criteria for LDCT opens opportunities but does not address these access disparities

*Tanner Am J Respir. Crit. Care. Med. 2015, 192: 200-208

Mobile Low Dose Computerized Tomography (LDCT): 3 Year Follow up of Solution for Early Diagnosis of Lung Cancer in Underserved Populations

Abst #6507 (Raghavan)

Methods:

- Certified Mobile 32 slice CT scanner
- NLST Criteria but excluded Medicare
- Nurse Navigation
- Lung Rads System
- Muti-D panel review of all images



1200 patients with mean age 51 and mean pky 47.1 (30-189)

| | | |
|------------------|-----------|------------------------|
| 64% uninsured | 78% Rural | 17.8% African American |
| 31% Medicaid | 22% Urban | 2.3% Hispanic/Latinx |
| 4% Under-insured | | 0.5% Native American |

*Tanner Am J Respir. Crit. Care. Med. 2015, 192: 200-208

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RESULTS:

CANCER DIAGNOSIS: 28 NSCL 1 SCLC 1 NET

•30 cases

- * 7/213 African American (3.3%)
- * 23/987 Caucasian (2.4%)
- * 0 Hispanic/Latin-X/Native American

Other cancers: RCC (2) Pancreas (2) NPC (1)

(Carrizosa et al, Proc ASCO, 2021, abst 6540)

LOST TO FOLLOW-UP: 68 (5.7%)

Other Key Points:

52% had 12m repeat ima
21 Rx with curative intent
Estimated savings of \$10-

Presented By: **Derek Raghavan MD PhD FACP FRACP FASCO**
Levine Cancer Institute – Atrium Health

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Effect of Antiracism Intervention on Disparities in Time to Lung Cancer Surgery

Abst #101 (Stein)

Disparities in lung cancer surgery have been well described

Cykert, et al, JAMA, 2010
66% NHW vs 55% NHB

Heckler Report, 1985
14% excess cancer deaths

Bach, et al, NEJM, 1999
76.7% NHW vs 64.0% NHB

Wolf, et al, J Thorac CV Surg, 2019
67.4% NHW vs 56% NHB

Delays in lung cancer surgery can lead to

- Disease progression
- Upstaging
- Worse survival

Black patients experience more delays than white patients

Effect of Antiracism Intervention on Disparities in Time to Lung Cancer Surgery

Abst #101 (Stein)

ACCURE:

Accountable for Cancer Care through Undoing Racism and Equity

- Community Academic Partnership
- Previous work decreased disparity in lung cancer treatment

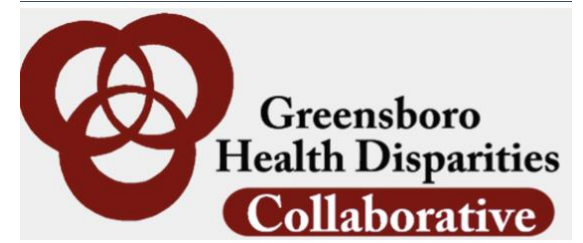
Intervention:

Real-time registry from EHR to identify patients who missed key milestones in care
Nurse navigator to connect with patients and clinical teams to reduce barriers
Physician champion

Study Design:

Intervention Group

Control Group: Retrospective group over 5 years and current control group of patients not contacted



Time to Surgery Analysis

Outcome

Evaluated median days to surgery in intervention vs control

Dichotomized to evaluate what proportion received surgery within 8 weeks

Day 0 = imaging suspicious for cancer or tissue biopsy

Logistic regression controlling for age, gender, Charlson, income, clinical stage

Presented By: **Jacob Stein, MD, MPH, UNC Lineberger
Comprehensive Cancer Center**

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Results

Time to Surgery

| | Black | White | P value* | aOR (95% CI) | P value** |
|-----------------------------------|--------------|--------------|------------------|-------------------------|----------------|
| Retrospective (n=1320) | | | | | |
| Median (days) | 39.5 | 32 | | | |
| < 56 days | 65.6% | 76.5% | P<0.01 | 0.51 (0.35-0.75) | P=0.001 |
| Intervention (n=254) | | | | | |
| Median (days) | 18 | 17 | | | |
| < 56 days | 89.4% | 92.9% | P=0.12 | 0.58 (0.22-1.49) | P=0.26 |

*chi square comparing proportion of Black vs White patients receiving surgery in 8 weeks

**chi square of logistic regression after controlling for age, gender, Charlson, income, stage

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Results

Surgery within 8 weeks

| | Retrospective | Intervention | aOR (95% CI) | P value |
|-------|---------------|--------------|-------------------------|-------------------|
| Black | 65.6% | 89.4% | 3.70 (1.41-9.67) | P<0.001 |
| White | 76.5% | 92.9% | 3.92 (2.06-7.44) | P<0.001 |
| Total | 75.2% | 91.7% | 3.40 (2.05-5.63) | P<0.001 |

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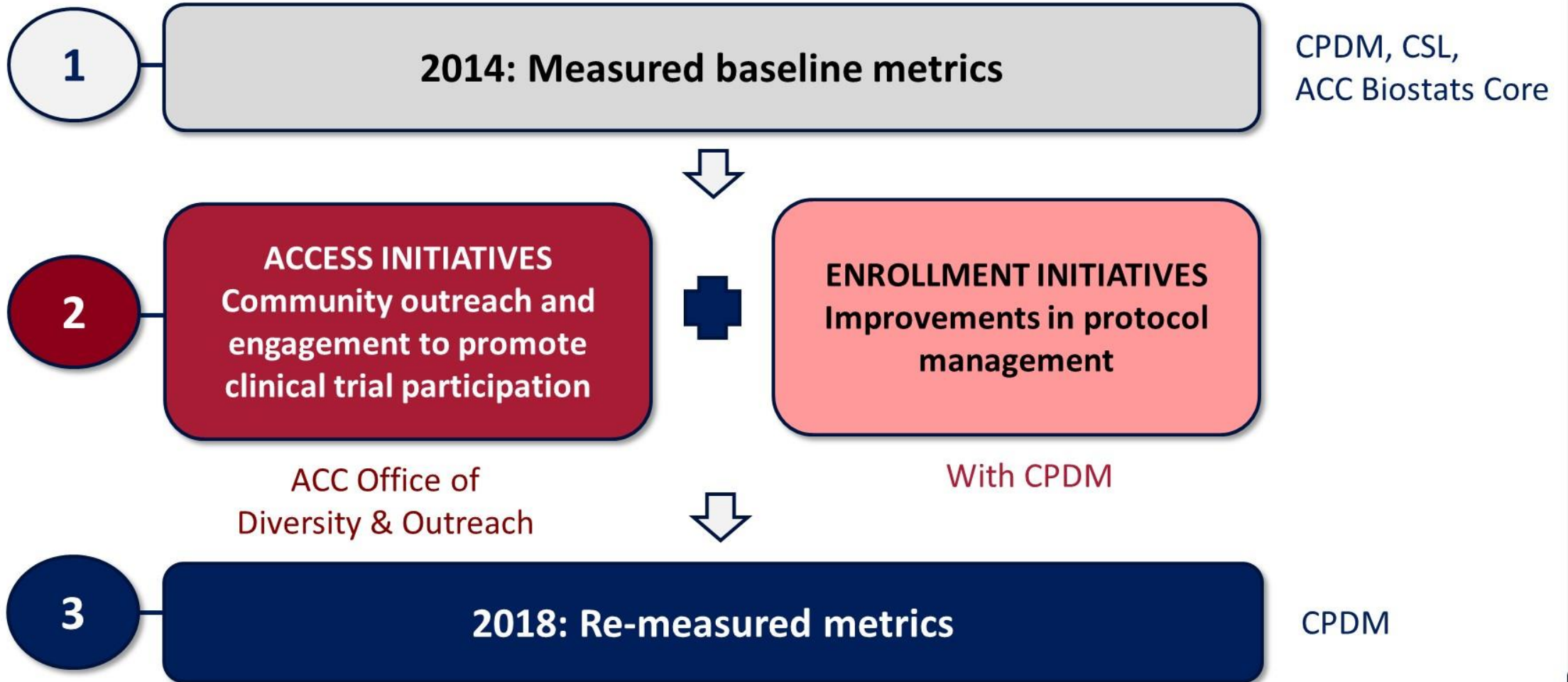
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Accrual of Black Participants to Clinical Trials following a 5 Year Prospective Initiative of Community Outreach and Engagement

Abst #100 (Guerra)

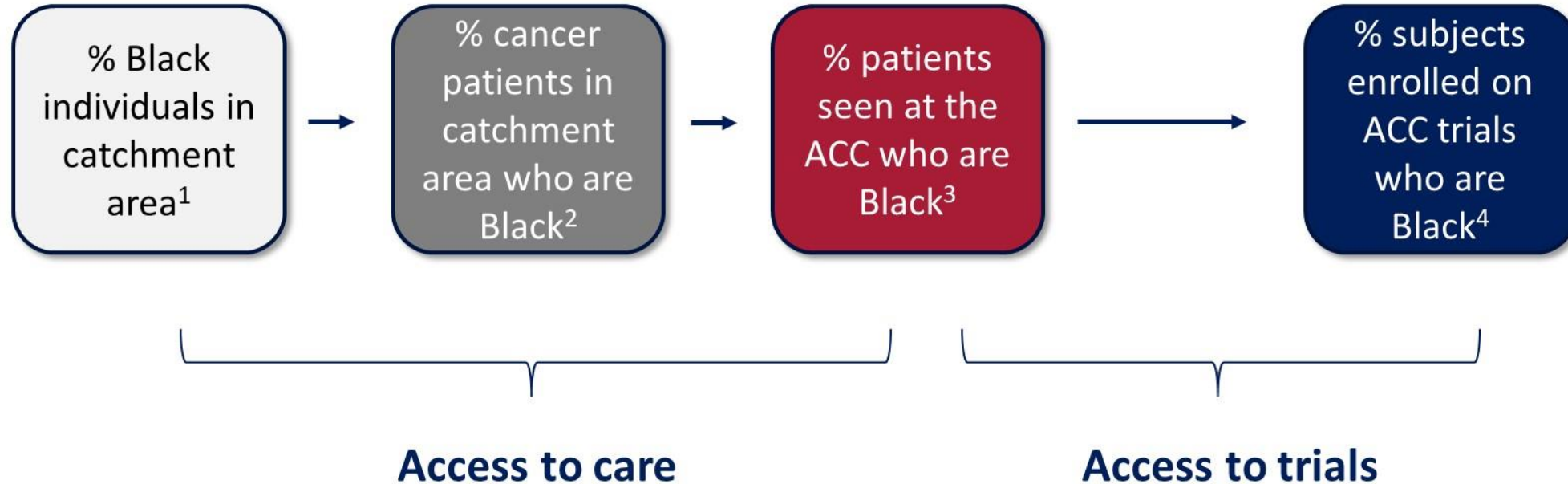
- Black participants comprise only 5% of cancer clinical trial enrollment
- Trials leading to approval of 28 new oncology drugs from 2018-2020 had 8700 participants and only 4% were Black
- Abramson Cancer Center
 - Had initiative since 2013 to improve access to clinical trials for Black participants
 - Leveraged ACC Community Engagement and Outreach teams
 - Supported with supplements to ACC P30 CCSG

Summary of approach



CPDM, ACC Clinical Protocol and Data Management office; CSL, Cancer Service Line

Metrics



¹2010 Census data; ²PA, NJ, DE state registry data 2011-2015; ³ACC CSL Tumor Registry; ⁴ACC CPDM

Community-based efforts to promote participation in cancer trials

HALLMARKS OF STRATEGY: Build trust and establish bi-directional relationships

- Educational efforts about cancer clinical trials in Black communities in Philadelphia
- Programs to increase access to cancer screening
- Discussions with ACC Community Advisory Board
- Disease-specific community educational conferences
- New, culturally tailored ACC marketing strategies
- Strategies to mitigate transportation barriers for patients

IMPACT: Outreach efforts reached *more than 10,000 individuals* in venues including churches, neighborhood blocks, community parks and centers, health centers and hotels

Results: Black participant accrual in ACC trials 2014 vs 2018

| | ACC Catchment Area ¹ | Cancer cases in ACC Catchment Area ² | ACC patients | Adult treatment trials | Adult non-therapeutic interventional trials | Adult non-interventional trials |
|-------------|---------------------------------|---|--------------|------------------------|---|---------------------------------|
| 2014 | 19.0% | 16.5% | 11.1% | 12.2% | 8.3% | 13.0% |
| 2018 | 19.0% | 16.5% | 16.2% | 23.9% | 33.1% | 22.5% |

Next Steps:

1. Community Ambassadors- Cohorts of 8-12 people who conduct outreach education on clinical trials
2. Community + COVID outreach: Combine screening with COVID vaccination
3. Lazarex Foundation- payment for incidental trials costs. Enabled by PA law

1.9-fold increase

4.0-fold increase

1.7-fold increase

¹2010 Census data; ²PA, NJ, DE state registry data 2011-2015

Conclusions Disparities in Access to Care

- Taking services to underserved populations is feasible & improves screening and detection
 - Mobile CT Scanner can reach patients in underserved areas, underserved populations
- Community partnerships & navigation are key to reaching underserved populations
- It is important to understand the patients in your catchment area and the patients you serve at your center to be able to identify gaps in care and clinical trials
- Increases in clinical trial accruals for underserved populations can be achieved with intentional planning and outreach with community partners

See acc-cancer.org for more information on:

- ACCC-ASCO Initiative: Site Self-Assessment Tool and Implicit Bias Training
- ACORI- ACCC Community Oncology Research Institute to improve diversity, equity and inclusion in clinical trials

Thank you
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