ACCURE Partners

Accountability for Cancer Care through Undoing Racism and Equity

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Bach PB et al. Racial differences in the treatment of early stage lung cancer. N Engl J Med, 1999;341:1198-1205.

Race	Lung Cancer Surgery	5-year survival
Caucasian	77%	34%
African-American	64%	26%

44 excess deaths per **1000 lung cancer cases**
due to decisions against surgery!

Suga JM et al. Racial Disparities on the Use of Invasive and Noninvasive Staging in Patients with Non-small Cell Lung Cancer. J Thorac Oncol, 2010; 5:1722-1778.

Source: California Cancer Registry (N = 12,395)

- Staging procedures for Black and White patients about equal

- OR for Lung Cancer Surgery Black compared to White 0.6 ($p < 0.001$)

Silber JH et al. Characteristics Associated With Differences in Survival Among Black and White Women With Breast Cancer. JAMA, 2013; 310:389-397.

Using SEER-Medicare database, compared 7,375 Black women, diagnosed 1991-2005, to 3 sets of matched White controls (N = 7,375)

- 5-yr survival: White patients 68.8%
  Black patients 55.9%

- Received Rx: White patients 91.8%
  Black patients 87.4%

- Anthracyclines or taxols: W 5.0%, B 3.7%

- Other RX with BCS: W 92.7% B 91.8%

Hershman D et al. Racial Disparities in Treatment and Survival Among Women With Early-Stage Breast Cancer. J Clin Oncol, 2005; 23:6639-6646

Using Henry Ford Health System tumor registry database, identified 472 eligible patients who started adjuvant chemo

- White patients: 23% finished <75% of cycles
- Black patients: 31% finished <75% of cycles
- Poorer survival associated with Black race, incomplete chemo, advanced age, increased co-morbidities, and negative hormone receptors.

ACCURE GOALS

- Optimize Care, including avoidance of delays (surgery, XRT, chemotherapy), for everyone.
- Attenuate race related gaps.
- Improve patient self-reported health status, health literacy, healthcare utilization, medical mistrust, and perceived racism.

ACCURE Intervention

Informatics Components

- Retrospective analysis, by race, of EHR data from 2007-2011
- Automated Real-Time Registry following progression through care
- Automated prospective analysis, by race, of EHR data
- Site-specific Clinical Feedback Reports, according to race and co-morbidity status, delivered by ACCURE Physician Champion to clinicians

Communications Components

- ACCURE Navigator specially trained in exploring and responding to patients social and belief-specific barriers, and using ACCURE's Real-time Registry
- Power analysis of cancer care system
- Healthcare Equity Training + quarterly booster sessions for providers

ACCURE Study Design

Research Question: What are the structures built into cancer care systems that trigger vulnerabilities to implicit bias and how can they be changed to reduce race-specific inequities in quality and completion of lung and breast cancer care?

- **Participants:** African American and White patients with 1st diagnosis of Stage 1-2 breast and lung cancer treated at Cone Health System and UPMC (2012-2017).

- **Study Design & Hypotheses:**
  - 5-year interrupted time-series with an embedded RCT study design (**ACCURE Navigator** vs. usual care), using the CBPR approach.
    - Conduct a 5-year **retrospective review** of de-identified EMR data (2007-2011), from each Cancer Center site, to establish a baseline.
    - Slope before the change point (when the ACCURE intervention is implemented) will be the same as the slope after.
    - Differences between the slope for White patients and the slope for African American patients will not change before and after the intervention.
    - Changes in demographically categorized patient groups, specific proportions of quality and completion of treatment among breast and lung cancer patients, will be the same in the *ACCURE Navigator* component and Usual Care control groups at the end of 3-year intervention period.

ACCURE Progress

- Collaborating with IT Specialists at two Cancer Centers in creating and establishing automated electronic health information systems.

- Collaborated with breast and lung cancer clinicians at two Cancer Centers in creating and establishing non-intrusive procedures and protocols for recruiting and enrolling eligible patients at time of diagnosis.

- Completed power analysis of two cancer care systems

- Following the Community-Based Participatory Research Approach

- Publications and Presentations

Data Trends

Retrospective Chart Review, 2007-2011

Cone Health System

Total early stage breast and lung cancer patients, N=2532

(528 African American patients)

- Lung, N = 724 (18% AA)
- Breast, N = 1,808 (22% AA)

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Total early stage breast and lung cancer patients, N=5265

(467 African American patients)

- Lung, N = 1,125 (11% AA)
- Breast, N = 4,140 (8.3% AA)

Were there racial differences in breast cancer treatment?

Cone Health System

- Surgery Completed
  - Black 91.2%
  - White 93.3% (p=0.136)
- Days from diagnosis to surgery
  - Black 67.3
  - White 54.1
- Chemotherapy completion for 516 of the 674 who started
  - Black patients 92.8%
  - White patients 95.6% (p = NS)

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- Surgery Completed
  - Black 97.3%
  - White 98.5% (p=0.09)
- Days from diagnosis to surgery
  - Black 192
  - White 83 (p=0.09)
- Chemotherapy completion for 1,568 of the 1,633 who started
  - Black patients 86.3%
  - White patients 90.4% (p = 0.10)

Why Is Chemotherapy Completion Important?

- Short term survival is significantly higher in chemotherapy patients who receive at least 80% of their recommended treatment (96.5% vs 85.2%, p = .005)

Conclusions

- **There is a trending toward less surgery and less chemotherapy completion for Black women** that may be confounded by other issues

- Lessened therapies don't quite make statistical significance but all trend in the same direction and are associated with mortality trends

Were there racial differences in lung cancer treatment?

Cone Health System

- Overall Lung Cancer Surgery Rate – 62%
  - White 62%
  - Black 64%

    Mean age 2 years younger
- Days from Diagnosis to Surgery
  - White 40.1
  - Black 51.1 (p=0.02)
- Lung Cancer Mortality
  - White 40%
  - Black 43%

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- Overall Lung Cancer Surgery Rate – 67.2%
  - White 68.3%
  - Black 58.2% (p=0.03)
- Lung Cancer Mortality
  - White 38.5%
  - Black 43.5%

Conclusion

- Overall lung cancer surgical rate is lower than rates associated with optimal lung cancer survival
- No disparity in surgical rate for Black patients in one center. Of note: Black patients were 2 years younger on average and death rate higher.
- Higher surgical rate for white patients at 2nd center associated with an uptick in survival

Power Analysis
What structures in cancer care systems compromised Black patients' quality or completion of care?

Cone Health System

- Delays in diagnosis, surgery scheduling and reporting of surgical results
- Negative experiences in communicating with nursing staff and oncologists
- Inflexibility in scheduled care plans and distress from unexpected changes
- Lack of preparation and/or communication before procedures and treatments resulting in excess pain or unmanaged side effects - information was insufficient, inaccurate, late
- Navigating the ER as cancer patients is complicated and frustrating
- Negotiating the financial/billing system is burdensome and stressful
- Lack of support when treatment ends

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- Troublesome communication of original diagnosis and lab results – delay, calls at work, lack of preparation or support for patient
- Inadequate communication and transfer of information from medical oncologists
- Lack of returned calls from nursing and social work
- Excessive pain from venipuncture
- Perception of coldness, rudeness and micro-aggressions from staff at various locations
- Family involvement was sometimes a deterrent to care

ACCURE Challenges

- Harmonizing Electronic Health Record systems within and across the two cancer centers.

- Provider resistance.

Next Steps

- Further refine real time data feeds
- Begin lung and breast cancer prospective data feeds for total cancer center population results
- Interim analysis of prospective data compared to retrospective (time series)