From Action to Impact: Improving Breast Cancer Care in North Carolina

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Background

- Breast cancer treatment delays beyond 60 days contribute to worsened outcomes and overall poorer quality care
- Black patients compared to non-black patients have an increased risk of treatment delays across the cancer care delivery spectrum
- Analyses of North Carolina data demonstrate breast cancer treatment delays
- The impact of racial disparities in breast cancer treatment timeliness in North Carolina is not well understood
- Additionally, it remains unclear if additional factors such as the health of the cancer care delivery system, provider quantity, or other social determinants of health contribute to delays in breast cancer treatment within the state of North Carolina

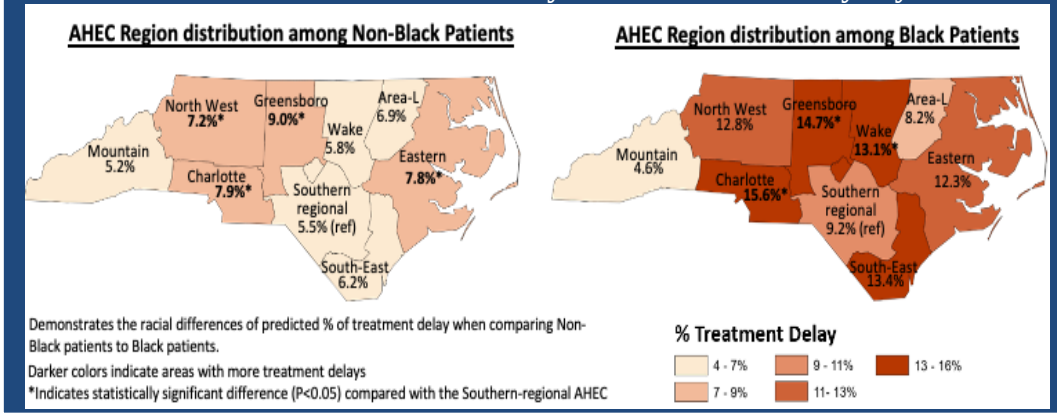
Methods

A cohort of 26,482 breast cancer (stages I-III) patients diagnosed in North Carolina between 2004-2015 from the Carolina Information and Population Health Resource (CIPHR) was created. Time to treatment (TTx) was defined as number of days between diagnosis and first claim for cancer-directed treatment. Main exposure was patient's Area Health Education Center (AHEC) region of residence. The outcome of significant delay was dichotomized at 60 days. Modified Poisson regression regression was used to generate risk ratios for bivariate, race and age-adjusted, and fully-adjusted multivariable models including clinical characteristic. We will generate patient and caregiver focus groups along with stakeholder semi-structured interviews allowing us to determine the factors that contribute to breast cancer treatment delays in North Carolina. Participants will include breast health providers, patients, and community resource providers. Patterns will be evaluated amongst Area Health Education Centers (AHEC) regions in North Carolina

Results

12.3% of Blacks were delayed >60 days, compared to 6.8% of non-Blacks. Among non-Black patients, AHEC region of residence did not predict delay. Among Black patients, likelihood of delay varied significantly across the state's AHEC regions, with a risk ratio of 1.91 (95% CI 1.30-2.79) for the lowest-performing region compared to the highest-performing region. The two highest-performing regions had the largest proportions of Black patients (25-38%), and did not contain any of the state's five largest cities.

Predicted % with Treatment Delay Greater Than 60 days by Race



Demonstrates the racial differences of predicted % of treatment delay when comparing Non-Black patients to Black patients.

Darker colors indicate areas with more treatment delays

*Indicates statistically significant difference (P<0.05) compared with the Southern-regional AHEC

Conclusion

- Significant racial disparities exist in timely breast cancer treatment among Black women in North Carolina.
- AHEC region of residence had a disproportionate impact on the likelihood of treatment delay among Black women, with higher-minority rural regions delivering more timely care to Black patients.
- Our preliminary findings suggest that local health system characteristics of AHEC regions, rather than patient-level factors, may be key determinants of care disparities among Black breast cancer patients.
- Ongoing work includes additional multi-level modeling including AHEC-level health system factors, and stakeholder interviews/focus groups in high and low performing areas to further understand patterns of care and identify intervention targets.

References

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