

Background

Racial, insurance, and other socio-economic disparities exist in US lung cancer care.

Black patients are more likely to be diagnosed at later stages and are less likely to receive curative-intent surgery compared to Whites.

Under-insured patients also experience worse cancer treatment outcomes.

Previous findings suggest that race-based survival disparities may disappear with similar early detection efforts. However, residual disparities in access to high quality care may remain even after timely detection.

We investigated if these racial disparities persist in non-small cell lung cancer (NSCLC) patients who received curative-intent resection in a population-based cohort.

Methods

We examined all patients who underwent curative-intent resections for NSCLC from 12 hospitals across 7 healthcare systems in 4 contiguous Dartmouth Hospital Referral Regions in the Mississippi Delta Region of the US from 2009-2018.

We compared overall survival (OS) by race and adjusted for age, sex, smoking status, family history, tumor histology, and aggregate clinical stage.

Statistical methods included Chi-square tests for associations, Kaplan-Meier plots, and Cox proportional hazards modeling.

Unadjusted and adjusted hazard ratios (aHR) with 95% confidence intervals are reported.

Results

Of the 3,418 patients, 78% were White, 22% were Black; 42% had Medicare, 15% Medicaid, 39% commercial insurance, and 3% were uninsured.

Compared to Whites, Black patients were:

- Younger (mean age 67.8 vs. 64.1; $p < 0.0001$)
- More frequently active smokers ($p = 0.0017$)
- More likely to have adenocarcinoma ($p = 0.0167$)
- Less likely to be clinical stage I ($p = 0.0453$).

Overall, we found no difference in OS by race (aHR: 0.998 [0.87-1.15]).

When stratified by insurance, Blacks on Medicaid had significantly better OS (aHR: 0.73 [0.55-0.97]) than Whites.

Among patients with commercial insurance, Blacks had significantly worse OS (aHR: 1.26 [1.02-1.57]).

Table 1. Adjusted Hazard Ratios and 95% Confidence Intervals between Blacks and Whites by insurance status.

Status	Hazard Ratio (95% CI)
Overall: Black vs. White	0.998 (0.87, 1.15)
Medicaid: Black vs. White	0.73 (0.55, 0.97)
Commercial Insurance: Black vs. White	1.26 (1.02, 1.57)

Conclusions

When all patients receive curative-intent surgical resection, racial disparities in NSCLC survival may be reduced.

However, the impact of race on survival differs by type of insurance suggesting residual and complex disparities in both access to and quality of care.

Further exploration of the interaction between race, socio-economic factors, and the mechanisms of lung cancer outcome disparities is warranted.

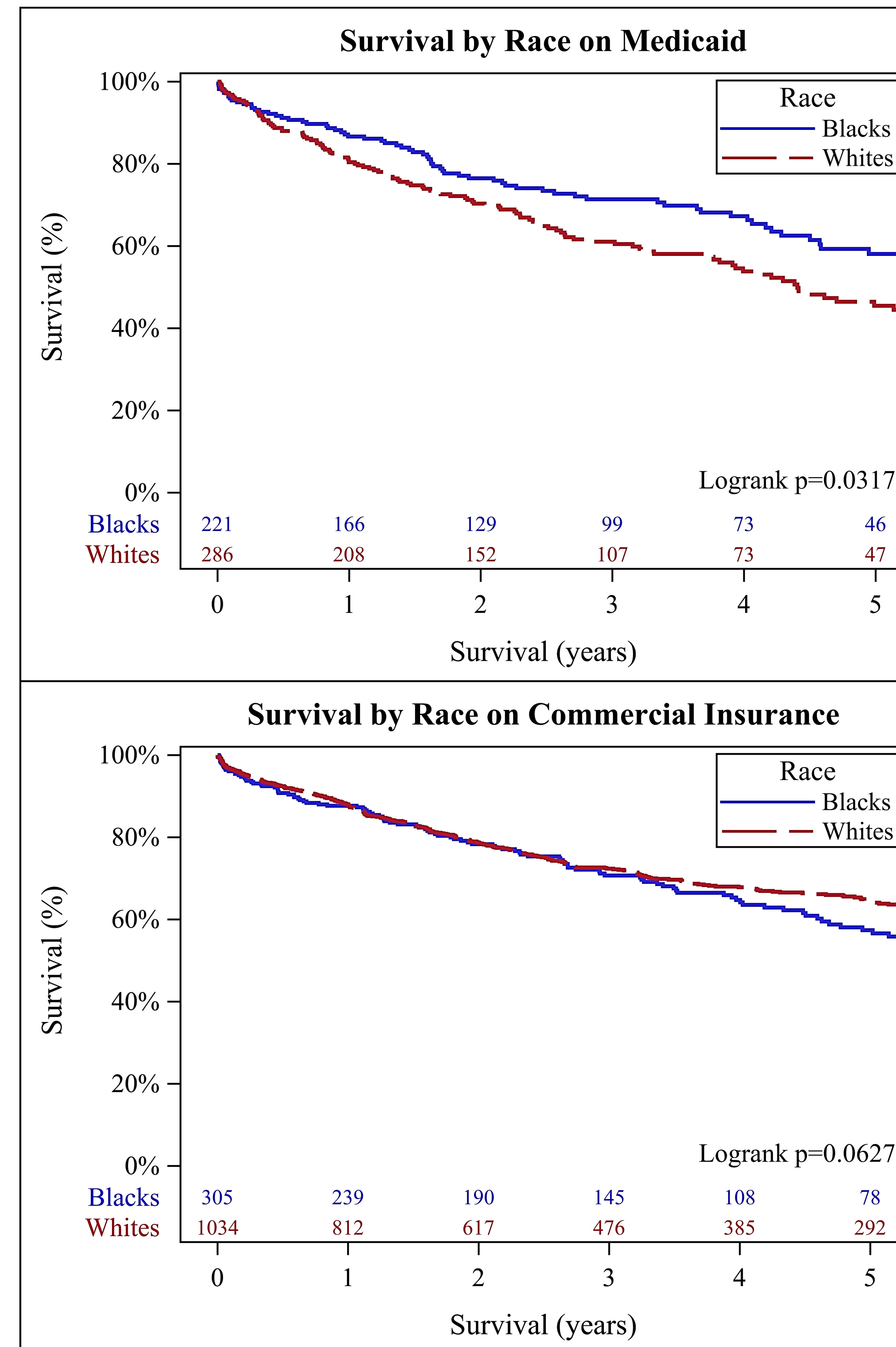


Figure 1. 5-year overall survival between Blacks and Whites who received curative-intent resection under Medicaid (top) and under commercial insurance (bottom).