**Racial Disparities in Stage at Lung Cancer Diagnosis and Survival in Louisiana**

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**Background:** Racial and ethnic disparities persist in lung cancer in the US, with Black and many Latinx patients more likely to be diagnosed at advanced stages and have poorer access to curative treatment, contributing to survival differences.

**Objectives:** We examined the predictors of stage at lung cancer diagnosis and overall survival disparities by race and whether survival differences varied by stage at diagnosis, accounting for demographic and clinical determinants.

**Methods:** This retrospective cohort study included 15,626 lung cancer cases from Louisiana (2015–2021). Descriptive and bivariate analyses, multivariable logistic regression for stage at diagnosis, with Cox-Regression, and Kaplan–Meier survival analysis for survival differences assessment.

**Results:** The mean age at lung cancer diagnosis was 67.5 years (SD = 10.1), with 61.1% of patients aged ≥65 years and 55.82% diagnosed at a late stage. Males (54.3%) had higher odds of late-stage diagnosis than females (AOR = 1.27, $p < 0.0001$), while patients with Medicare/other public insurance (AOR = 0.84, $p < 0.0003$) or private insurance (AOR = 0.88, $p = 0.008$) and those with greater comorbidity burden had lower odds; race and smoking status were not significant after adjustment. The cohort median overall survival was 11 months, with no significant survival difference between races (log-rank $p = 0.36$). However, the stage at diagnosis was strongly associated with survival (aHR = 3.59, $p < 0.0001$). Non-Hispanic White patients with late-stage diagnoses had a higher hazard of death compared to Non-Hispanic Black patients at the same stage (HR = 1.17, 95%CI: 1.07–1.18), while no significant racial difference was observed at the early stage.

**Conclusions:** Late-stage lung cancer diagnoses are significantly associated with age, sex, insurance status, and comorbidity burden. Stage at diagnosis remains the strongest survival predictor.

**Recommendations:** Targeted interventions addressing late diagnosis and race-specific outcomes are essential to reduce disparities.