

Conference Abstracts

Sex and Racial Differences in Age at Lung Cancer Diagnosis: A Large SEER-Based Epidemiologic Study

Madho Mal, MD^{1a}, Nayanika Tummala, MD^{2b}, Bismah Memon, MD^{3c}, Mujahid Ali, MD^{4d}, Shiwani Keswani, MBBS⁵, Chatla sai suthetha, MBBS⁶, Pedro Figueiroa, MD^{1e}

¹ Marshall University school of medicine , Huntigton, WV, huntington, wv, US, ² New York Medical College, ³ Children's hospital medical center of Akron, One Perkins square, Akron, OH, United stated, ⁴ Nishtar Medical University, Multan, Pakistan , Multan, Multan, Punjab, Pakistan, ⁵ Mayo Clinic AZ, ⁶ Bicol Christian, Bicol Christian college of Medicine, Legazpi, Philippines, Philippines, Legazpi, Philippines

Corresponding author

^a Madho Mal, MD, Marshall University school of medicine , Huntigton, WV, huntington, wv, US, Email: madhomal1995@gmail.com

^b Nayanika Tummala, MD, New York Medical College, Email: nayantummala@gmail.com

^c Bismah Memon, MD, Children's hospital medical center of Akron, One Perkins square, Akron, OH, United stated, Email: bismahmemon12@gmail.com

^d Mujahid Ali, MD, Nishtar Medical University, Multan, Pakistan , Multan, Multan, Punjab, Pakistan, Email: drmujahidchatta@gmail.com

^e Pedro Figueiroa, MD, Marshall University school of medicine , Huntigton, WV, huntington, wv, US, Email: figueiroa@gmail.com

Keywords: Lung cancer, Sex and racial differences, SEER

<https://doi.org/10.53876/001aa.129677>

International Journal of Cancer Care and Delivery

Vol. 6, Issue Supplement 1, 2026

Background

Age at lung cancer diagnosis varies across demographic groups, reflecting underlying biological, behavioral, and healthcare access differences. Understanding how age distribution differs by sex and race may help refine screening strategies and identify populations at risk of delayed diagnosis.

Methods

We analyzed 492,060 lung cancer cases from the SEER database. Age at diagnosis was grouped into standard SEER age recodes. Sex- and race-specific distributions were summarized graphically. Logistic regression estimated the odds of being diagnosed at an older age (≥ 70 years), with sex and race as predictors. Results are reported as odds ratios (OR) with 95% confidence intervals (CI).

Results

Marked demographic variation was observed. Females comprised a progressively larger proportion of lung cancer cases in older age groups, especially among Non-Hispanic White patients. Among Non-Hispanic Black patients, males represented a higher proportion of middle-aged diagnoses (ages 45–65), whereas representation became more balanced in older ages. Logistic regression showed that males had significantly lower odds of being diagnosed at ≥ 70 years compared with females (OR ≈ 0.88 , 95% CI ~ 0.88 – 0.89). Non-Hispanic White patients had substantially higher odds of older-age diagnosis compared with Non-Hispanic Black patients (OR ≈ 1.75 , 95% CI ~ 1.72 – 1.78).

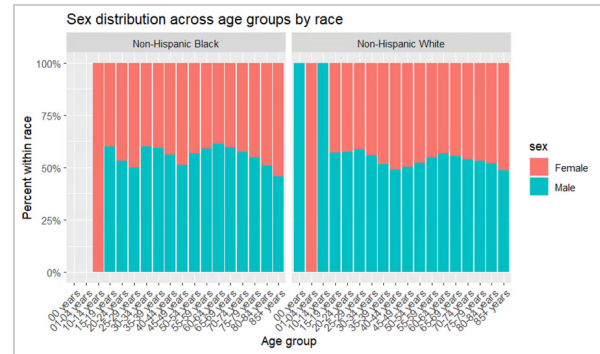
Conclusion

Age at lung cancer diagnosis demonstrates significant sex- and race-based disparities. Women, particularly Non-Hispanic White women, are disproportionately represented at

older ages, whereas Non-Hispanic Black men more frequently present at younger ages. These demographic differences may inform more equitable lung cancer screening strategies and highlight the need for targeted outreach in younger high-risk racial groups.

Demographics Table

Age Distribution Graph



Variable	Category	n	Percent
Sex	Female	226425	46
Sex	Male	265635	54
Race	Non-Hispanic Black	62902	12.8
Race	Non-Hispanic White	429158	87.2
Age group	00 years	3	0
Age group	01-04 years	6	0
Age group	10-14 years	3	0
Age group	15-19 years	12	0
Age group	20-24 years	48	0
Age group	25-29 years	125	0
Age group	30-34 years	296	0.1
Age group	35-39 years	815	0.2
Age group	40-44 years	2594	0.5
Age group	45-49 years	8352	1.7
Age group	50-54 years	22525	4.6
Age group	55-59 years	42902	8.7
Age group	60-64 years	62007	12.6
Age group	65-69 years	79861	16.2
Age group	70-74 years	86171	17.5
Age group	75-79 years	78553	16
Age group	80-84 years	60311	12.3
Age group	85+ years	47476	9.6