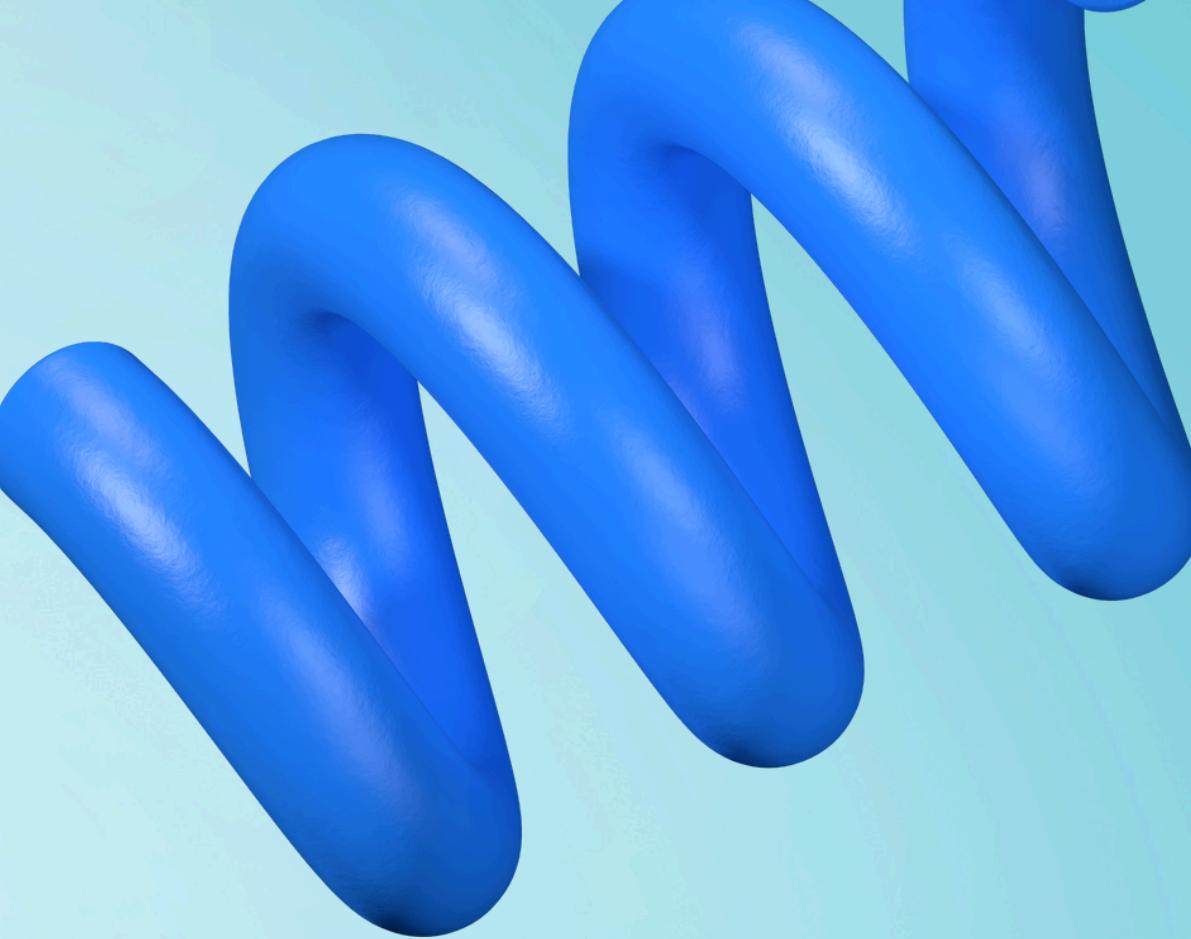


# Lung Cancer Risk Analysis

---

# Lung Cancer Risk Factors & Trends Across 25 Countries



## Dataset Used:

- 220,632 individuals
- Data on age, gender, smoking history, cancer diagnosis, environmental exposure, & survival years

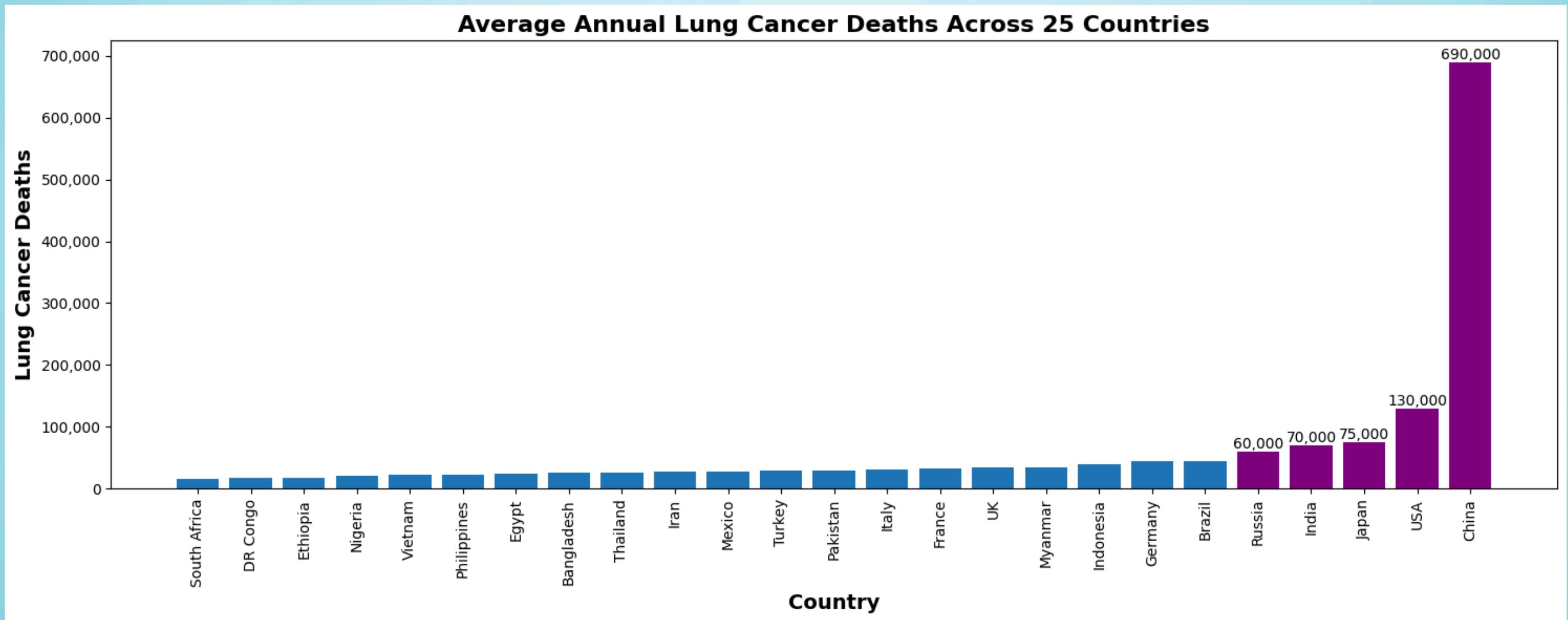


## Research Question:

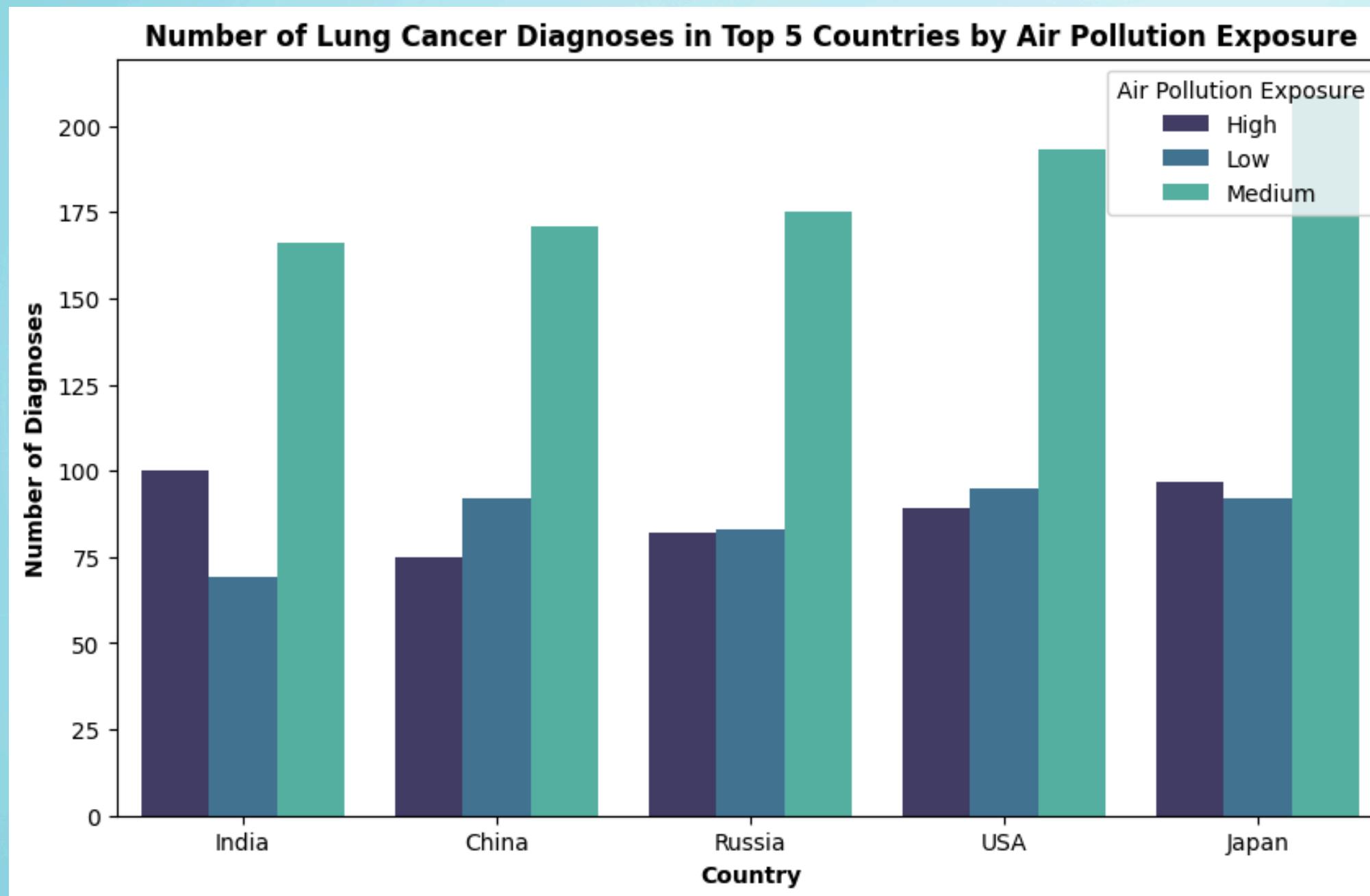
How can we analyze patient data to indicate which factors lead to a higher risk of developing lung cancer, and also examine which factors lead to better outcomes after diagnosis?



# Top 5 Countries with Highest Annual Lung Cancer Deaths



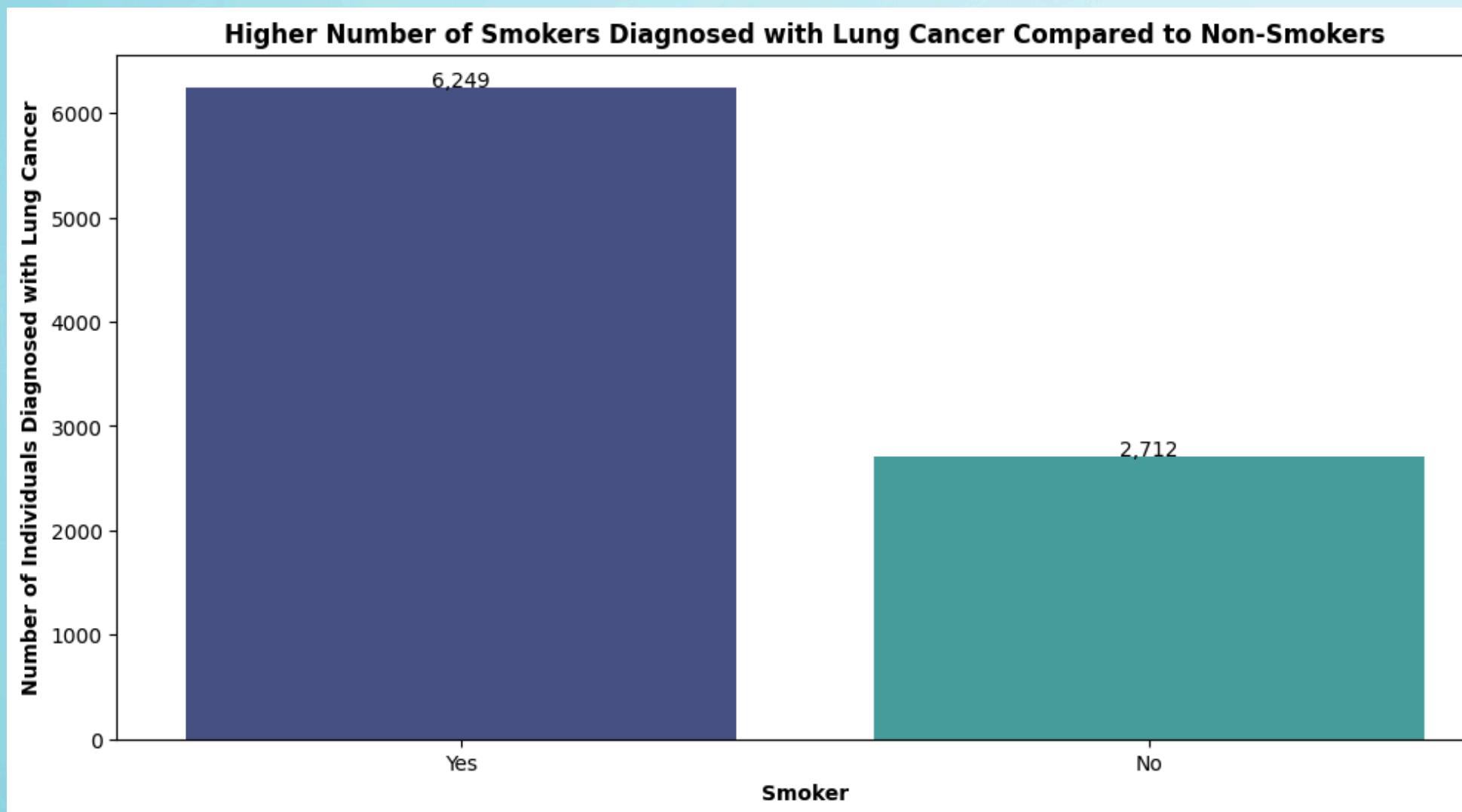
# Effects of Air Pollution on Lung Cancer



**Highest number of lung cancer cases: Medium levels of air pollution exposure**

- Individuals with high & medium levels of air pollution exposure did not have a significantly higher mortality rate or rate of lung cancer diagnosis compared to individuals with low air pollution exposure

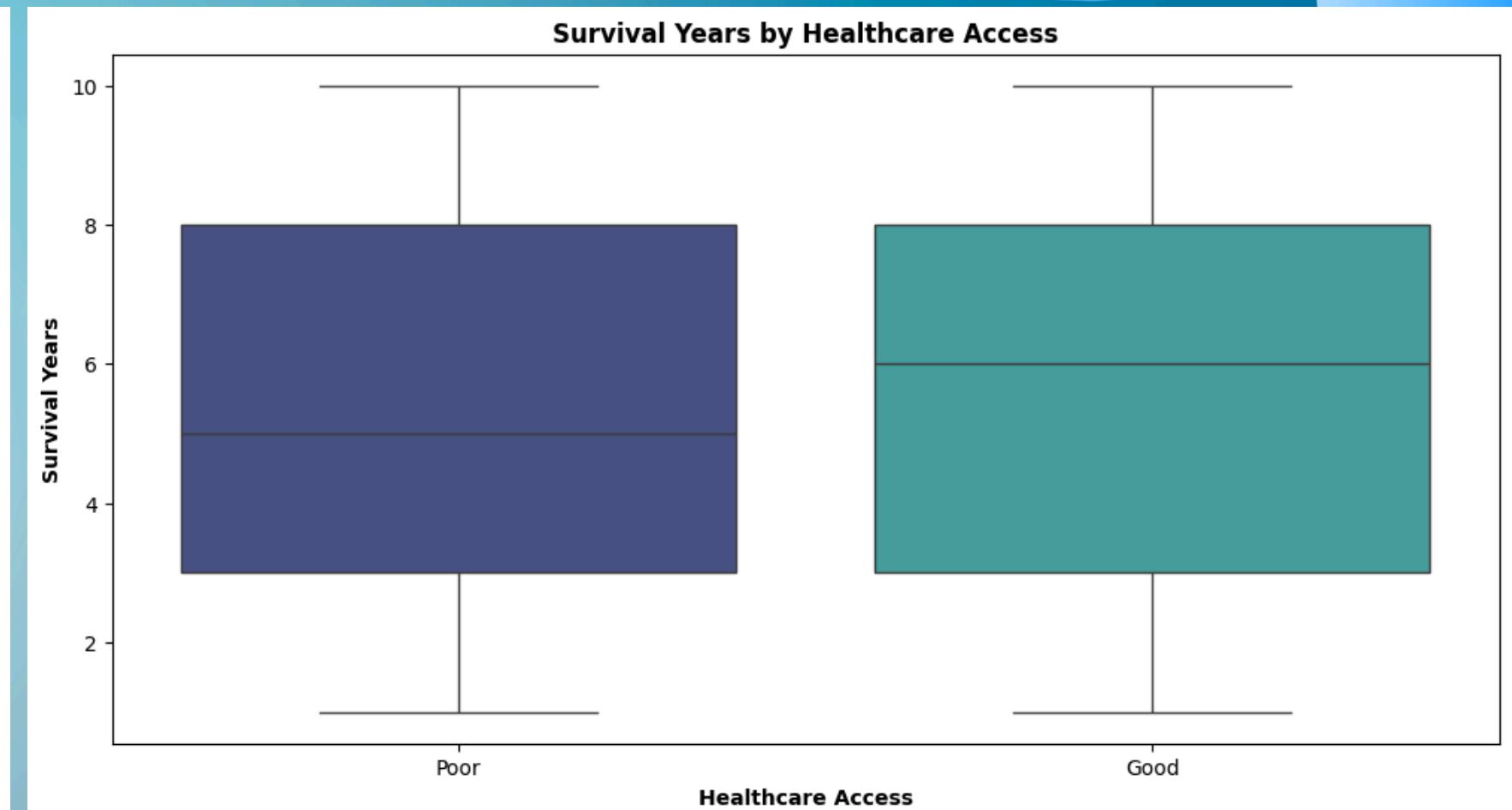
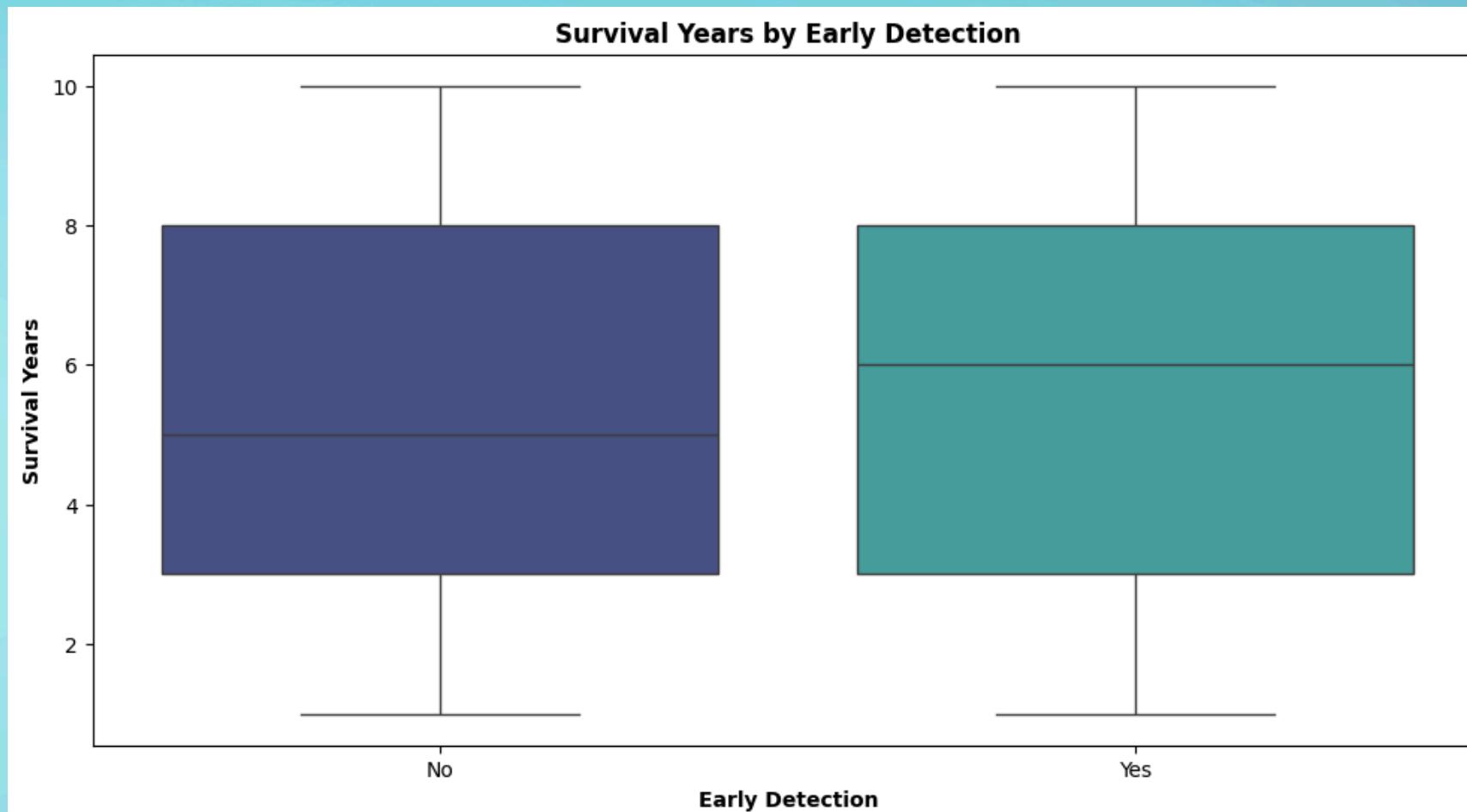
# How does smoking impact the risk of developing lung cancer?



**About 70% of individuals in the dataset with a cancer diagnosis identified as a smoker**

- Statistical analysis showed that smokers have a significantly higher prevalence of lung cancer compared to non-smokers

# How does early detection or access to healthcare impact survival outcomes?



# SUMMARY OF ANALYSIS

1

## Risk Assessment

Analyze patient data to identify individuals at higher risk for lung cancer.

Smoking history & air pollution exposure are key factors to focus on.

2

## Early Intervention

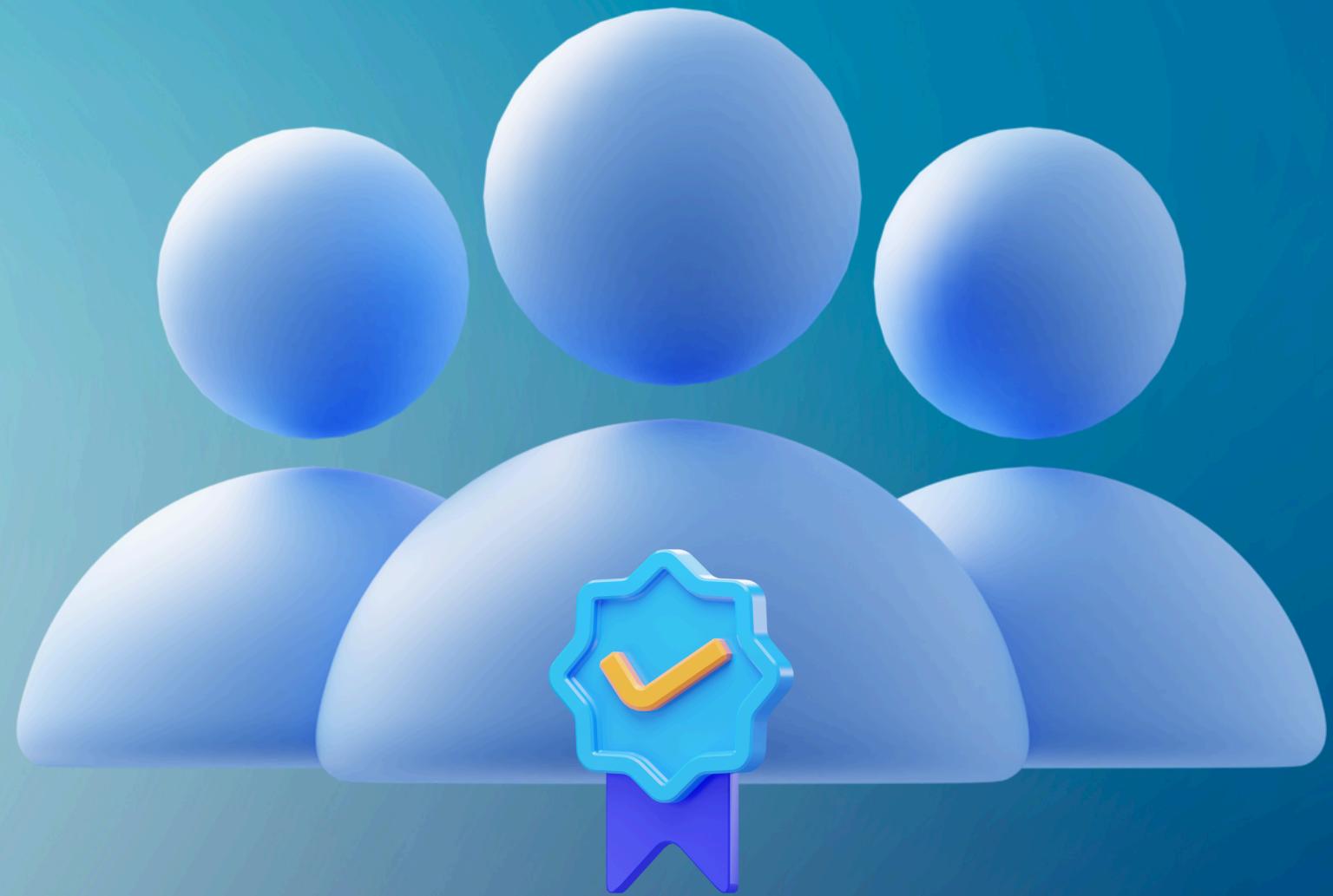
Early detection & access to good healthcare can help increase years survived after diagnosis, especially for individuals at higher risk.

Better and earlier access to healthcare can allow providers intervene early and prevent disease progression.

3

## Further Analysis

Continue to collect and analyze patient data to improve health insights, including more detailed information regarding air pollution exposure, timeline of cancer screenings and detection, and quality of healthcare to better identify how these factors influence patient outcomes, .





## References

- <https://www.kaggle.com/datasets/ankushpanday1/lung-cancer-risk-and-trends-across-25-countries/data>
- [https://pmc.ncbi.nlm.nih.gov/articles/PMC10379173/](https://PMC10379173/)
- <https://www.cancer.org/cancer/types/lung-cancer/about/what-is.html>