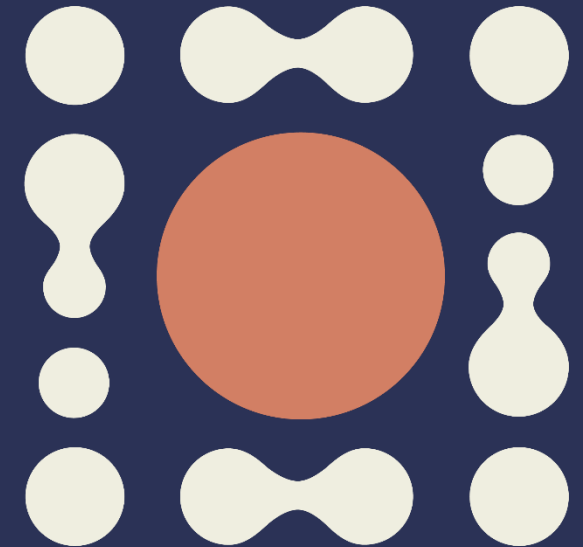


# Global perspective on the burden of cancer attributable to tobacco and alcohol consumption

*National Cancer Policy Forum workshop on Addressing the Impact of Tobacco and Alcohol Use on Cancer-Related Health Outcomes*  
17 March 2025

Harriet Rungay, PhD  
Epidemiologist  
Cancer Surveillance Branch

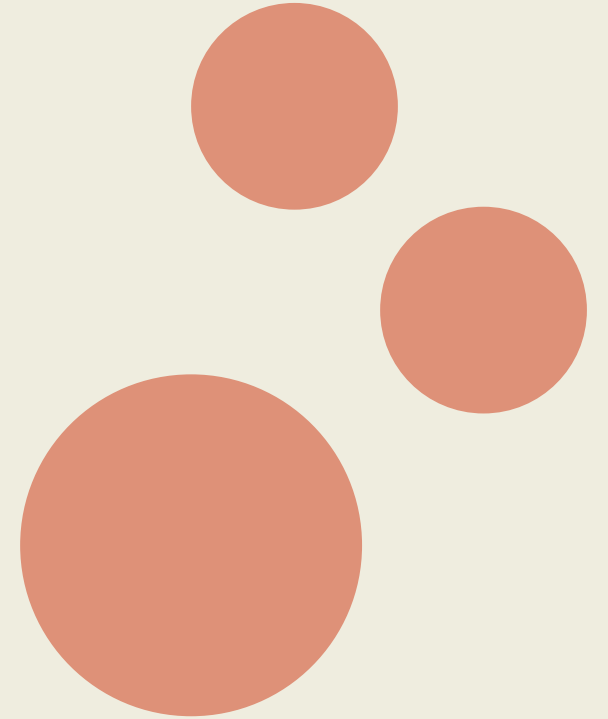
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for Research on Cancer





## No conflicts of interest

My views do not necessarily represent the decisions, policy, or views of the International Agency for Research on Cancer and World Health Organization



# Global burden of cancer attributable to tobacco and alcohol consumption

- Role of IARC and WHO in global monitoring of cancer & causes
- Global cancer burden attributable to:
  1. Tobacco smoking
  2. Smokeless tobacco
  3. Alcohol consumption
- Summary

# Role of IARC and WHO in global monitoring of cancer & causes

- Monitoring patterns & trends of global cancer burden
- Evaluating evidence of potential risk factors
- Estimating burden attributable to major causes
- Setting global strategies & targets
- Providing recommendations & support for implementing policy
- Investigating novel causes



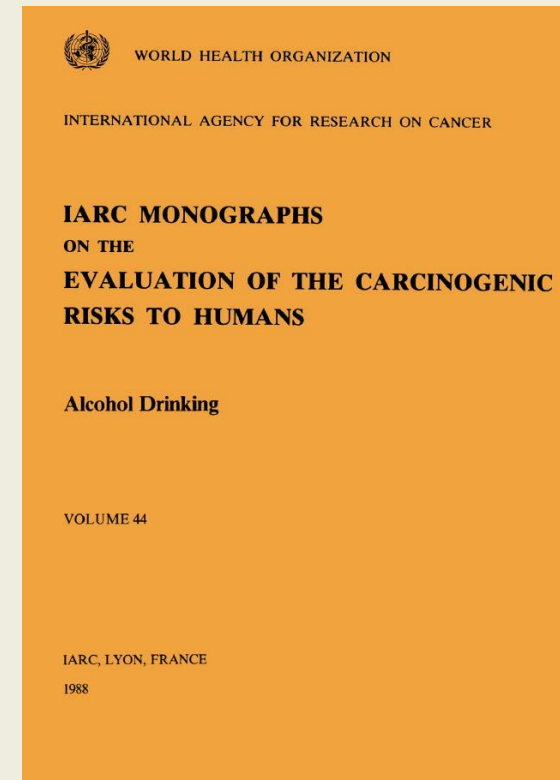
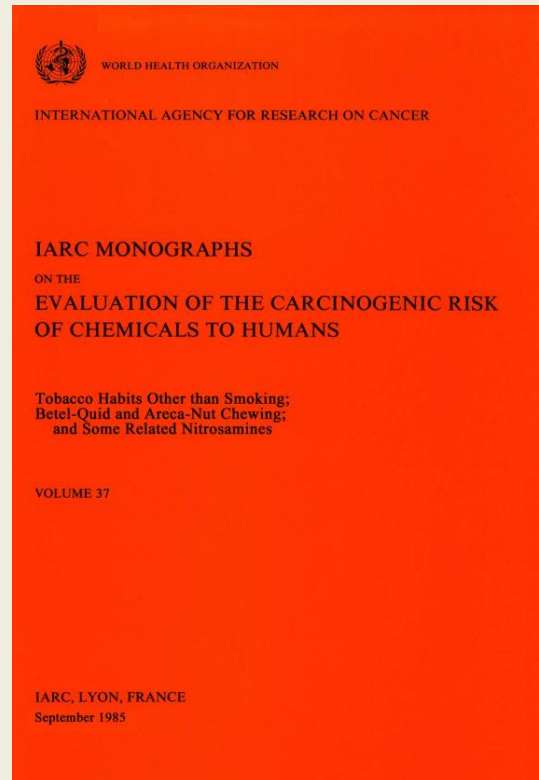
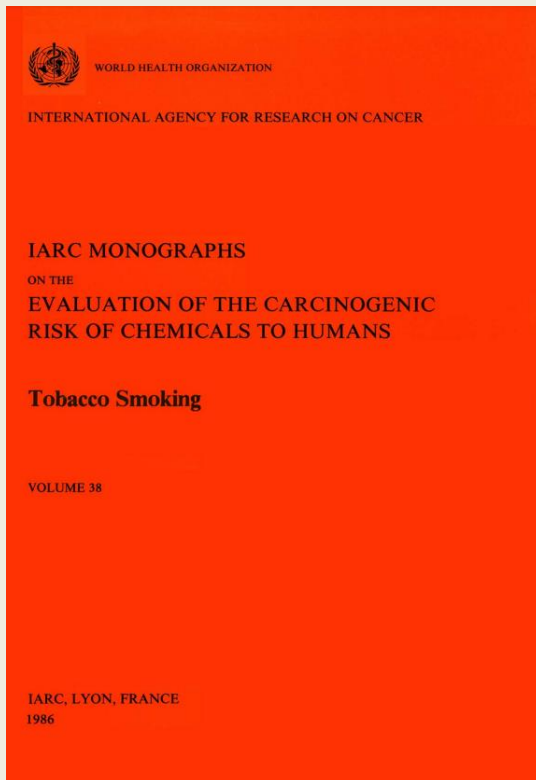
# Tobacco, alcohol and cancer: decades of evidence


## IARC Monographs Hazard Classification



# Tobacco, alcohol and cancer: decades of evidence

- IARC Monographs program classified tobacco smoking, smokeless tobacco, and alcohol as Group 1 carcinogens around 40 years ago (1985–1988)
- Updated with further epidemiological and mechanistic evidence in subsequent volumes





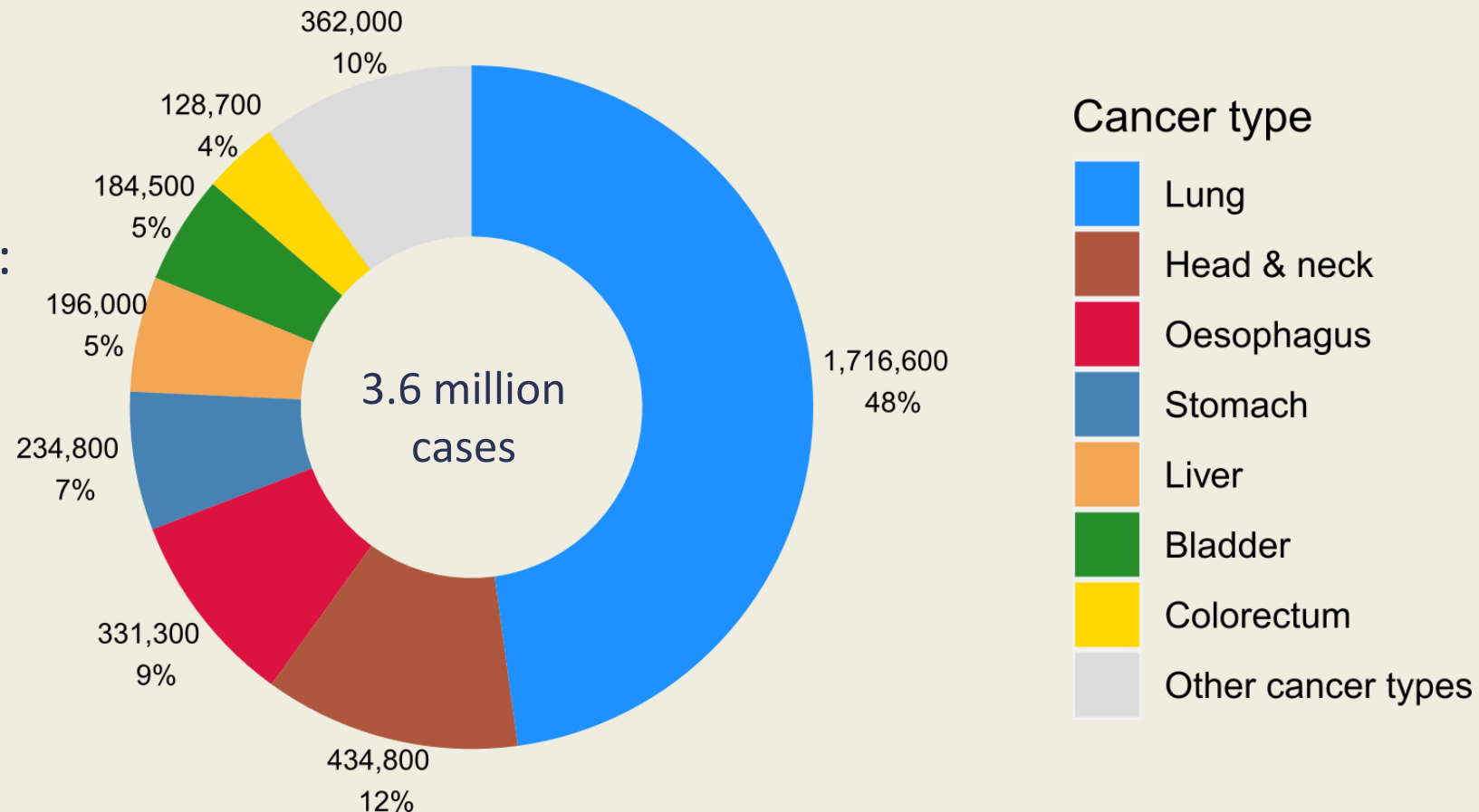
# **Global burden of cancer attributable to tobacco smoking**



# Global burden of cancer attributable to tobacco smoking

- Globally, 1 in 5 (20%) cancer cases in 2020 were attributable to tobacco smoking
- 3.6 million cancer cases: 2.6 million cases among men and 1 million cases among women

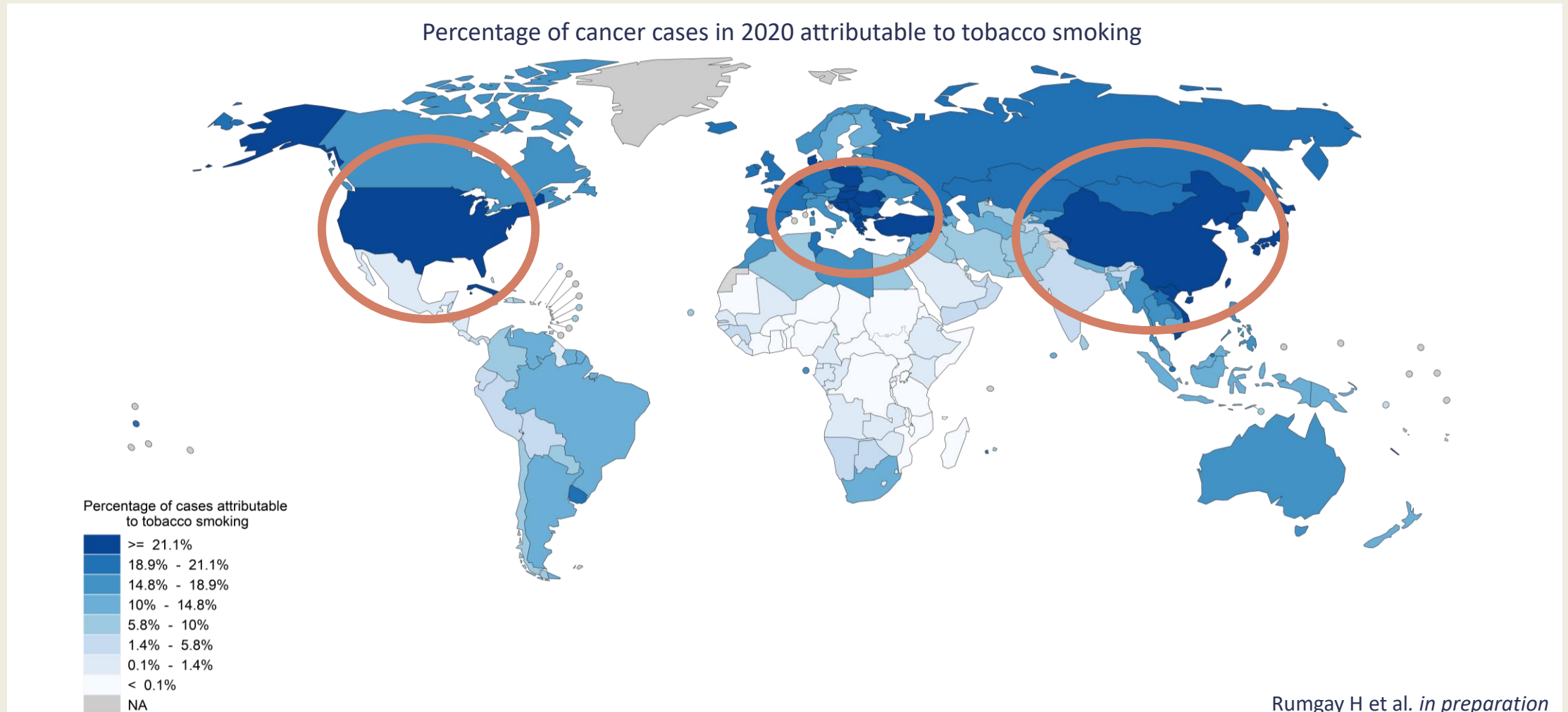
- Cancer types with the most cases attributable to smoking:
  1. Lung cancer
  2. Head & neck cancer
  3. Esophageal cancer





# Global burden of cancer attributable to tobacco smoking

- Largest fractions of cancer attributable to tobacco smoking were in Eastern Asia (25–30% of all cases), Central and Eastern Europe (19–21%), and Northern America (14–21%).





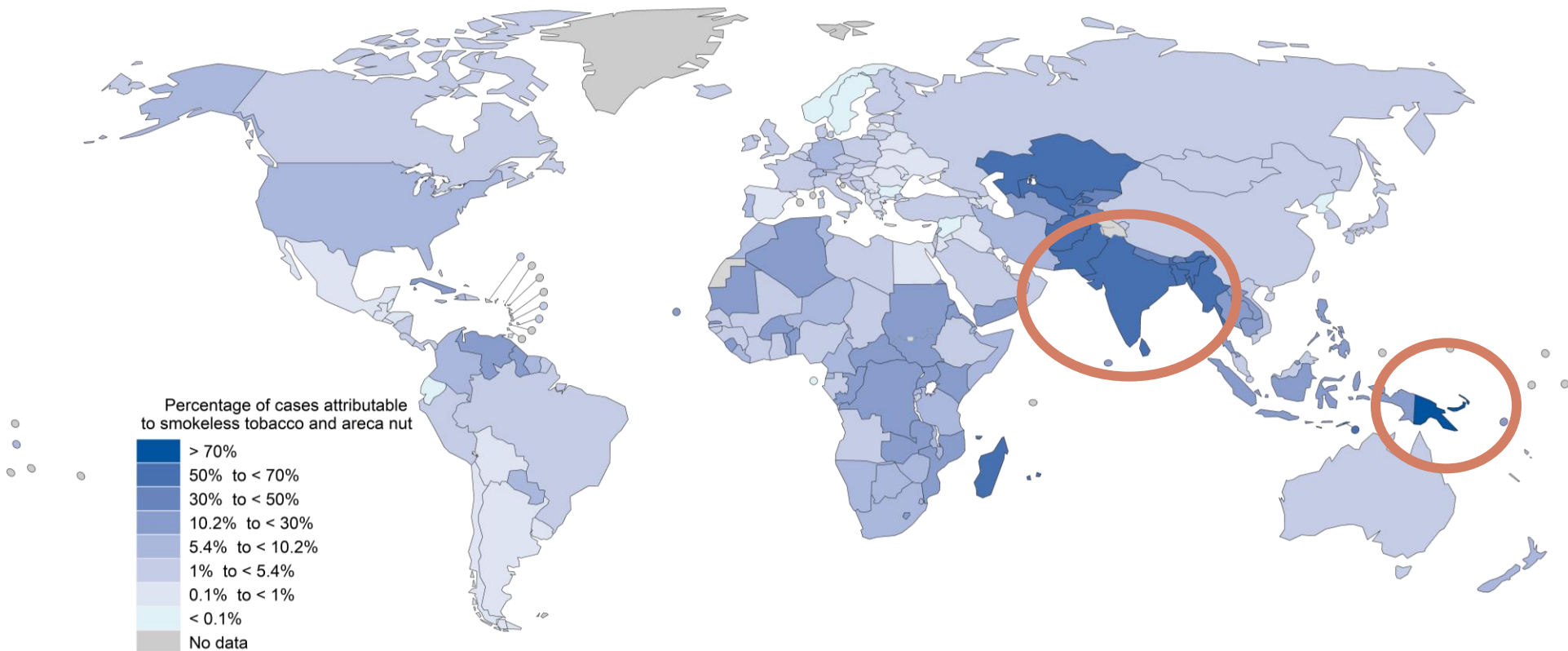
# **Global burden of cancer attributable to smokeless tobacco**



# Oral cancer attributable to smokeless tobacco and areca nut

- Globally, nearly a third (31%) of oral cancer cases in 2022 were attributable to smokeless tobacco and areca nut consumption → 1% of all cancer cases
- 120,200 cases of oral cavity cancer: 92,600 cases among men and 27,600 cases among women

Percentage of oral cavity cancer cases in 2022 attributable to smokeless tobacco and areca nut



Up to 50-85%  
of oral cancer  
cases in  
countries in  
South Asia &  
Western Pacific



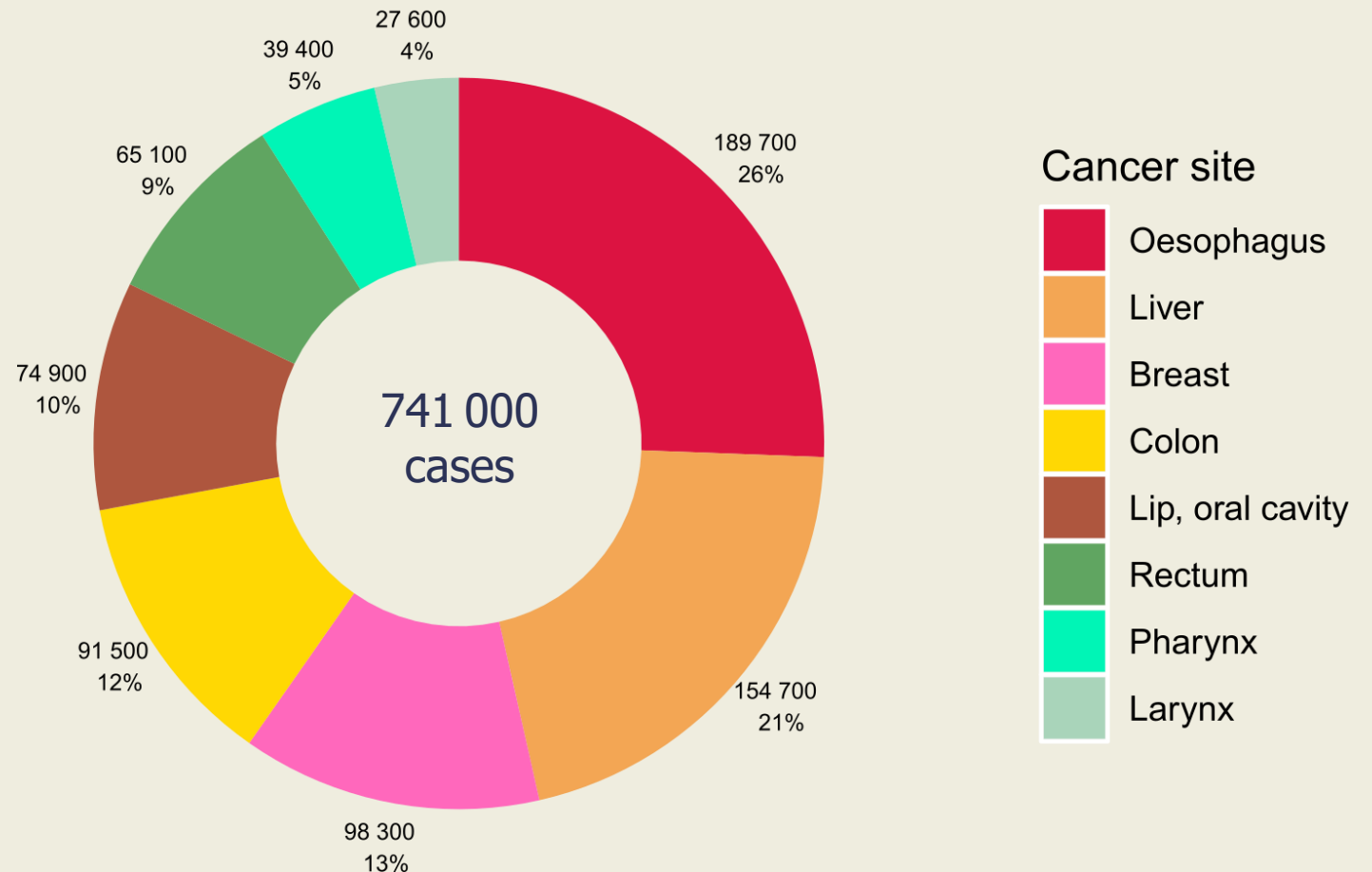
# **Global burden of cancer attributable to alcohol consumption**

# Global burden of cancer attributable to alcohol consumption

- Globally, 1 in 25 (4%) cancer cases in 2020 were attributable to alcohol consumption
- 741,000 cancer cases: 569,000 cases among men and 172,000 cases among women

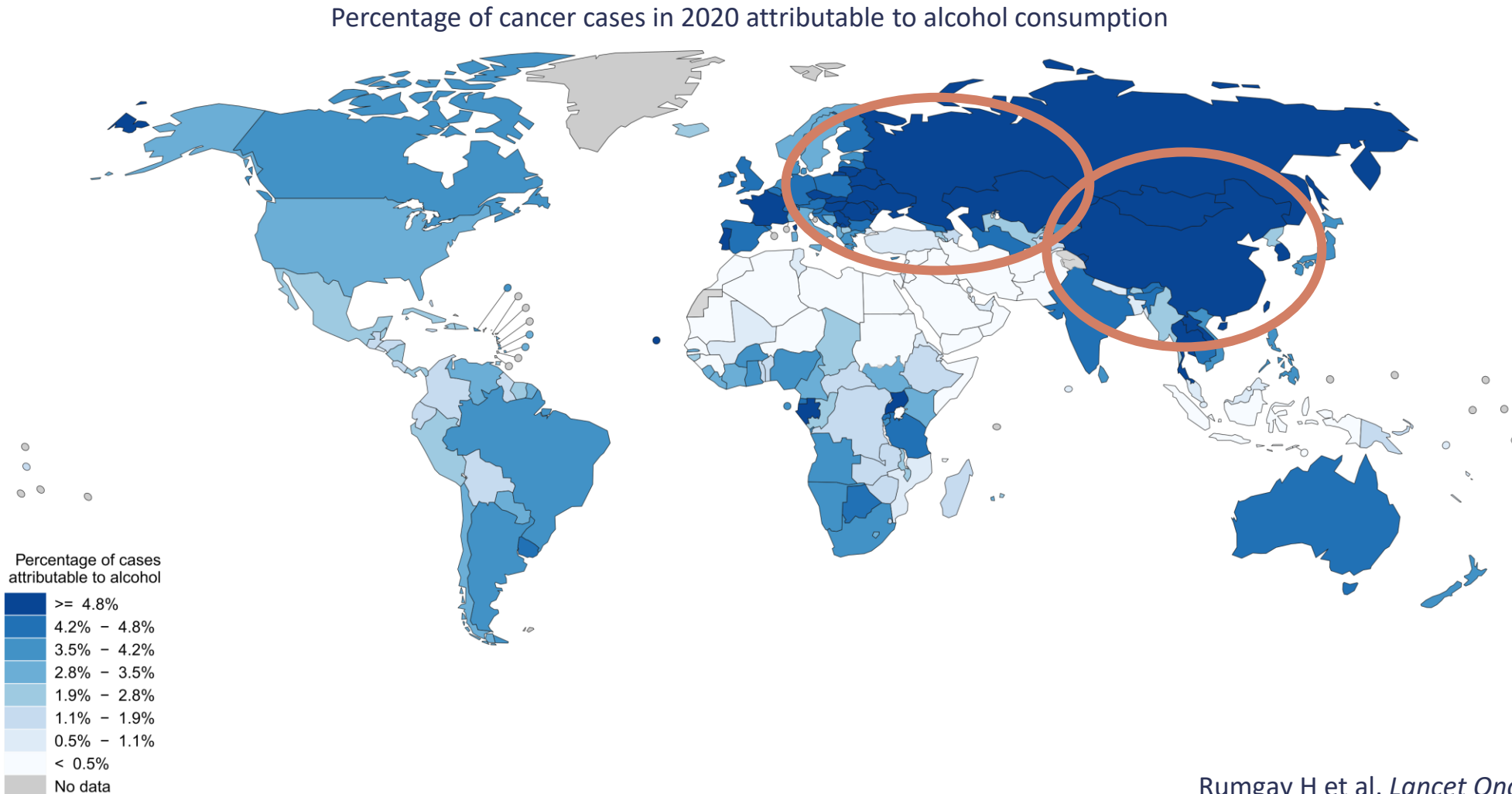
- Cancer types with the most cases attributable to alcohol:

1. Esophageal cancer
2. Liver cancer
3. Breast cancer



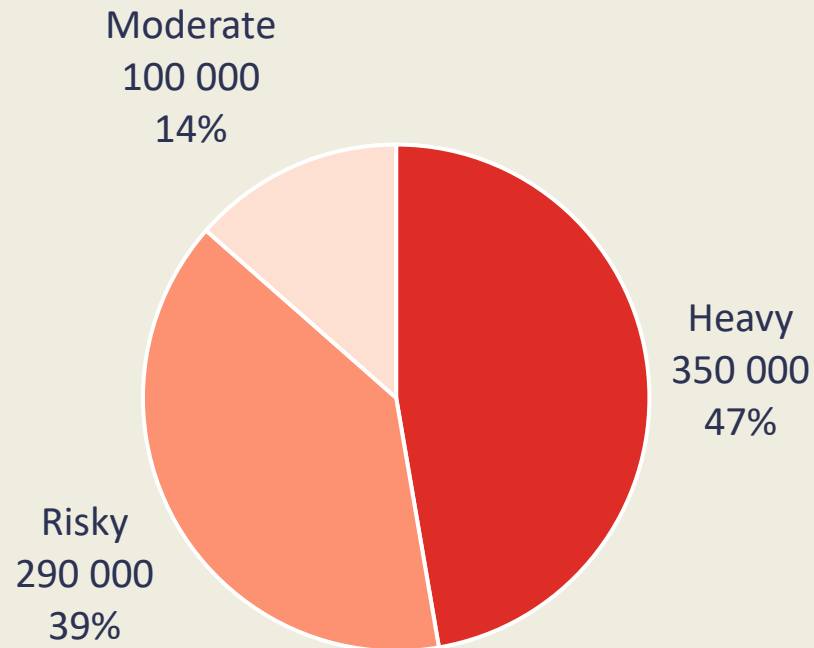
# Global burden of cancer attributable to alcohol consumption

- Largest fractions of cancer attributable to alcohol were in Eastern Asia (6%) and Eastern Europe (6%)



# Global burden of cancer attributable to alcohol consumption

## Global cancer cases in 2020 attributable to alcohol consumption by level of intake



Impact of alcohol on cancer by 3 levels of alcohol intake\*:

- Heavy drinking (>60 g/day) caused nearly half of alcohol-attributable cancer cases
- Moderate & risky drinking were responsible for the other half

\*Moderate (<20 g alcohol per day) = up to 2 alcoholic drinks per day

Risky (20 to 60 g per day) = 2 to 6 alcoholic drinks per day

Heavy (>60 g per day) drinking = more than 6 alcoholic drinks per day

# Summary

- Nearly a quarter (24%) of the global cancer burden is attributable to tobacco and alcohol
  - More than half of cancer burden due to alcohol is from moderate and risky drinking (not only heavy drinking)
- Lung cancer, esophageal cancer, head & neck cancer, and liver cancer majorly impacted by tobacco and alcohol
- Concerning number of cases of breast cancer attributable to alcohol considering lower risk associated with drinking than other cancer types
- Additional cases of lung cancer caused by second-hand smoke
- What about the synergistic effect of smoking + drinking?

**3.6 million  
cases**

Tobacco  
smoking

Alcohol  
consumption

**741,000  
cases**

**120,000  
cases**

Smokeless  
tobacco



# Thank you for listening

## Acknowledgments

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Co-authors & collaborators

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




International Agency for Research on Cancer

 World Health Organization



## CANCERS ATTRIBUTABLE TO ALCOHOL





ABOUT


DATA SOURCES & METHODS

ANALYSIS TOOLS

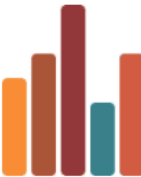
HELP

The Cancers Attributable to Alcohol website provides interactive tools for analysing and visualizing data on the estimated global cancer incidence in 2020 attributable to alcohol consumption.


### EXPLORE THE DATA




Pie charts




Bar charts



Multibar charts



Maps



Sunburst charts

# References

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