



# ALCOHOL INTAKE AND RISK OF ESOPHAGEAL ADENOCARCINOMA: A POOLED ANALYSIS OF 14 PROSPECTIVE COHORT STUDIES

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## Background

- Esophageal cancer has a poor prognosis, with a 5-year survival rate of only 20% in the U.S.
- It is the 7th leading cause of cancer-related death and 11th most common cancer globally.
- Two main types: squamous cell carcinoma and esophageal adenocarcinoma (EAC).
- EAC incidence has risen significantly in western populations over the last 40 years.
- Few modifiable risk factors for EAC are known

## Objective

- To evaluate **the association between alcohol intake and risk of EAC** overall and by smoking status, a key EAC risk factor.

## Design

### Study-level inclusion criteria:

- Prospective cohort study with  $\geq 1$  publication on any diet and cancer association
- Long-term comprehensive dietary (including alcohol) assessment at baseline
- $>10\%$  alcohol drinkers for men & women
- Ascertainment of  $\geq 20$  incident EAC cases.

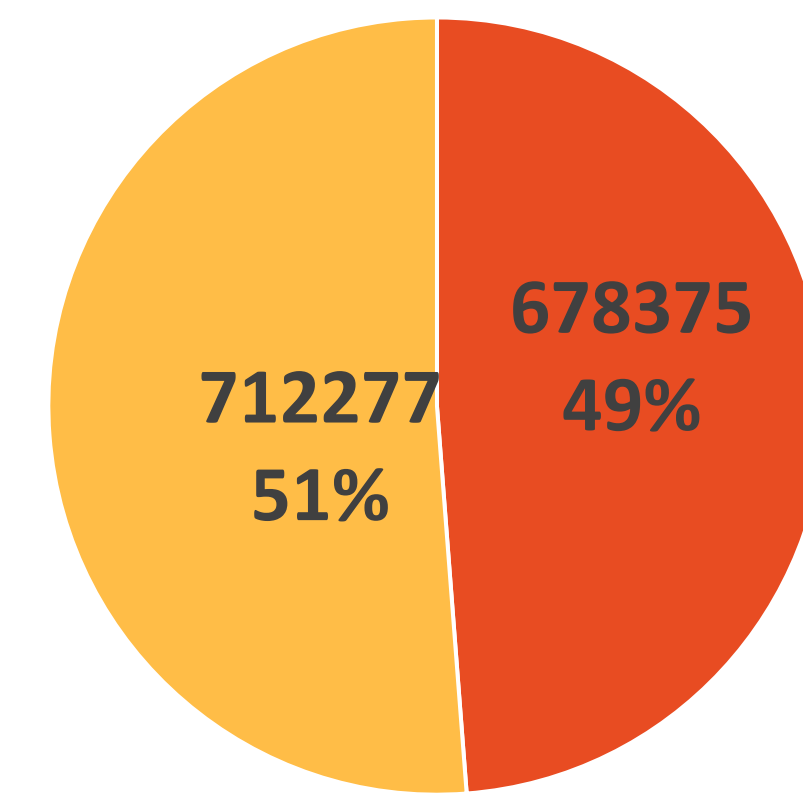
### Statistical analysis

- Sex-specific studies analysed
- Combined data from all studies into 1 dataset
- Cox regression with follow-up time since study entry as the time scale
- Models stratified by age in years, year of questionnaire return, and center (for EPIC).
- Models adjusted for race and ethnicity, education, smoking habits, body mass index, physical activity, energy intake

### Funding

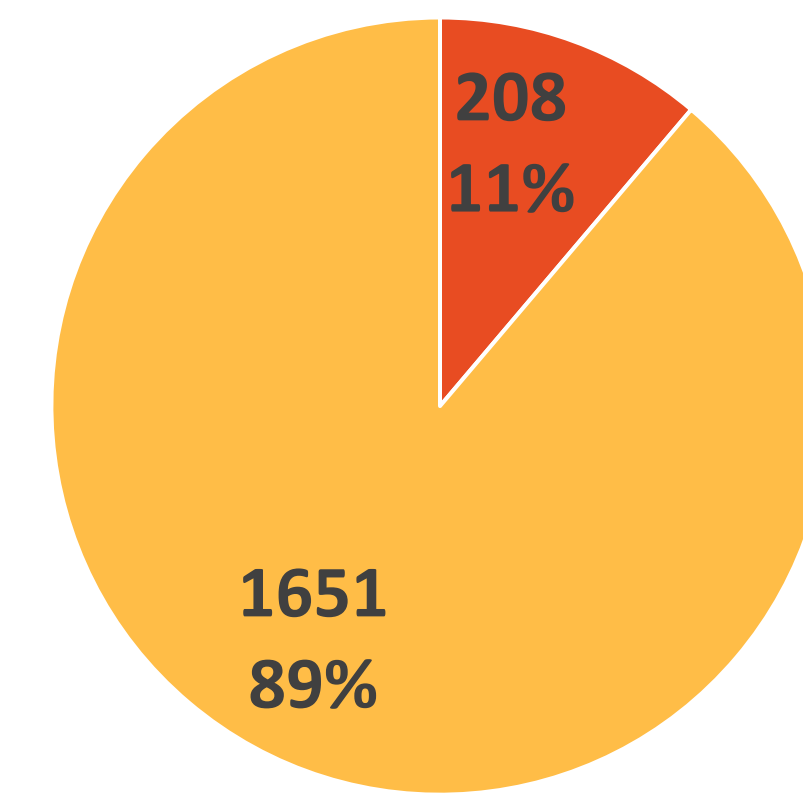
- WCRF, IIG\_FULL\_2022\_011 (PI: Jayasekara)

## Total Population



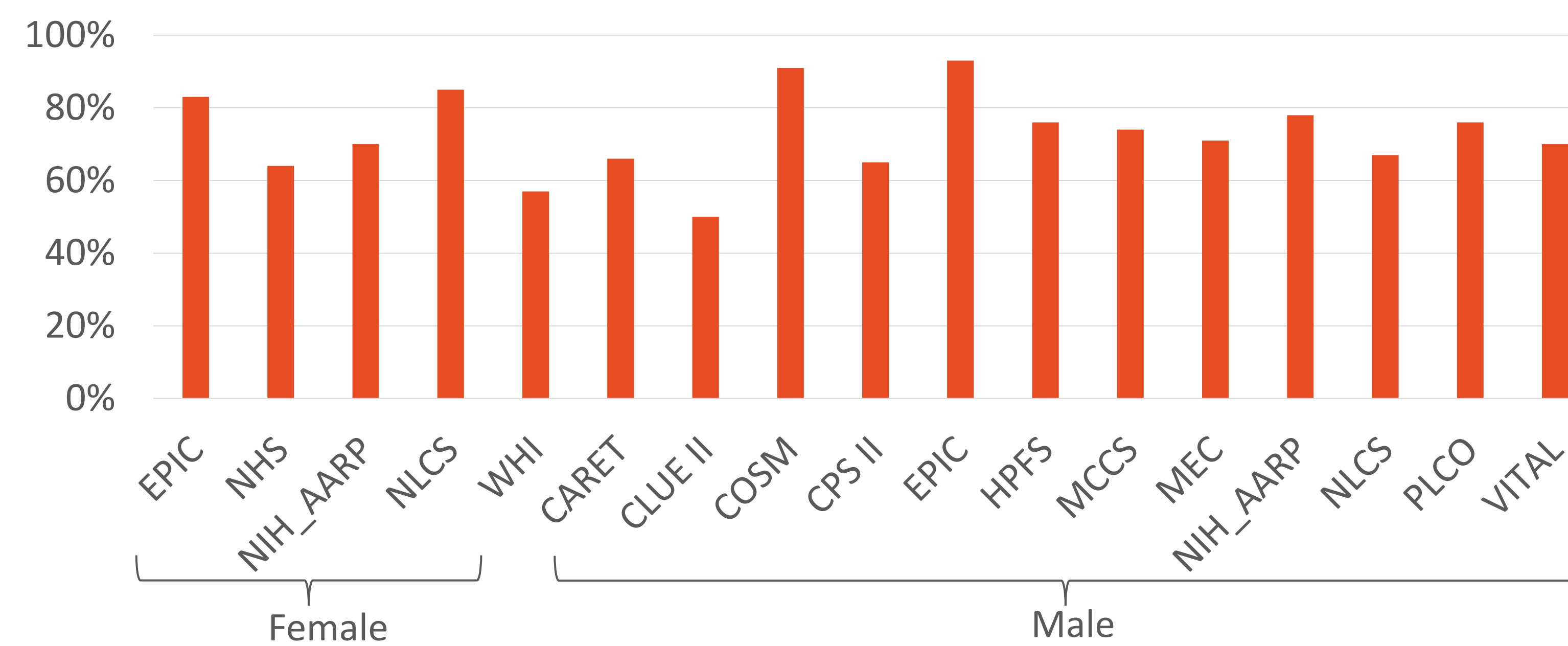
Female Male

## EAC Cases

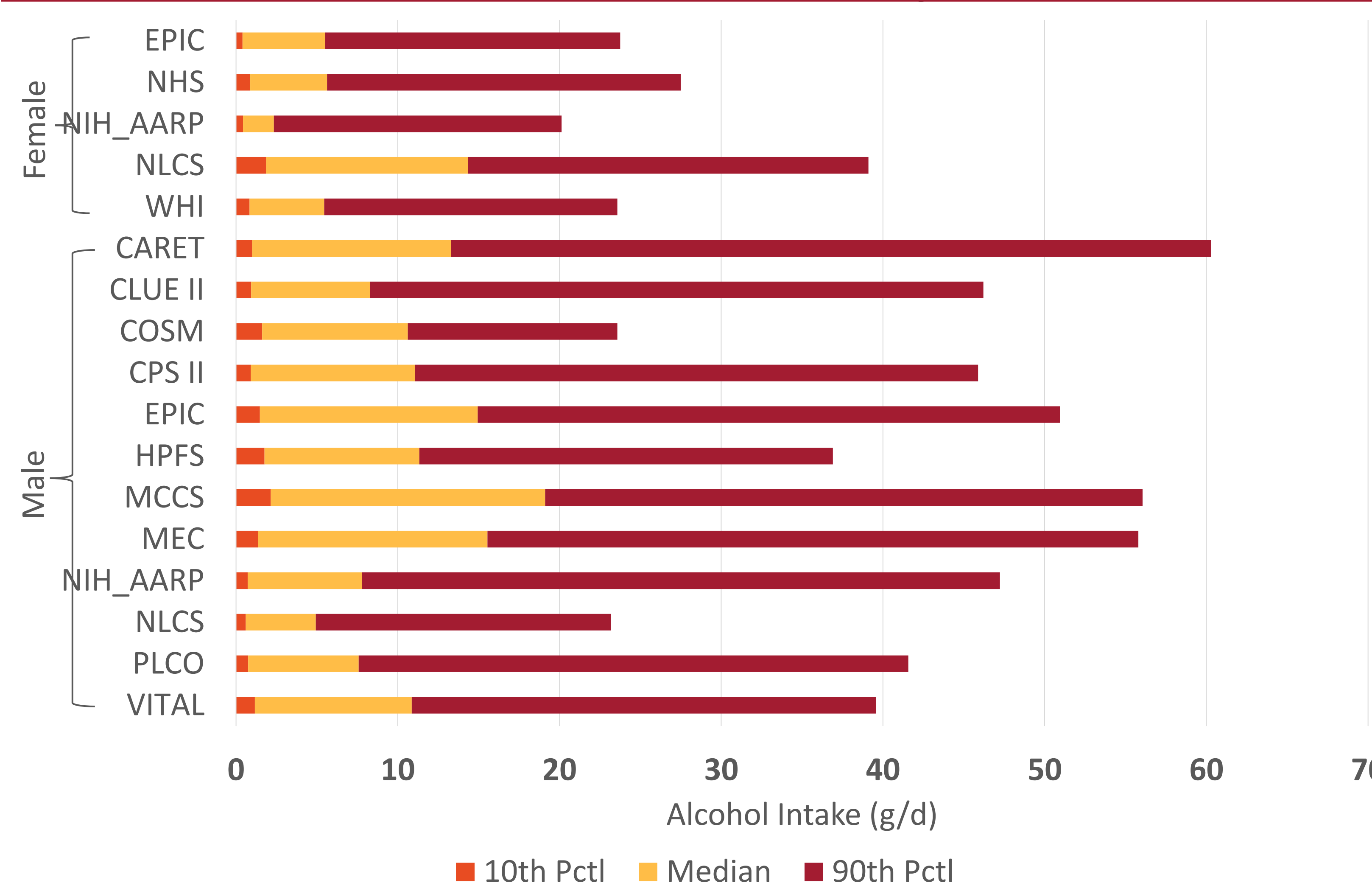


Female Male

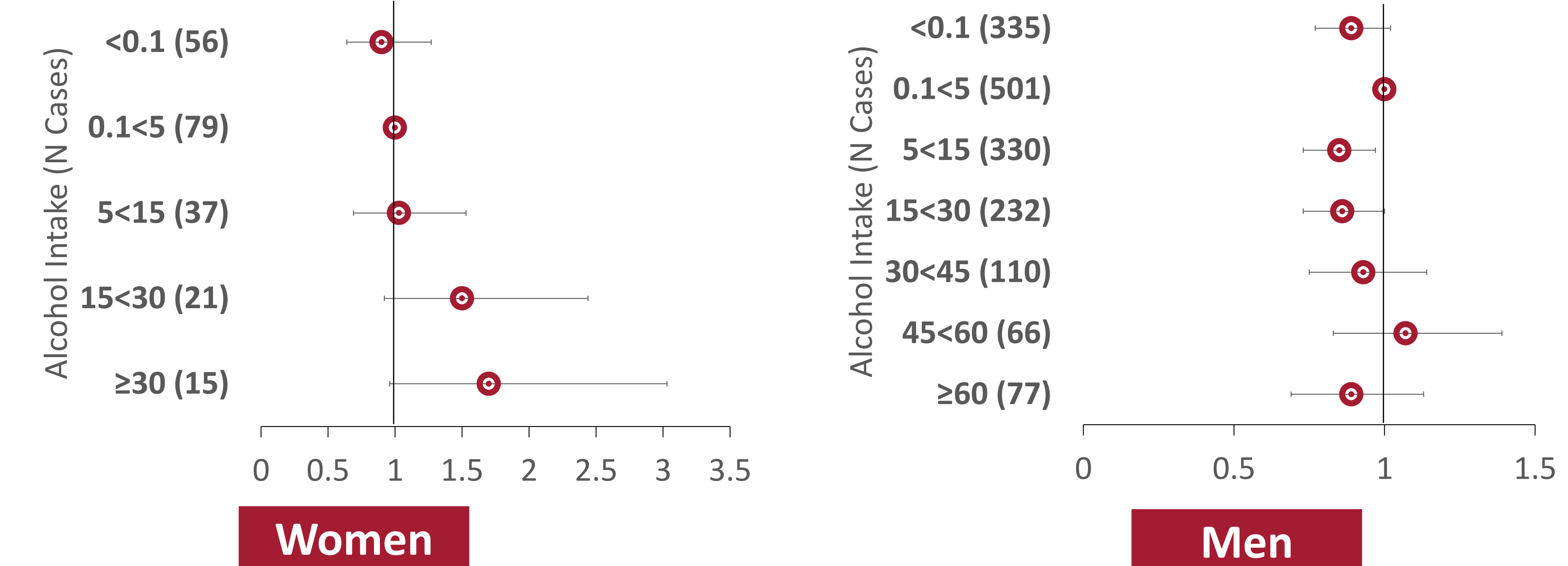
## Percent of Alcohol Drinkers by Study



## Alcohol Intake in Drinkers by Study



## MV HR & 95% CI for Alcohol Categories & EAC Risk



## MV HR & 95% CI for Alcohol Intake Overall & from Specific Beverages & EAC Risk (10 g/day Increment)

	Men HR (95% CI)	Women HR (95% CI)
<b>Total Alcohol</b>	1.00 (0.98 – 1.02)	1.09 (1.00 – 1.18)
<b>Alcohol from Beer</b>	1.00 (0.97 – 1.04)	1.16 (1.00 – 1.35)
<b>Alcohol from Wine</b>	1.00 (0.94 – 1.06)	1.07 (0.88 – 1.30)
<b>Alcohol from Liquor</b>	1.00 (0.96 – 1.03)	1.08 (0.98 – 1.19)

## MV HR & 95% CI for Alcohol Intake Overall & from Specific Beverages & EAC Risk by Smoking Status (10 g/day inc.)

Smoking Status	Men		Women	
	N cases	HR (95% CI)	N cases	HR (95% CI)
<b>Never Smokers</b>	303	0.97 (0.90 - 1.04)	70	1.20 (1.05 - 1.36)
<b>Past Smokers</b>	985	1.01 (0.98 - 1.04)	84	1.04 (0.89 - 1.22)
<b>Current Smokers</b>	321	1.00 (0.95 - 1.05)	48	1.12 (0.98 - 1.27)

## Results and Conclusions

- Among nearly 1.4 million participants in 14 cohorts, 1,859 EAC cases documented during follow-up.
- Higher alcohol intake not associated with higher EAC risk in men overall and in smoking-defined subgroups.
- In women, the positive association observed and the stronger suggestive association in never smokers are based on small numbers and may be due to chance.

Happy to Connect!

