

Disparities in never-smoking lung cancer risk across Asian American, Native Hawaiian, and Pacific Islander females groups within a multilevel integrated dataset of EHR and cancer registry data

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Background

- For Asian American, Native Hawaiian and Pacific Islander (AANHPI) females, lung cancer is one of the most common cancers and the leading cause of cancer death.
- Incidence of lung cancer among never smokers by detailed AANHPI race/ethnicity is not available.
- We assembled a large-scale cohort to quantify the burden of lung cancer by smoking status among single- and multi-ethnic AANHPI groups that includes electronic health record (EHR) data and cancer registry data.
- We compared the distribution of tumor characteristics of lung cancer cases by detailed race/ethnicity and smoking status and calculated the incidence of lung cancer by smoking status among AANHPI females.

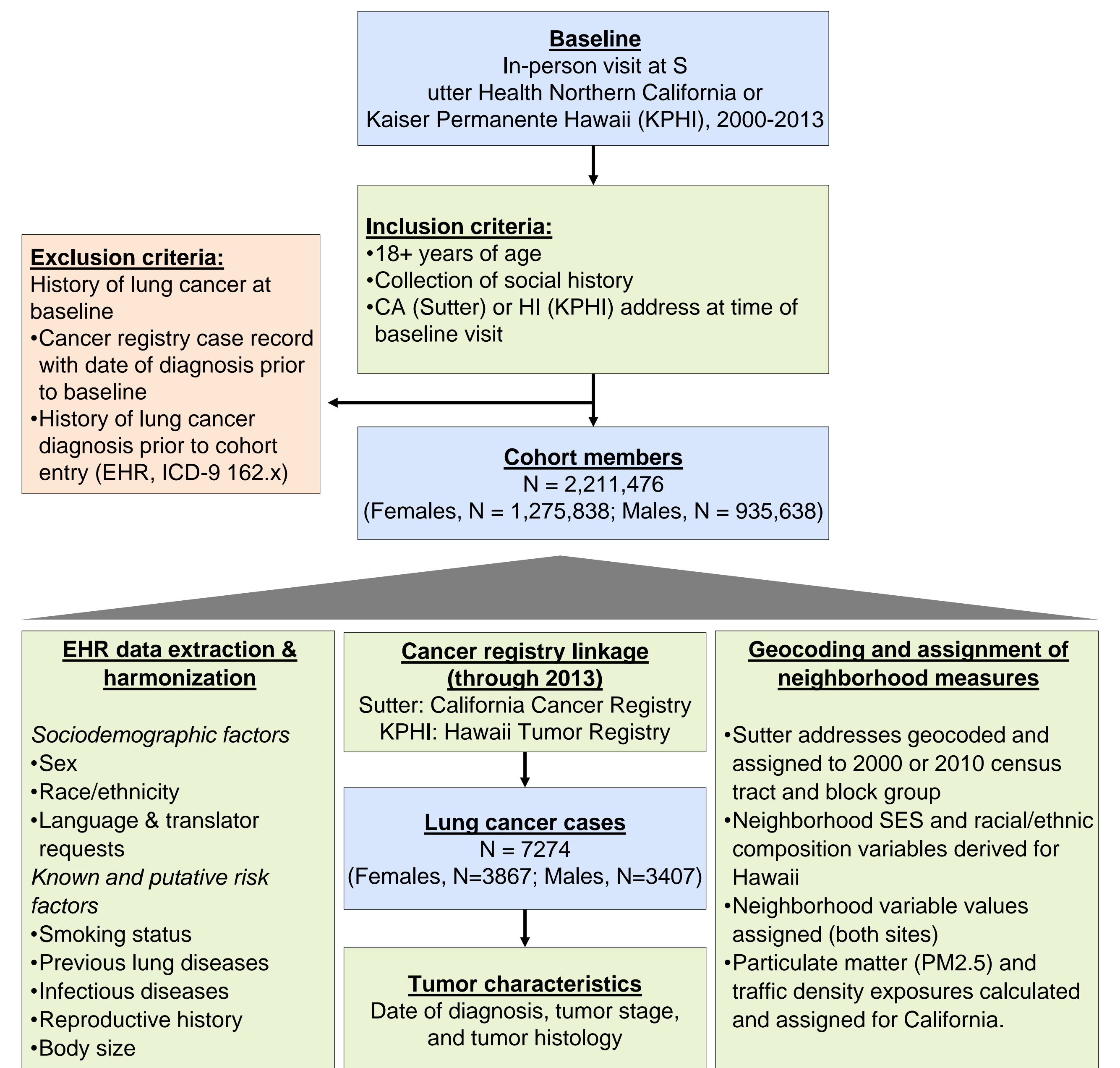
Methods and Results

- We calculated age-adjusted incidence rates (AAIRs) for incident lung cancer according to smoking status among females by detailed race/ethnicity.
- The full cohort comprises over 2.2 million individuals (250,000 AANHPI females) followed up to 14 years for incident lung cancer.
- The cohort includes over 7,000 incident lung cancer cases (613 AANHPI females).
- Among AANHPI female groups, proportions of lung cancers among never-smokers range from 25% among Native Hawaiian to 80% among Chinese females.
- Incidence rates of never-smoking lung cancer are highest among Chinese females (AAIR, 22.8) and Asian females reporting multiple races/ethnicities (AAIR, 22.2).

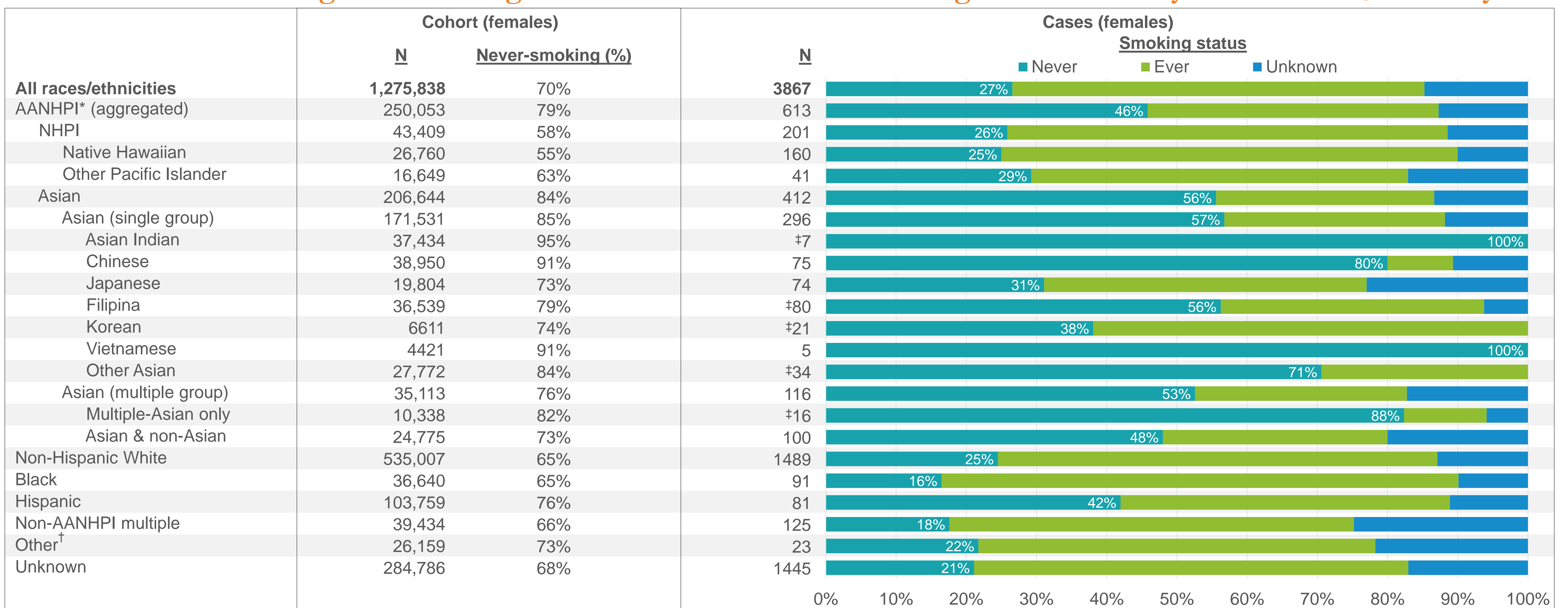
Conclusions

- We have assembled a large, integrated dataset that will serve as a critical evidence base to inform screening, research, and public health priorities, especially among AANHPI females.
- Ongoing work will include longitudinal analyses of lung cancer risk among never-smoking AANHPI females, including absolute risk modeling, examining six exposure domains representing known and putative lung cancer risk factors (i.e. smoking, previous lung diseases, infections, hormone exposure, body size, and neighborhood factors).

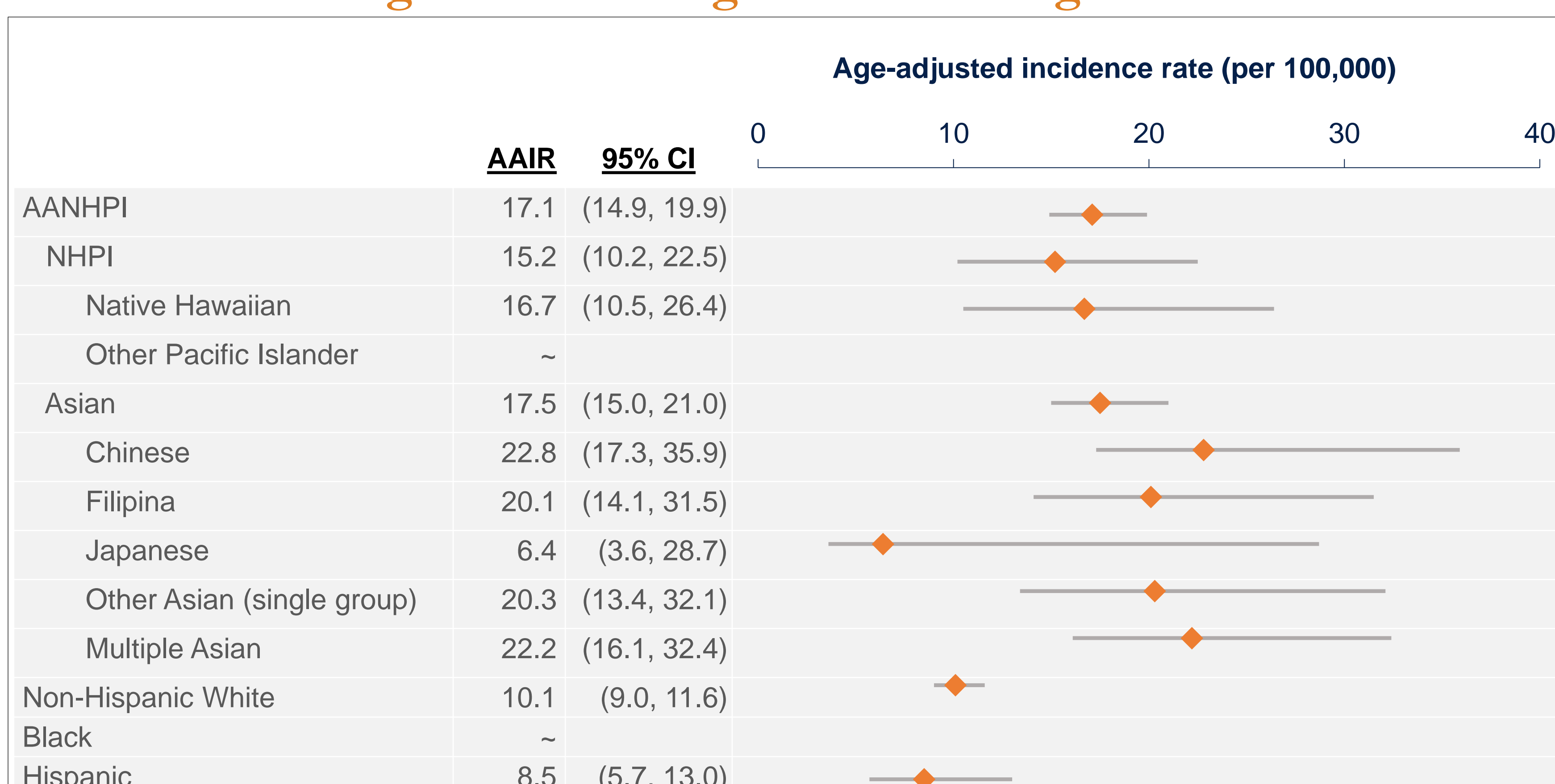
Cohort definition and multilevel data integration



Distribution of smoking status among female cohort members and lung cancer cases by detailed race/ethnicity



Incidence of lung cancer among never-smoking females



* AANHPI: Asian American, Native Hawaiian, and Pacific Islander; NHPI, Native Hawaiian and/or Other Pacific Islander.
[†] Other includes American Indians and Alaska Natives.
[‡] For Asian Indian, Filipina, Korean, Other Asian, and Multiple-Asian only, actual proportions not shown due to low numbers.
 ~ Not able to calculate due to low numbers.

The highest incidence rates of never-smoking lung cancer are among groups of Asian American, Native Hawaiian and Pacific Islander females