

UCSF

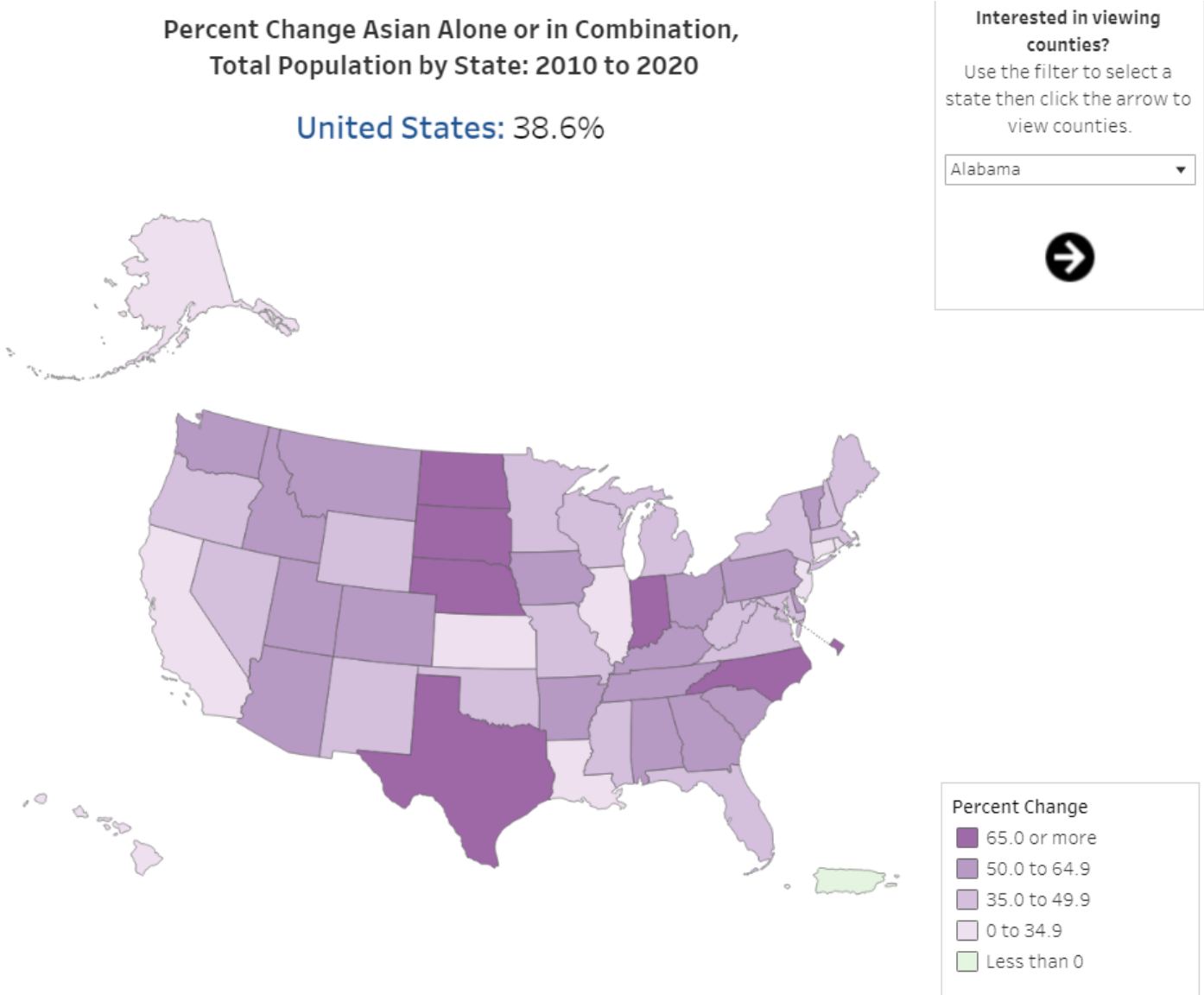
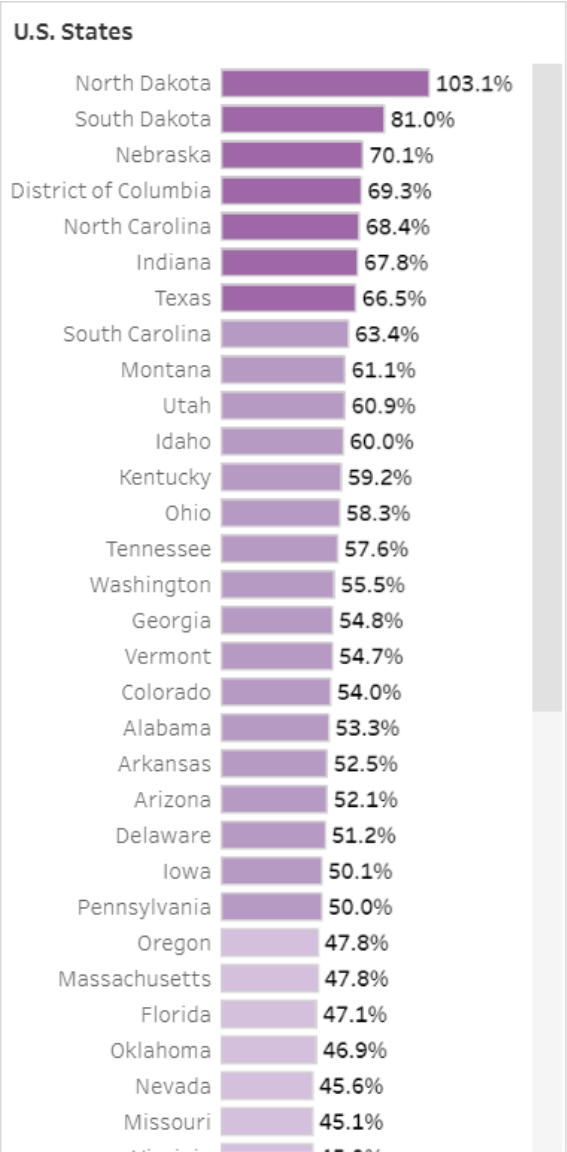
AAPI  
HERITAGE MONTH

# Emerging Cancer Health Disparities in Asian Americans

Scarlett Gomez, PhD, MPH

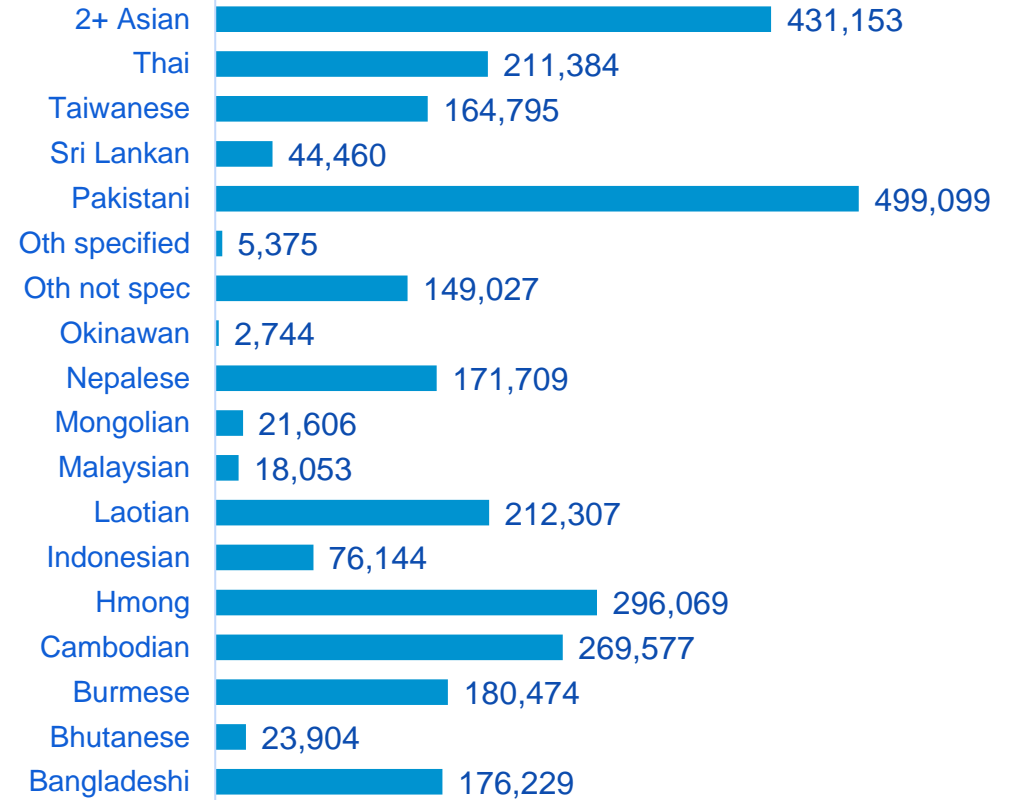
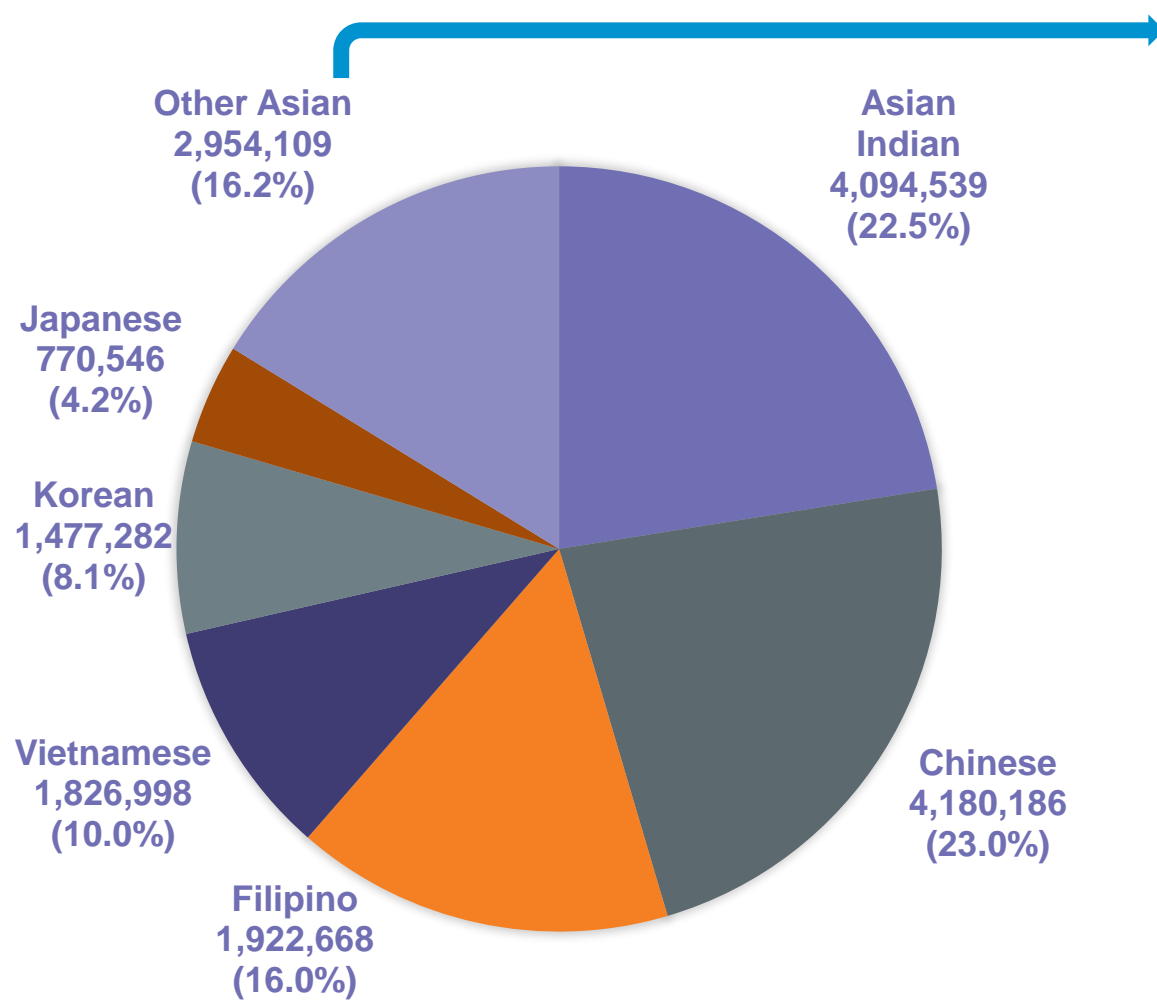


# Asians are the most rapidly growing racial/ethnic group in the US



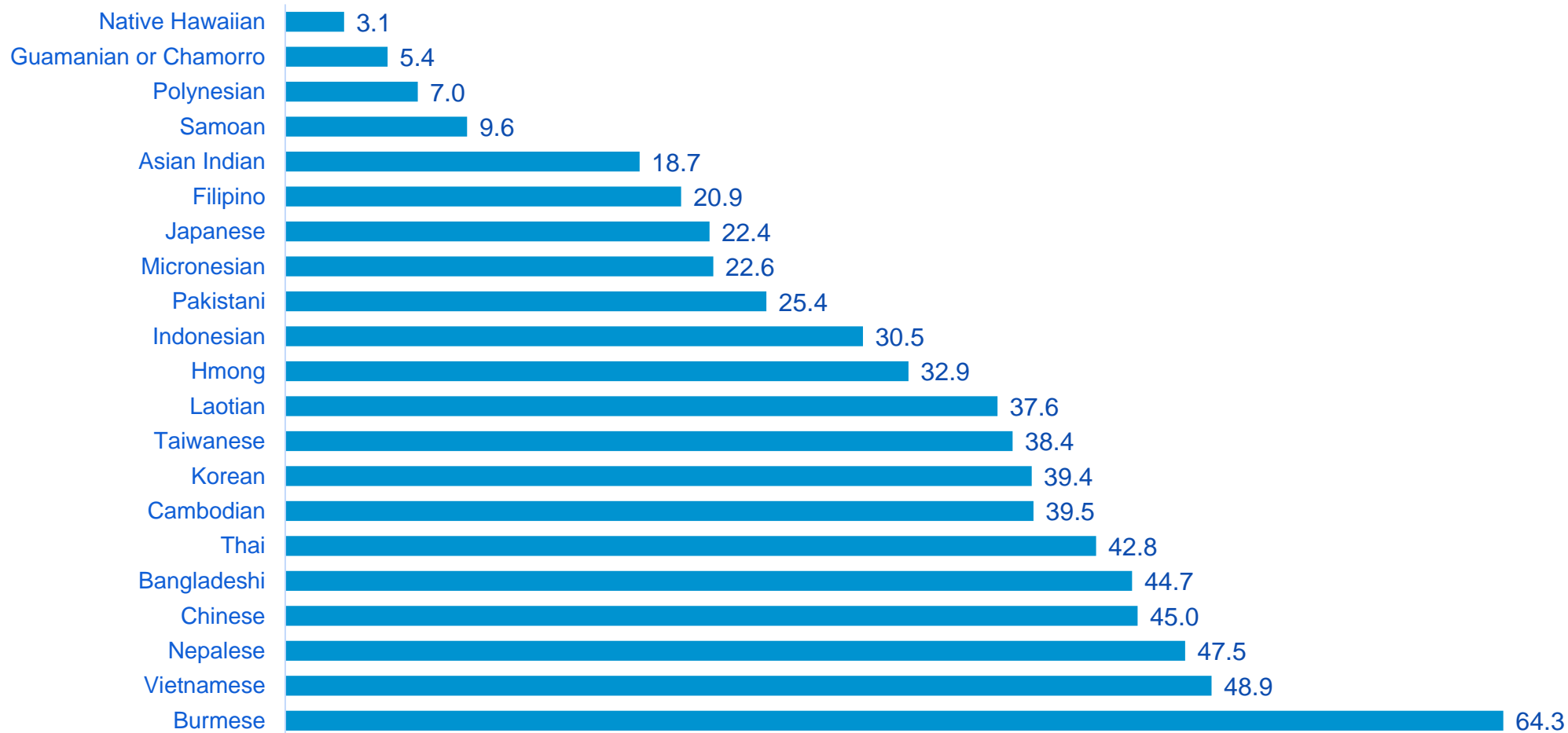


# Ethnicity and national origin of the Asian American population, US, 2017



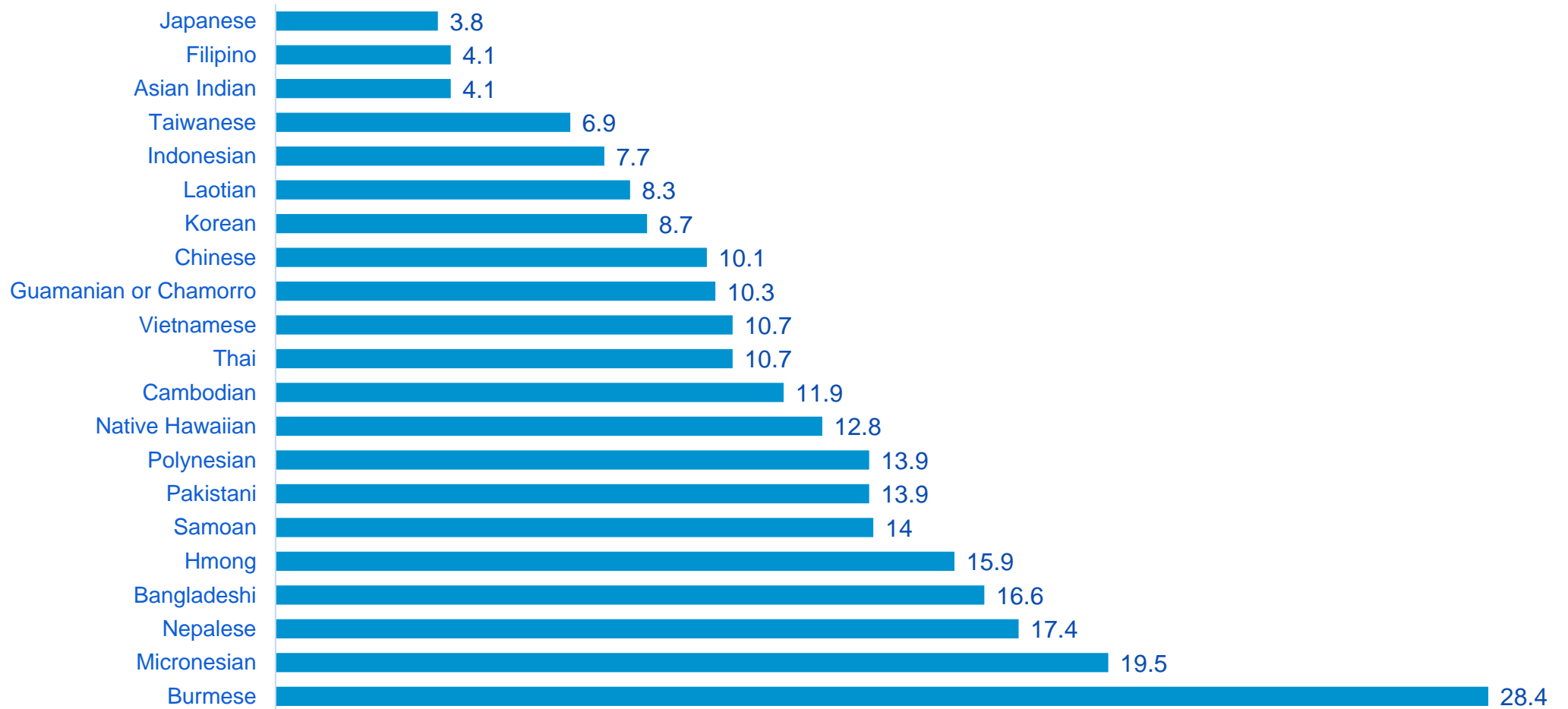
**Origins from more than 30 countries, 100 languages**

# % who speak English less than very well, by AAPI ethnicity, US, 2017



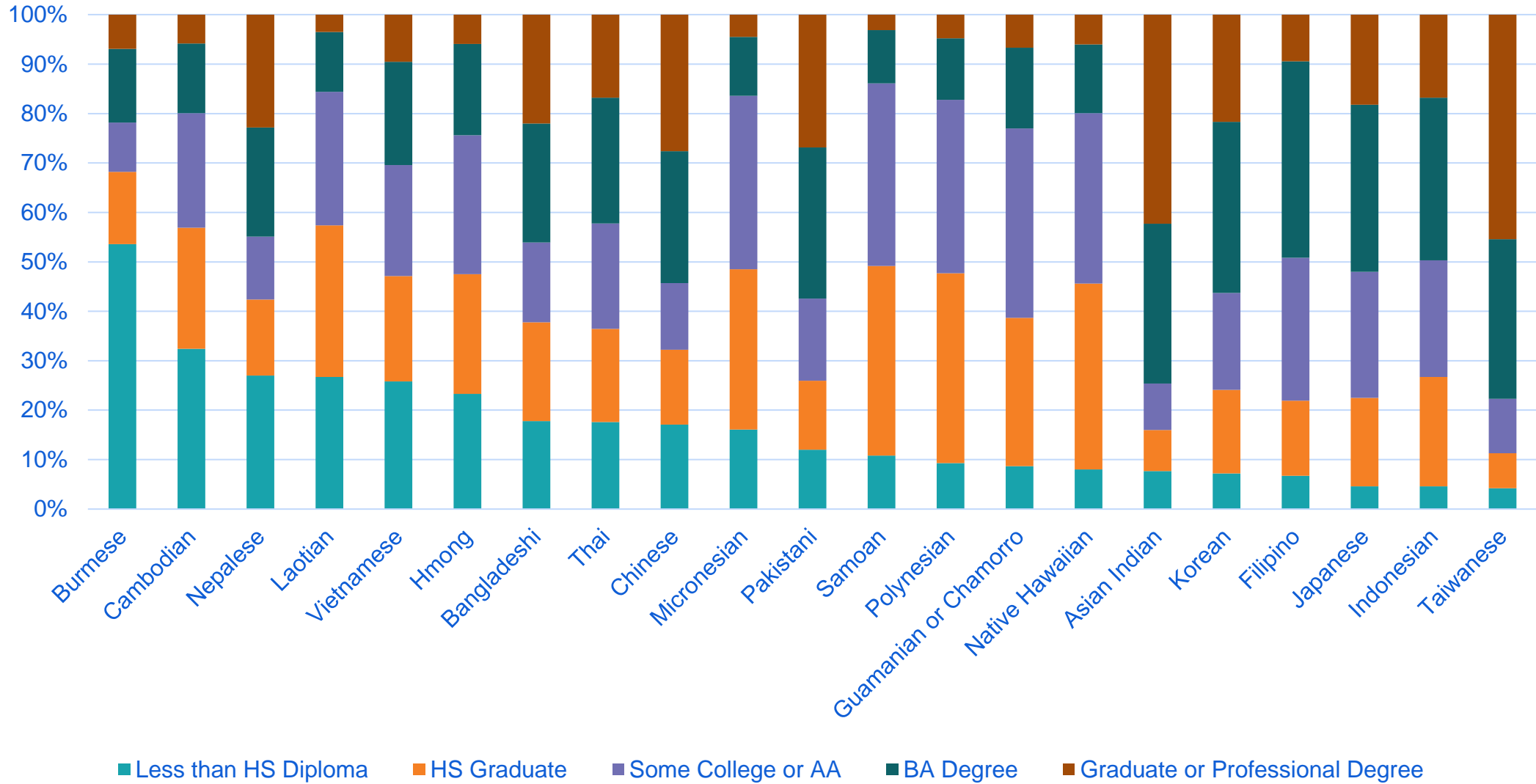
From AAPI Data, based on ACS 2017 1 year file

# % in poverty, by AAPI ethnicity, US, 2017



From AAPI Data, based on ACS 2017 1 year file

# Highest educational attainment, by AAPI ethnicity, US, 2017

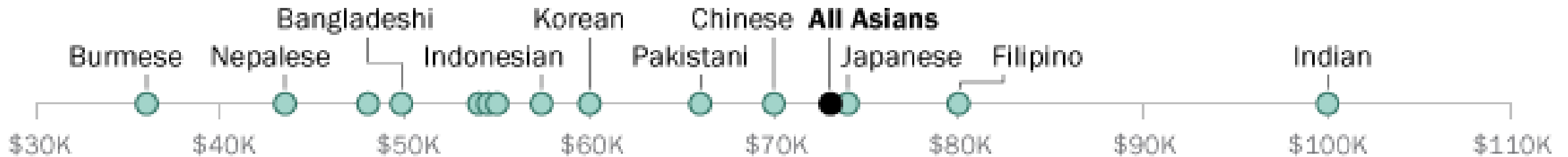


From AAPI Data, based on ACS 2017 1 year file

# Asian Americans have the largest income spread

## U.S. Asians have a wide range of income levels

*Median annual household income, 2015*



These two groups also have the highest and lowest income of entire U.S. population



# Unique & heterogeneous cancer patterns

# Cancer Disparities: Unique & Unequal Patterns

- Cancer: Leading cause of mortality for 4 decades (in most Asian American populations)
  - Among the highest incidence in the world for cancers of infectious origin
    - Liver (Southeast Asians)
    - Gastric (Koreans)
    - Cervical (Vietnamese)
  - Higher incidence relative to other populations: NPC, never smoker lung cancer, thyroid
  - Rapidly increasing incidence trends: breast, uterine, thyroid cancers
  - Low cancer screening rates
  - Unique healthcare access barriers
-

# Lung cancer

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# Lung cancer is a leading cause of cancer mortality among AA populations

Rank (based on age-adj mortality rate) & % (of all cancer deaths) of top 5 cancer sites, 1990-2008

<b>Male</b>						
<b>(rank)</b>	<b>Asian Indian</b>	<b>Chinese</b>	<b>Filipino</b>	<b>Japanese</b>	<b>Korean</b>	<b>Vietnamese</b>
1	Lung 19.0%	Lung 28.13%	Lung 30.7%	Lung 23.9%	Lung 22.8%	Lung 28.1%
2	Colorectal 8.3%	Liver 11.7%	Colorectal 10.8%	Colorectal 13.1%	Stomach 14.6%	Liver 22.3%
3	Prostate 8.1%	Colorectal 10.4%	Prostate 8.9%	Prostate 8.9%	Liver 12.9%	Colorectal 7.9%
4	Pancreas 7.0%	Stomach 6.5%	Liver 7.6%	Stomach 8.8%	Colorectal 11.0%	Stomach 6.5%
5	Leukemia 6.3%	Pancreas 5.9%	Pancreas 5.7%	Pancreas 8.4%	Pancreas 7.4%	Pancreas 4.4%
<b>Female</b>						
<b>(rank)</b>	<b>Asian Indian</b>	<b>Chinese</b>	<b>Filipino</b>	<b>Japanese</b>	<b>Korean</b>	<b>Vietnamese</b>
1	Breast 19.8%	Lung 22.2%	Breast 19.5%	Lung 21.4%	Lung 18.5%	Lung 21.7%
2	Ovary 9.7%	Breast 11.8%	Lung 18.1%	Colorectal 12.9%	Stomach 11.6%	Breast 10.3%
3	Lung 9.3%	Colorectal 11.9%	Colorectal 9.0%	Breast 10.7%	Colorectal 11.4%	Colorectal 9.6%
4	Colorectal 6.8%	Pancreas 7.2%	Pancreas 6.7%	Pancreas 9.6%	Pancreas 8.2%	Liver 9.3%
5	Pancreas 5.9%	Stomach 5.4%	Ovary 6.0%	Stomach 6.5%	Liver 7.2%	Stomach 6.3%

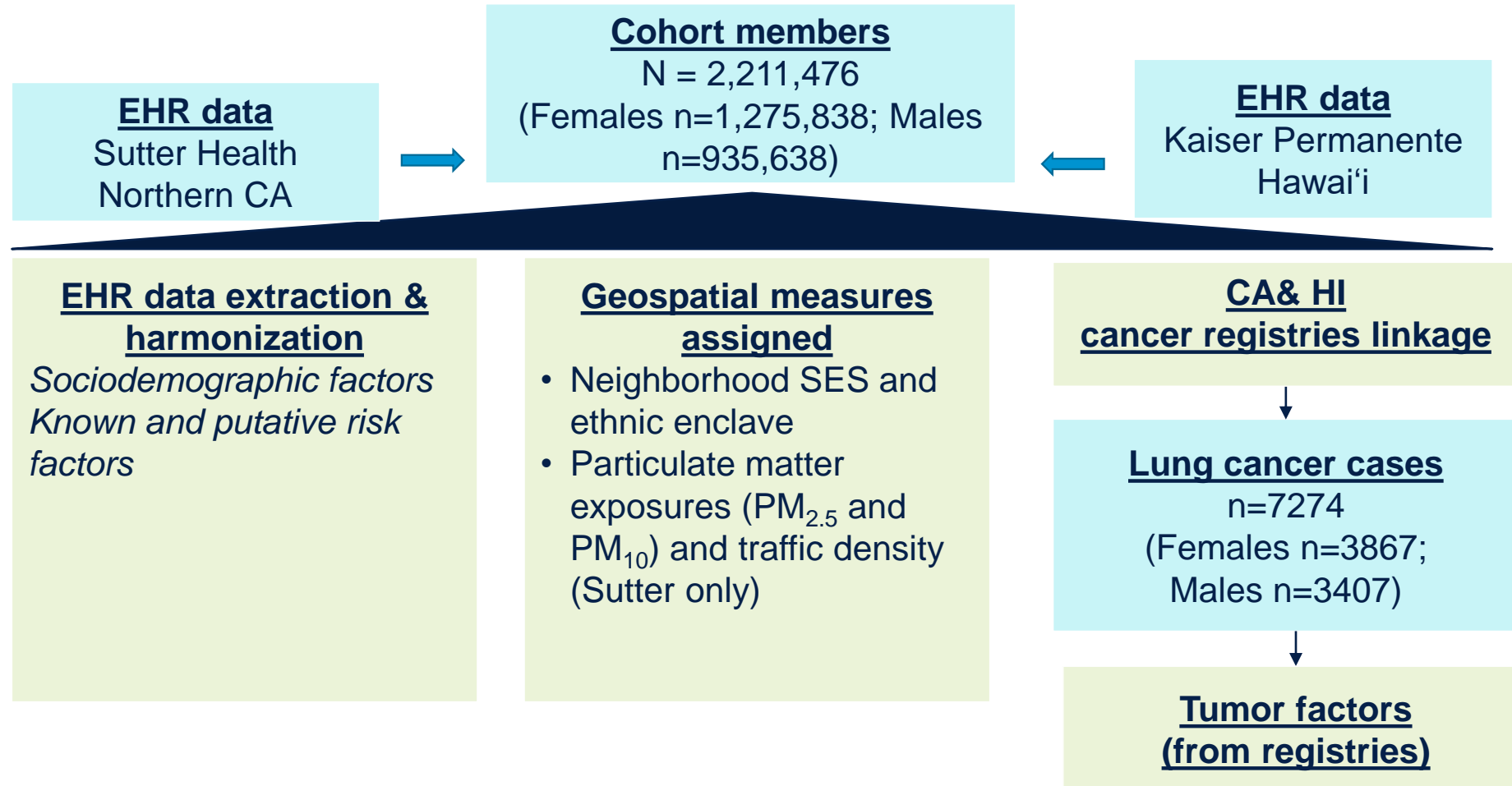
Thompson CA, et al. The burden of cancer among Asian Americans: a report of national mortality trends by Asian ethnicity CEBP 2016

# Integrating Electronic Health Record, Cancer Registry, and Geospatial Data to Study Lung Cancer in Asian American, Native Hawaiian, and Pacific Islander Ethnic Groups

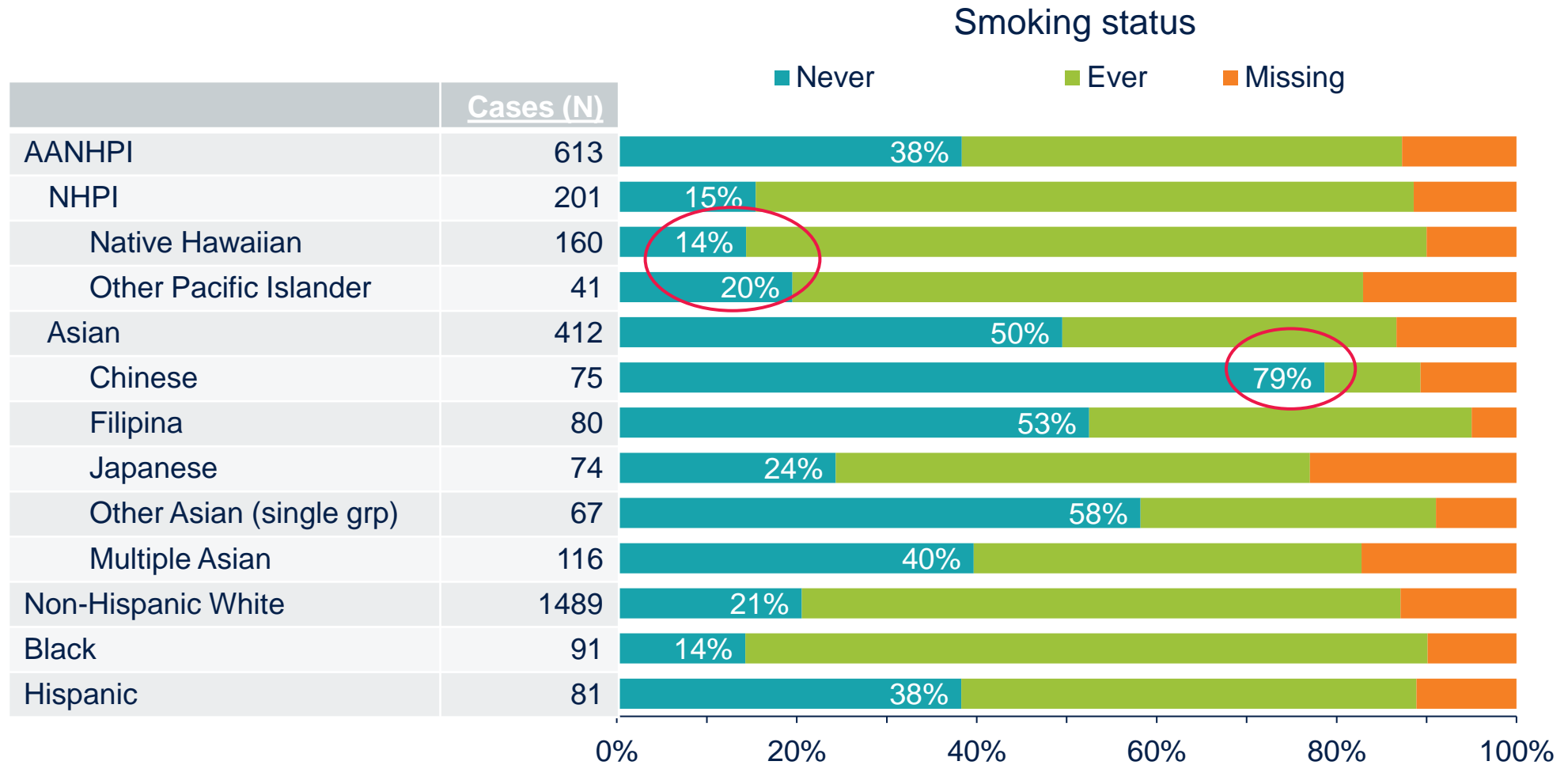
Mindy C. DeRouen<sup>1,2</sup>, Caroline A. Thompson<sup>3,4,5</sup>, Alison J. Canchola<sup>1,6</sup>, Anqi Jin<sup>5</sup>, Sixiang Nie<sup>7</sup>, Carmen Wong<sup>7</sup>, Jennifer Jain<sup>1</sup>, Daphne Y. Lichtensztajn<sup>1,6</sup>, Yuqing Li<sup>1</sup>, Laura Allen<sup>1</sup>, Manali I. Patel<sup>8,9</sup>, Yihe G. Daida<sup>7</sup>, Harold S. Luft<sup>5</sup>, Salma Shariff-Marco<sup>1,2,6</sup>, Peggy Reynolds<sup>1,2</sup>, Heather A. Wakelee<sup>8</sup>, Su-Ying Liang<sup>5</sup>, Beth E. Waitzfelder<sup>7</sup>, Iona Cheng<sup>1,2,6</sup>, and Scarlett L. Gomez<sup>1,2,6</sup>

August 2021

# A multilevel, integrative approach



# Cohort description – Female lung cancer cases (n=3867)



OXFORD






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Article

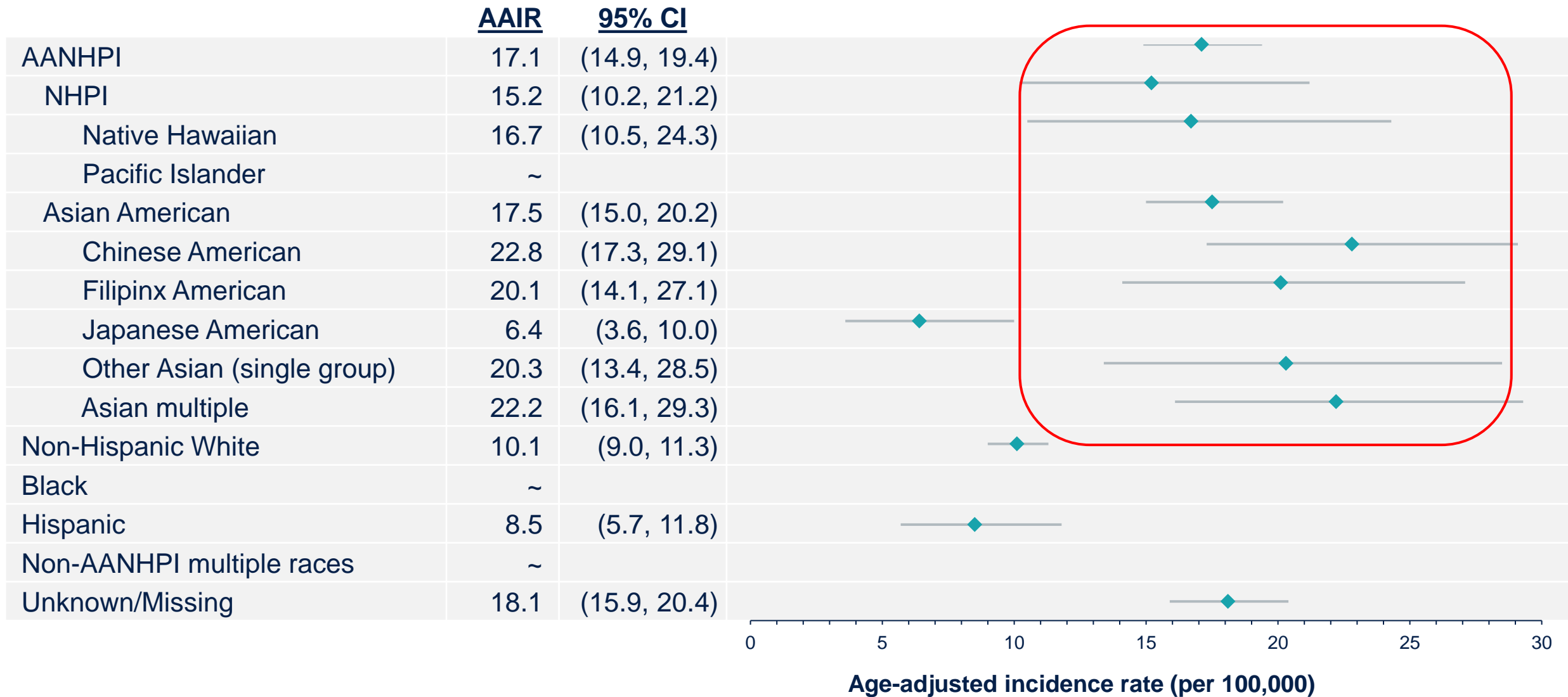
## Incidence of Lung Cancer Among Never-Smoking Asian American, Native Hawaiian, and Pacific Islander Females

Mindy C. DeRouen, PhD, MPH,<sup>1,2,\*</sup> Alison J. Canchola, MS,<sup>1,3</sup> Caroline A. Thompson , PhD, MPH,<sup>4,5,6</sup> Anqi Jin, PhD,<sup>6</sup> Sixiang Nie, MS,<sup>7</sup> Carmen Wong, MBA,<sup>7</sup> Daphne Lichtensztajn , MD, MPH,<sup>1,3</sup> Laura Allen, BA,<sup>1</sup> Manali I. Patel, MD, MPH,<sup>8</sup> Yihe G. Daida , PhD, MS,<sup>7</sup> Harold S. Luft , PhD,<sup>6</sup> Salma Shariff-Marco, PhD, MPH,<sup>1,2,3</sup> Peggy Reynolds, PhD, MPH,<sup>1,2</sup> Heather A. Wakelee , MD,<sup>9</sup> Su-Ying Liang, PhD,<sup>6</sup> Beth E. Waitzfelder, PhD,<sup>7</sup> Iona Cheng, PhD, MPH,<sup>1,2,3,†</sup> Scarlett L. Gomez, PhD, MPH<sup>1,2,3,†</sup>

January 2022



# Incidence rates of lung cancer among females, who never smoke by race/ethnicity



# Elucidating lung cancer etiology among Asian American females, who never smoked



- Identify the attributable risk of known, putative, and suspected multi-level risk factors for lung cancer among Asian American females, who never smoked
  - a) genetic ancestry
  - b) individual-level exposures
  - c) contextual-level risk factors including the social environment and indoor and outdoor air pollution
- Characterize mutational landscape of lung tumors & identify associated multi-level risk factors

Funded by National Institute of Minority Health and Health Disparities

# Study design: population-based case-control study

- 600 lung cancer cases
  - All Asian American ethnic groups (including multiple race), female, never smoker
  - Ages 21-90 at diagnosis
  - Diagnosed in past 18 months, no other history of cancer
  - Residence of Greater Bay Area counties, LA, Orange, San Diego, Sacramento
  - Next-of-kin interviews available
- 600 matched (age group, Asian ethnicity) controls
  - All Asian American ethnic groups (including multiple race), female, never smoker
  - Ages 21-90 at recruitment
  - No history of cancer
  - Residence of Greater Bay Area counties, LA, Orange, San Diego, Sacramento

## What does participation involve?

- Complete epidemiologic survey (30-45 min)
  - Online, by phone, by paper
  - English, Mandarin, Cantonese, Vietnamese, Tagalog, Korean
- Provide saliva sample
- Provide authorization to access tumor tissue (lung cancer cases only)



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