



HPV Cancer Prevention Program

Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers

Beyond the Numbers

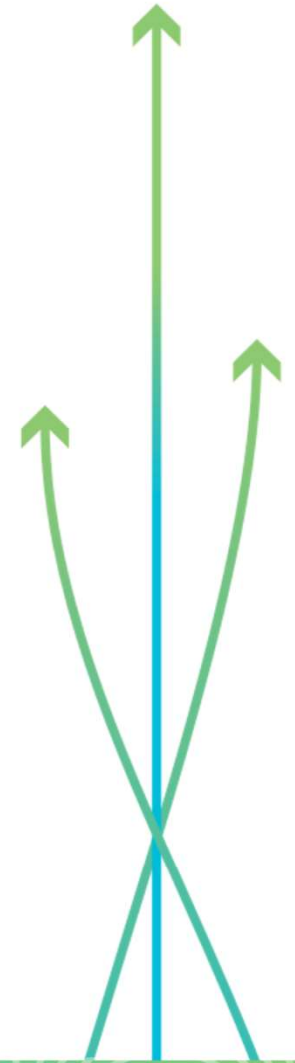
Understanding and Addressing HPV
Vaccination and HPV Cancer
Disparities among Asian Americans
and Pacific Islanders

May 14, 2024



Learning Objectives

- Review data showing inequities in HPV vaccination and/or HPV cancers
- Define Asian American and Pacific Islander (AAPI) subgroups and discuss the importance of data disaggregation
- Discuss evidence-based interventions for AAPI communities
- Apply best practices to address disparities improve HPV vaccination coverage improve among AAPI communities and discuss strategies to improve HPV vaccination coverage



Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers

Moderator

Julie HT Dang, PhD, MPH

Assistant Professor, Department of Public Health Sciences,
Division of Health Policy and Management, Executive
Director, Office of Community Outreach and Engagement,
UC Davis Comprehensive Cancer Center



stjude.org/hpv • [#EndHPVCancers](https://twitter.com/EndHPVCancers)

Presenters

Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers



**Angela Chia-Chen Chen, PhD,
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Education Michigan State
University College of Nursing



**Seok Won Jin, PhD,
MSW, MA,**
School of Social Work at
the University of Memphis



Anna Ogo,
Cervivor Ambassador and
Cervivor Japan Liaison



**Jaimie Z. Shing, PhD,
MPH,** Staff Scientist, US
National Cancer Institute



**Ha Ngan (Milkie) Vu, PhD,
MA,**
Assistant Professor,
Department of Preventive
Medicine, Feinberg School of
Medicine, Northwestern
University

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Data Visualization

Understanding and disaggregating the data to identify areas of opportunity to improve HPV vaccination coverage in AAPI communities.

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**HPV Cancer
Prevention
Program**

**Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers**

Disparities in HPV Vaccination and HPV-Related Cancers among Asian American and Pacific Islander Populations

**Jaimie Z. Shing, PhD, MPH
Staff Scientist, US National
Cancer Institute**



St. Jude Children's Research Hospital
HPV Cancer Prevention Program

Disparities in HPV Vaccination and HPV-Related Cancers among Asian American and Pacific Islander Populations

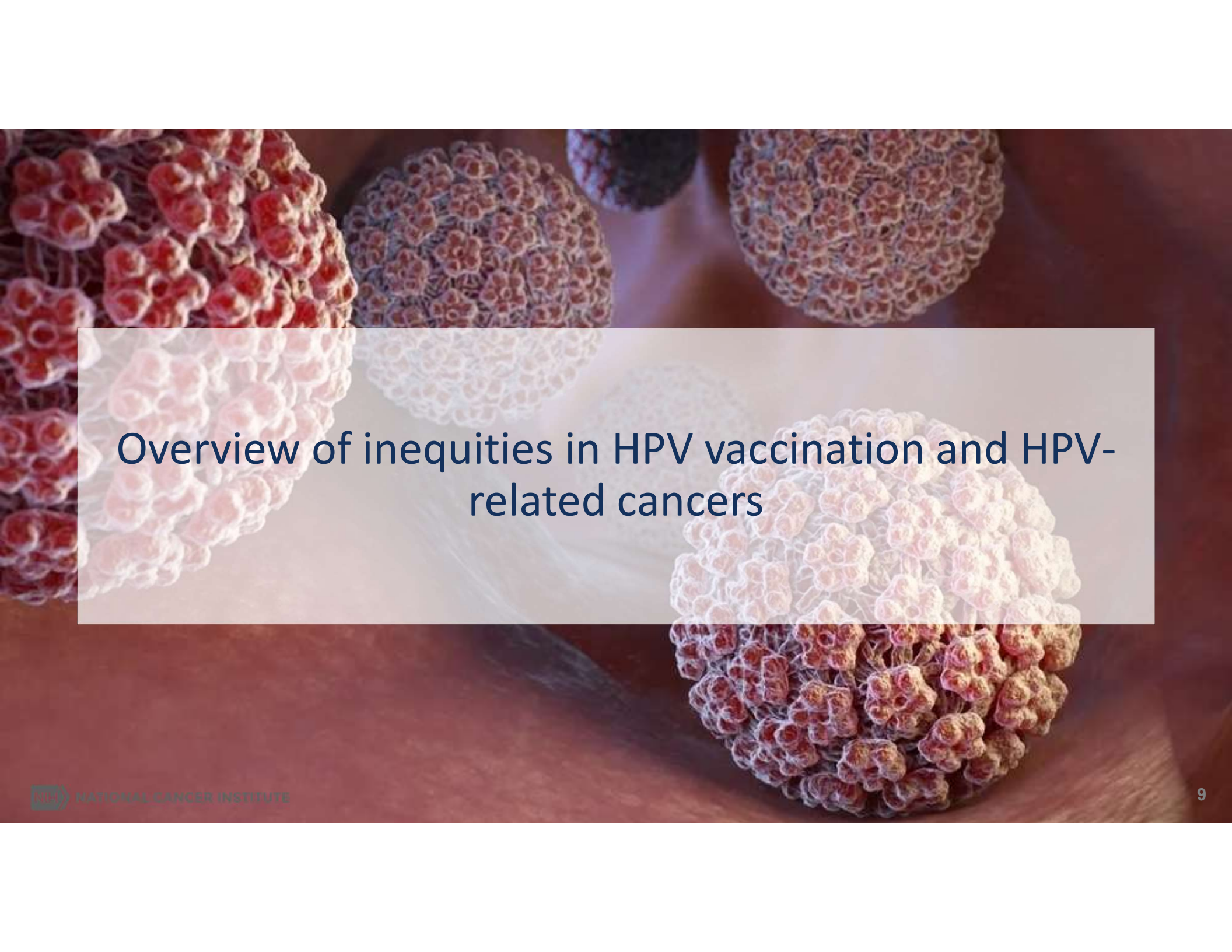
Jaimie Z. Shing, PhD, MPH
Staff Scientist
US National Cancer Institute



May 14, 2024

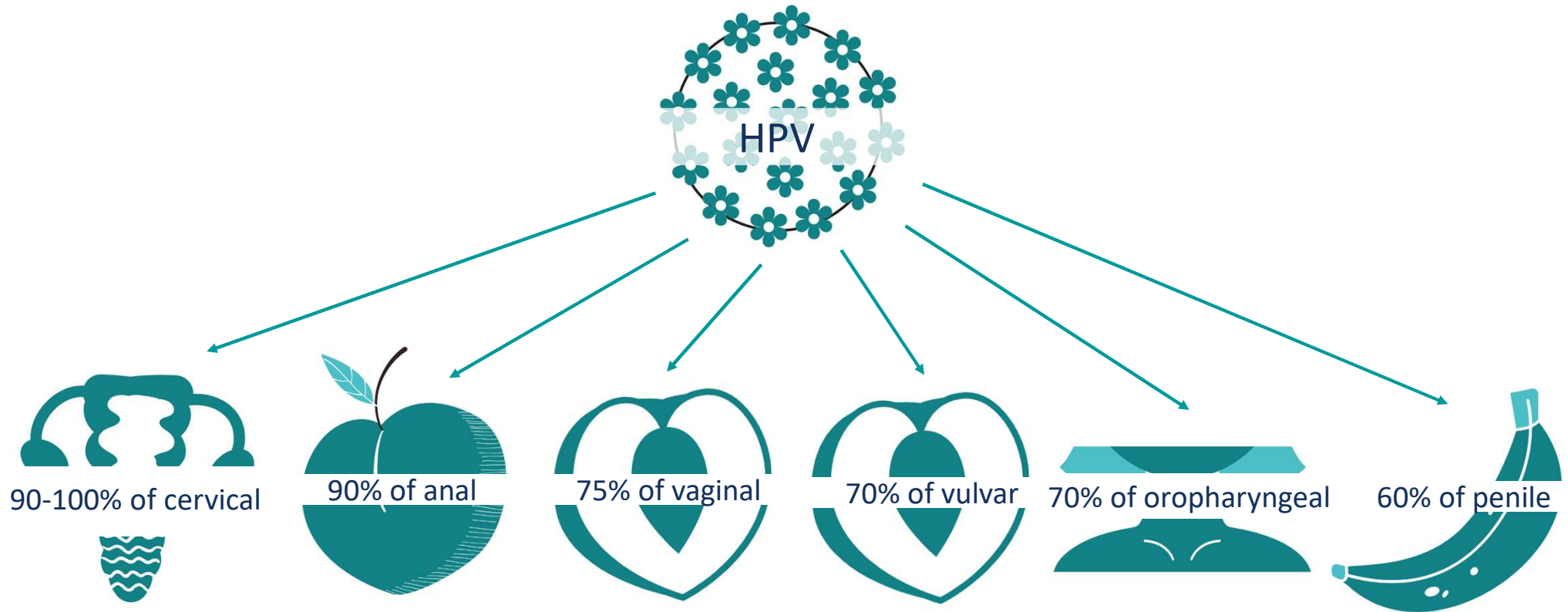


No disclosures



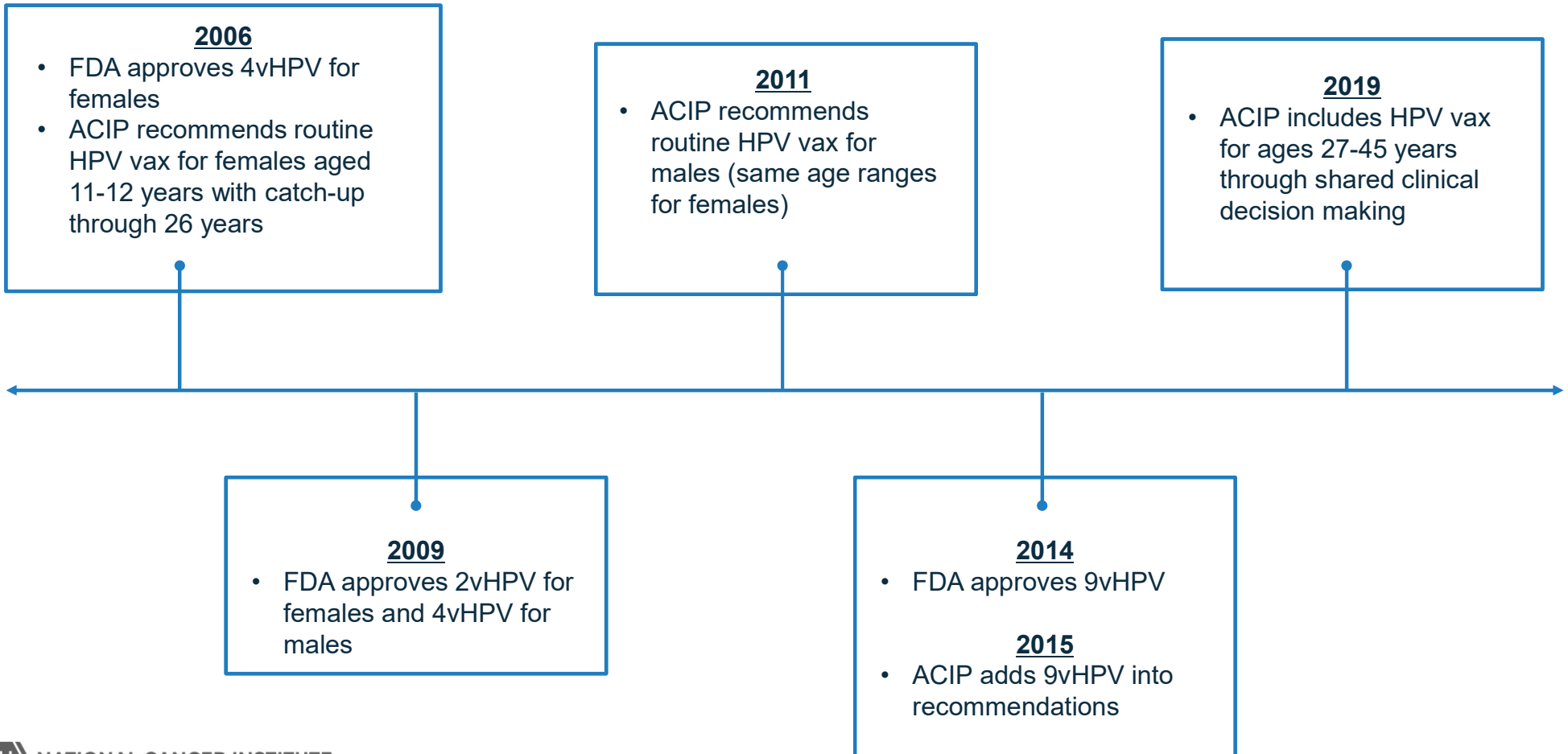
Overview of inequities in HPV vaccination and HPV-related cancers

Persistent HPV infection can cause cancers at multiple anatomic sites



Reference: Adapted from data in Viens et al., MMWR, 2016.

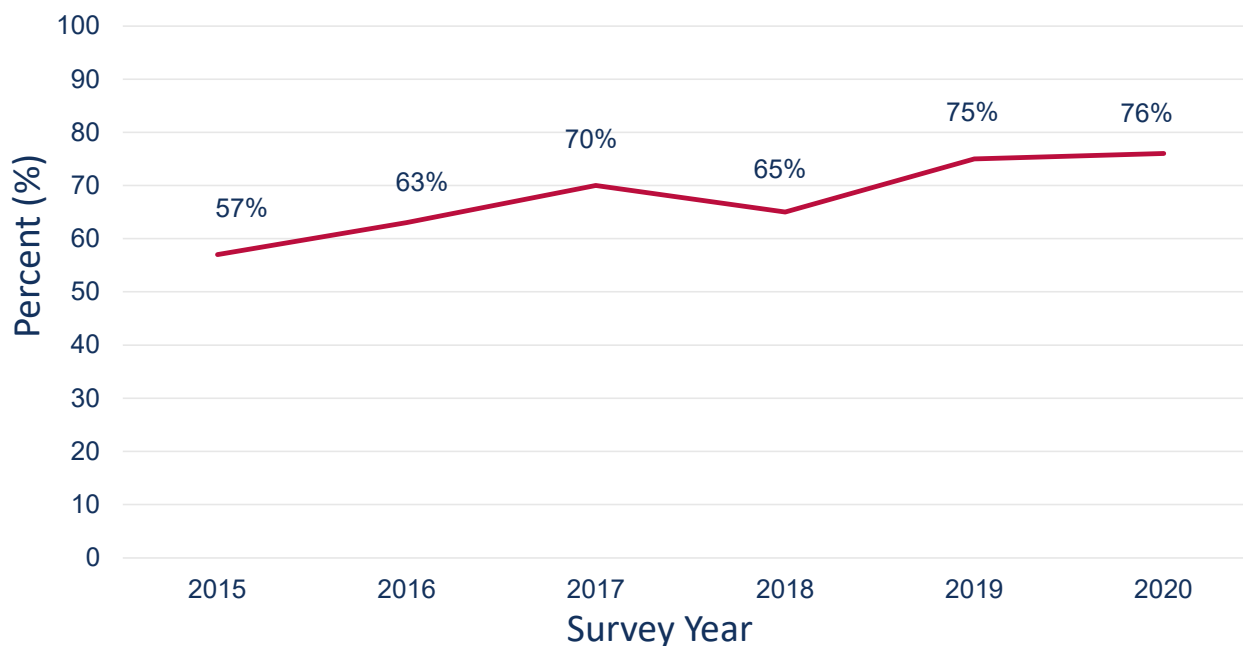
The HPV vaccine has been available in the United States since 2006



HPV vaccine initiation among Asian adolescents has improved but is still below the Healthy People 2030 target of 80%

Trends in HPV vaccine initiation (≥ 1 dose) among non-Hispanic Asian adolescents aged 13-17 years during 2015-2020

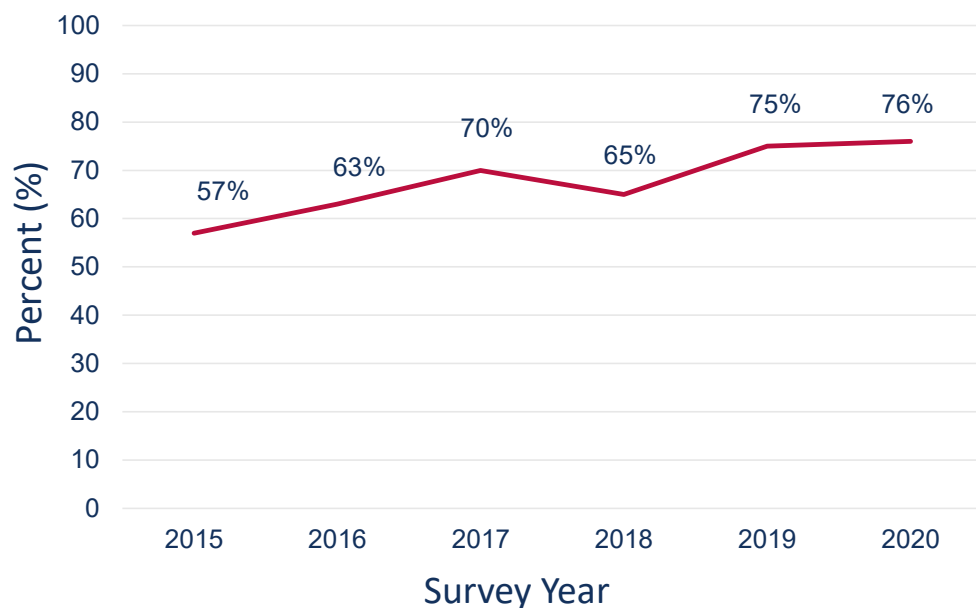
(Data from the National Immunization Survey – Teen, NIS-Teen)



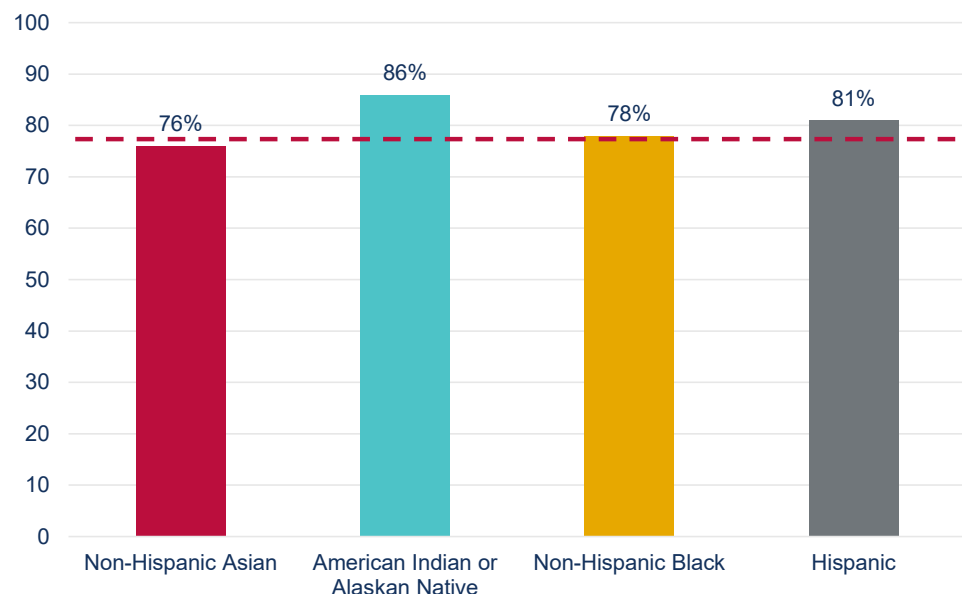
Reference: Lu et al. Pediatrics, 2022.

HPV vaccine initiation among Asian adolescents is lower than other minoritized groups (but national data among Pacific Islander adolescents are unavailable, so we cannot compare)

Trends in HPV vaccine initiation (≥1 dose) among non-Hispanic Asian adolescents aged 13-17 years during 2015-2020
(Data from the National Immunization Survey – Teen, NIS-Teen)



HPV vaccine initiation (≥1 dose) among adolescents aged 13-17 years in 2020
(Data from the National Immunization Survey – Teen, NIS-Teen)

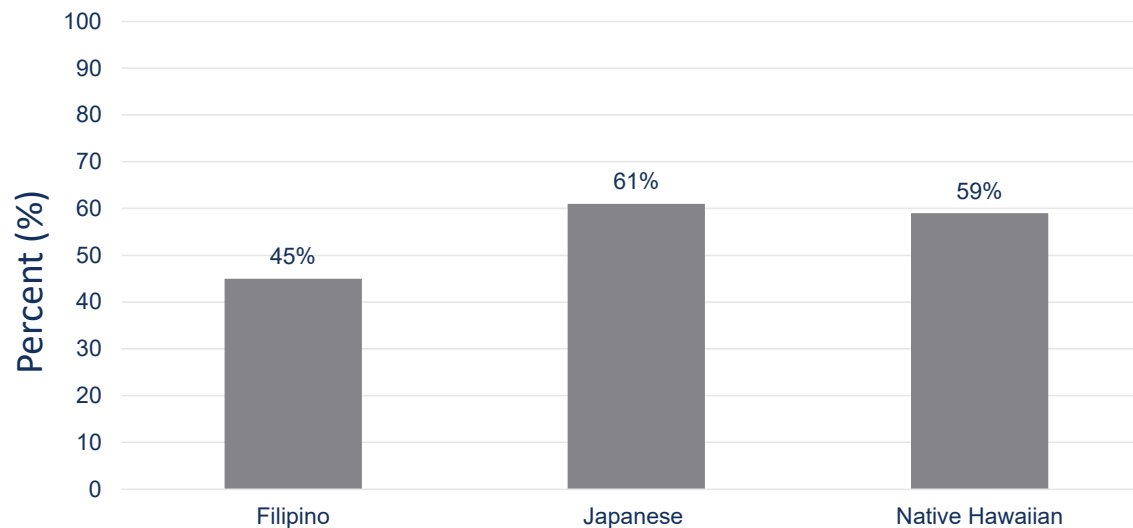


Reference: Lu et al. Pediatrics, 2022.

*Unfortunately, estimates for Pacific Islander (including Native Hawaiian) adolescents were suppressed due to small sample size

Among adolescents living in Hawaii, Filipino girls have a lower proportion of HPV vaccination compared with girls of other ethnic origins

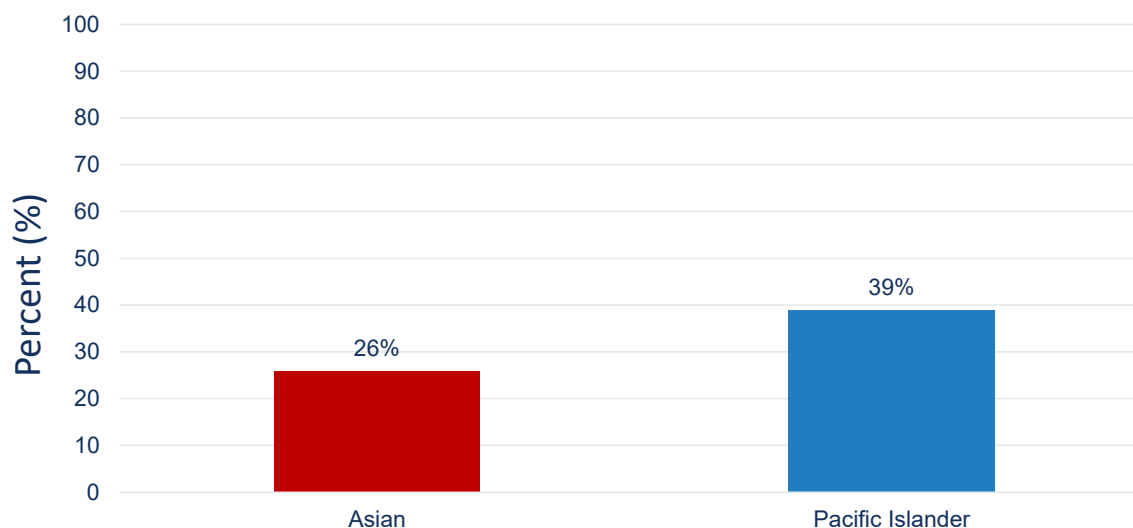
HPV vaccine initiation (≥ 1 dose) among adolescent girls aged 13-17 years living in Hawaii
(Data from a population-based cross-sectional telephone survey, 2014)



Reference: Dela Cruz et al. Ethn Health, 2020.

Among age-eligible adults, HPV vaccine initiation is higher among Pacific Islander compared with Asian American female adults (but both are suboptimal)

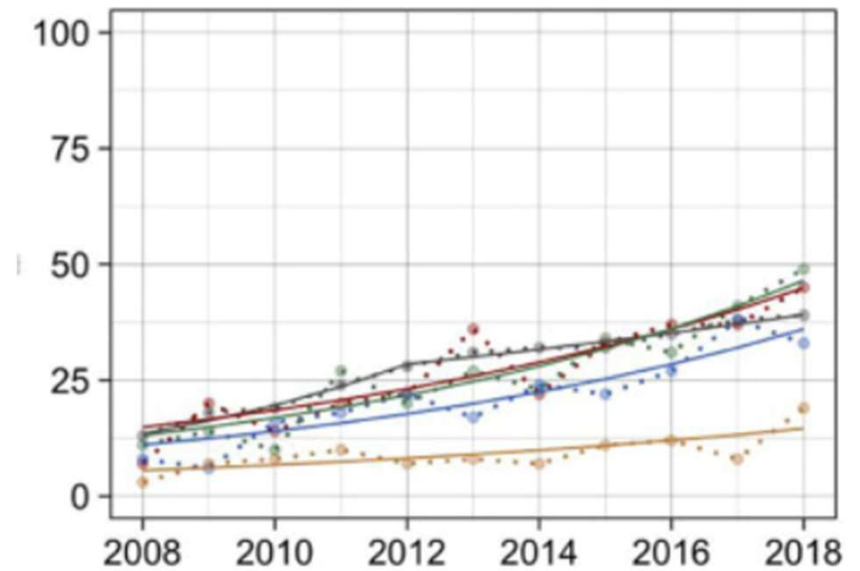
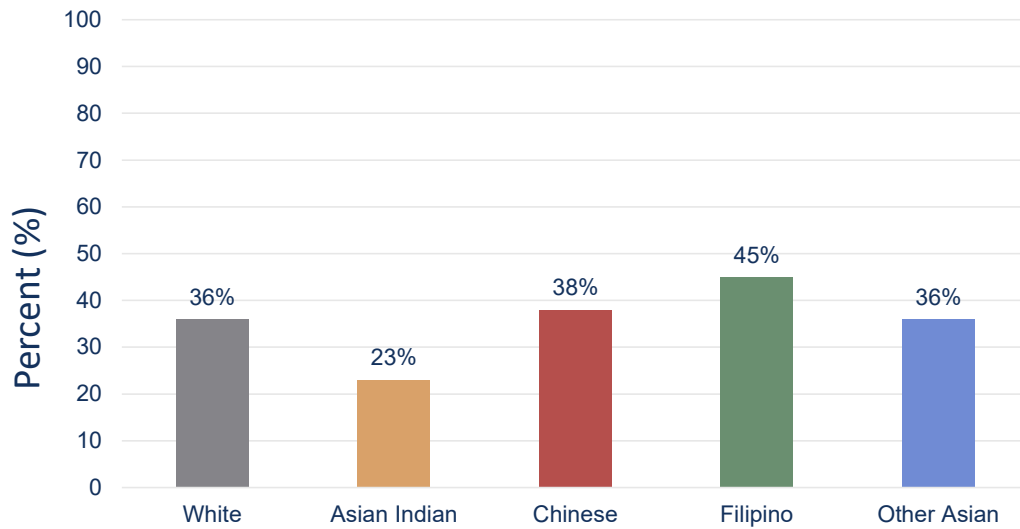
HPV vaccine initiation (≥ 1 dose) among female adults aged 18-26 years
(Data from the National Health Interview Survey and Native Hawaiian and Pacific Islander National Health Interview Survey, 2014)



Reference: McElfish et al. J Racial Ethn Health Disparities, 2021.

HPV vaccination among female adults differs by Asian ethnicity, with the lowest among Asian Indian

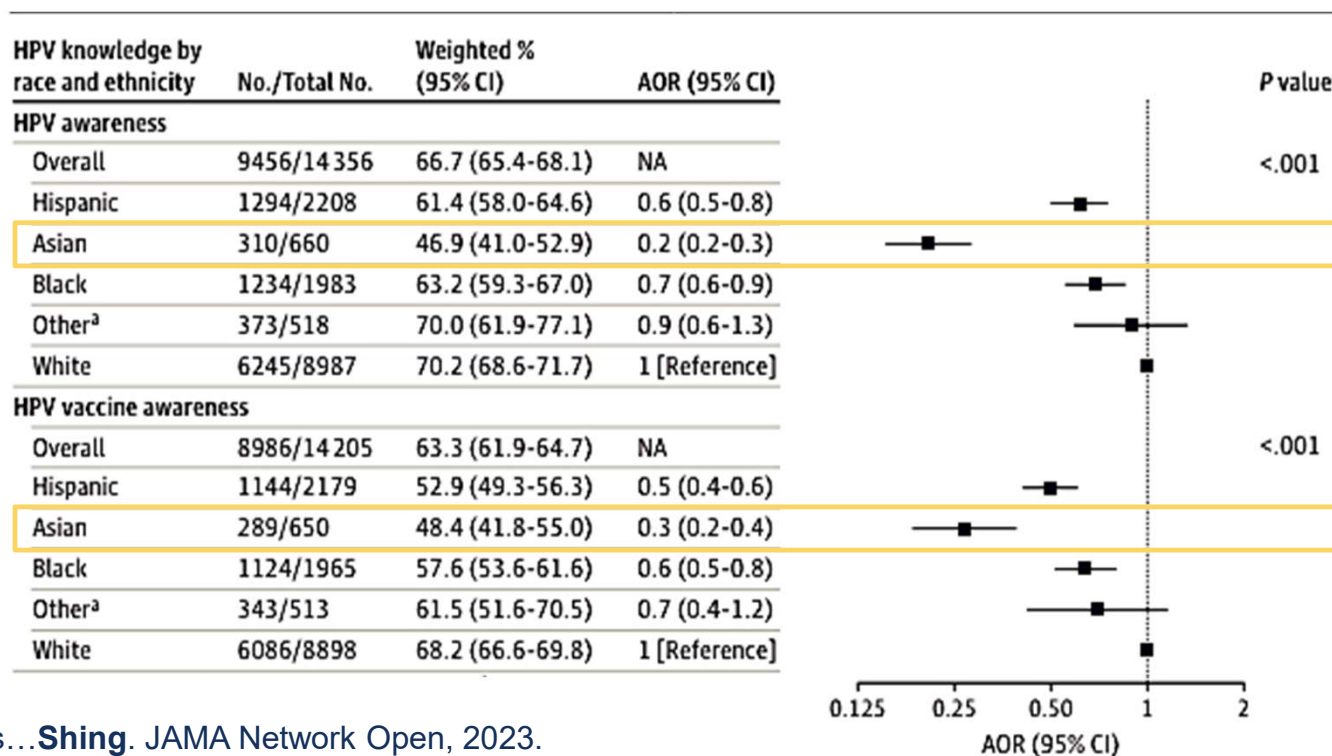
HPV vaccine initiation (≥ 1 dose) among female adults aged 12-26 when the HPV vaccine became available in the U.S.
(Data from the National Health Interview Survey, 2008-2018)



Reference: Wang et al. AJPM Focus, 2023.

Compared with other races, Asian American adults have the lowest HPV awareness and HPV vaccine awareness

Adjusted odds of having heard of HPV and the HPV vaccine, adjusting for age group, sex, marital status, and educational attainment during 2017-2020
(Data from the US Health Information National Trends Survey, HINTS)

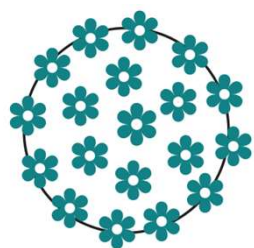


Erica Stephens, BA
Postbaccalaureate Fellow

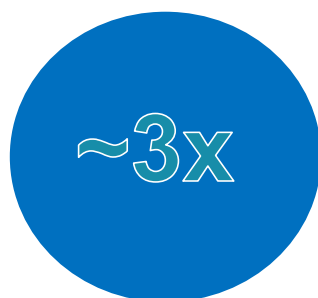
Reference: Stephens...**Shing**. JAMA Network Open, 2023.

In California, Pacific Islander female adults have lower HPV awareness and HPV vaccine awareness than non-Hispanic White female adults

HPV and HPV vaccine awareness of Pacific Islander compared with non-Hispanic White female adults
(Data from the 2005 California Health Interview Survey, CHIS)



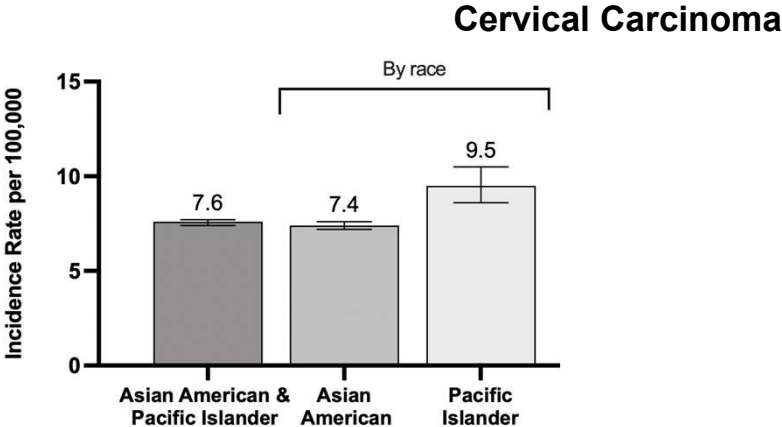
More likely to have not heard about HPV



More likely to have not heard about the HPV vaccine

Reference: UCLA 2007. California Health Interview Survey 2005; Mouttapa et al. J Cancer Edu, 2021.

Cervical carcinoma incidence is higher for Pacific Islander females



Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

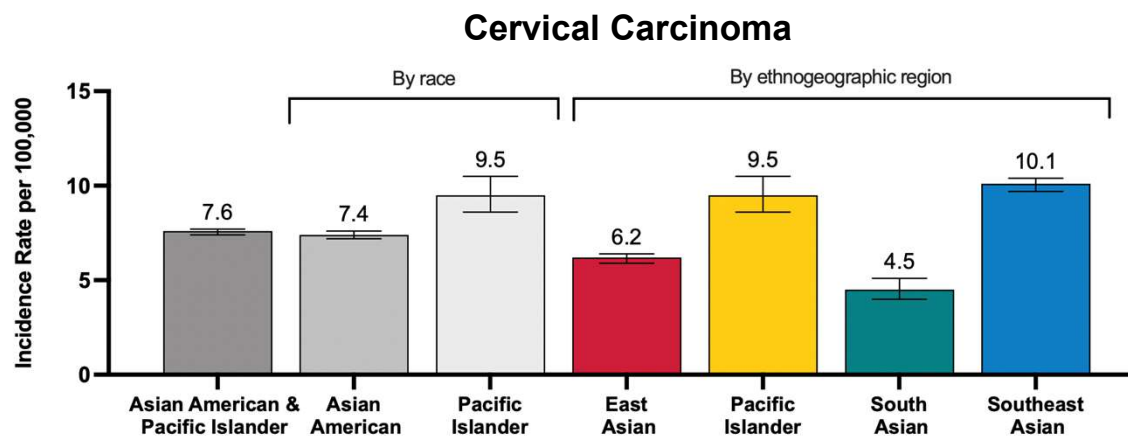


Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014



Jereme Corbin, BS Summer Intern, 2022

Cervical carcinoma incidence is higher for Pacific Islander and Southeast Asian females



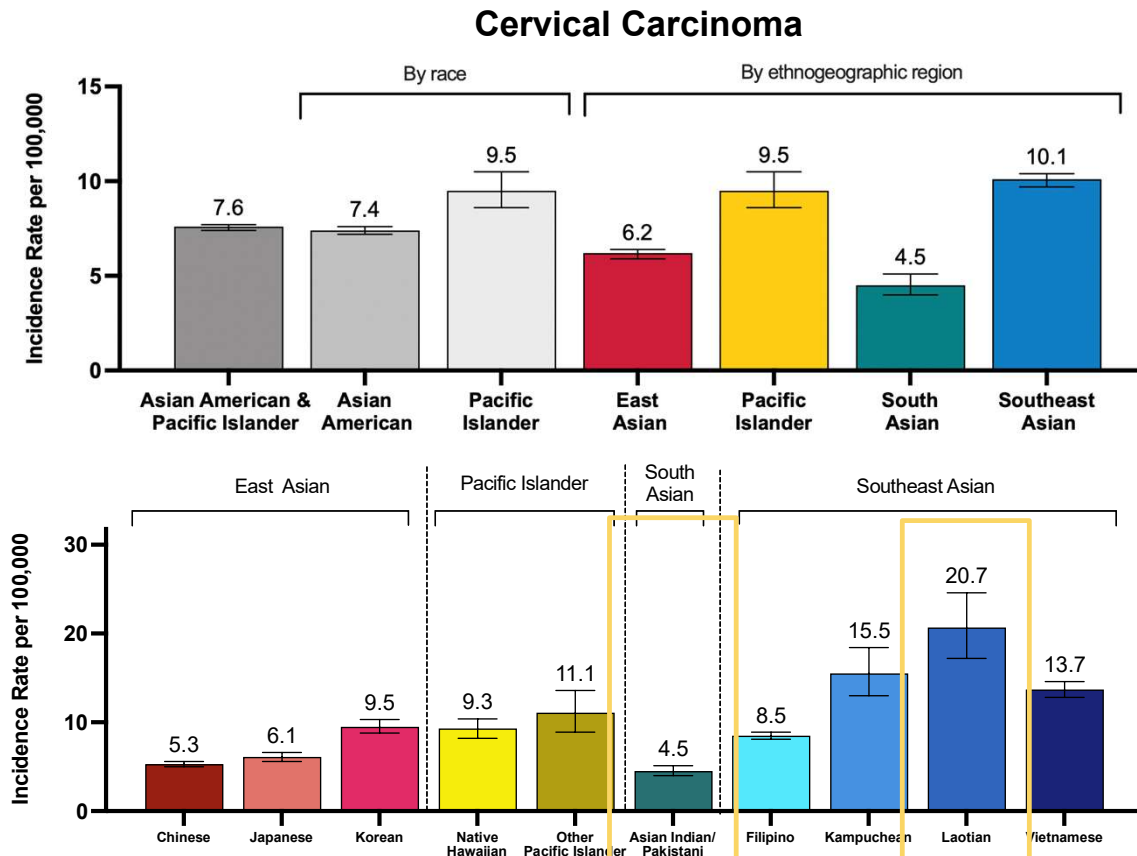
Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014



Jereme Corbin, BS
Summer Intern, 2022

Cervical carcinoma incidence varies widely by ethnicity, ranging from 4.5 per 100,000 (Asian Indian/Pakistani) to 20.7 per 100,000 (Laotian)

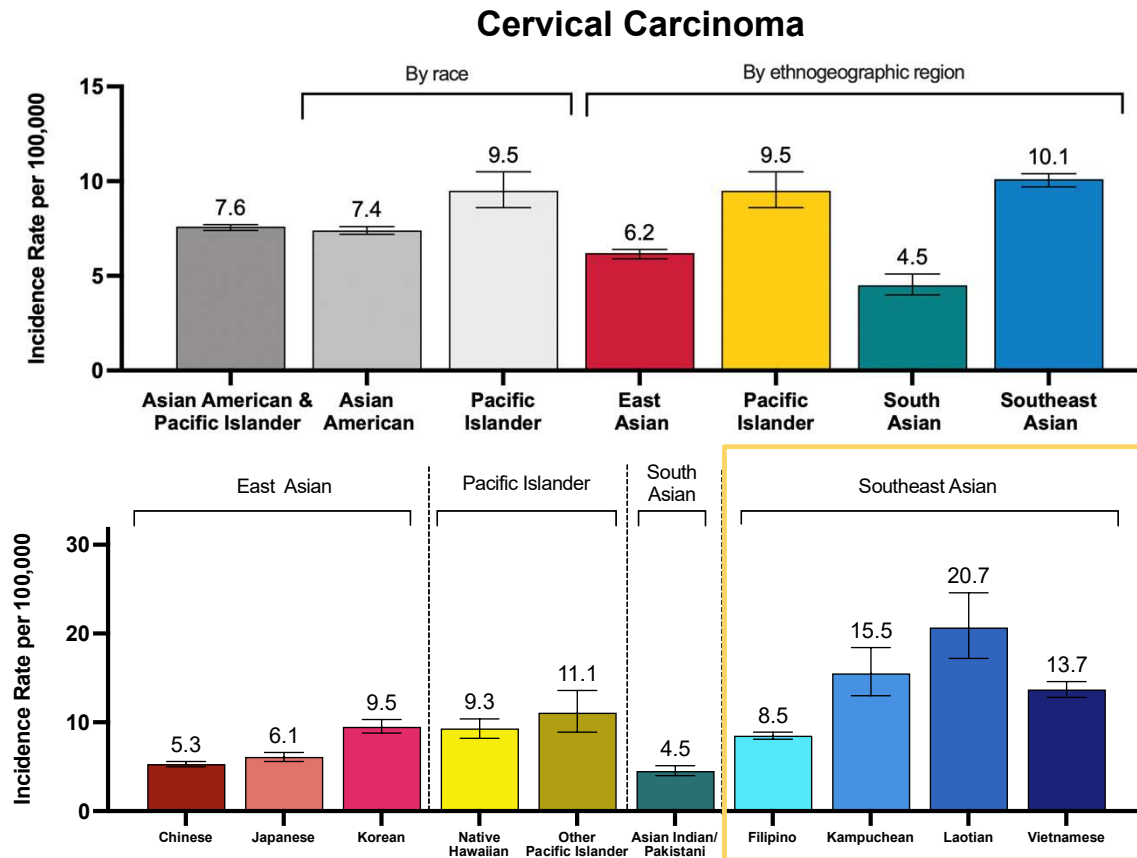


Jereme Corbin, BS
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Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

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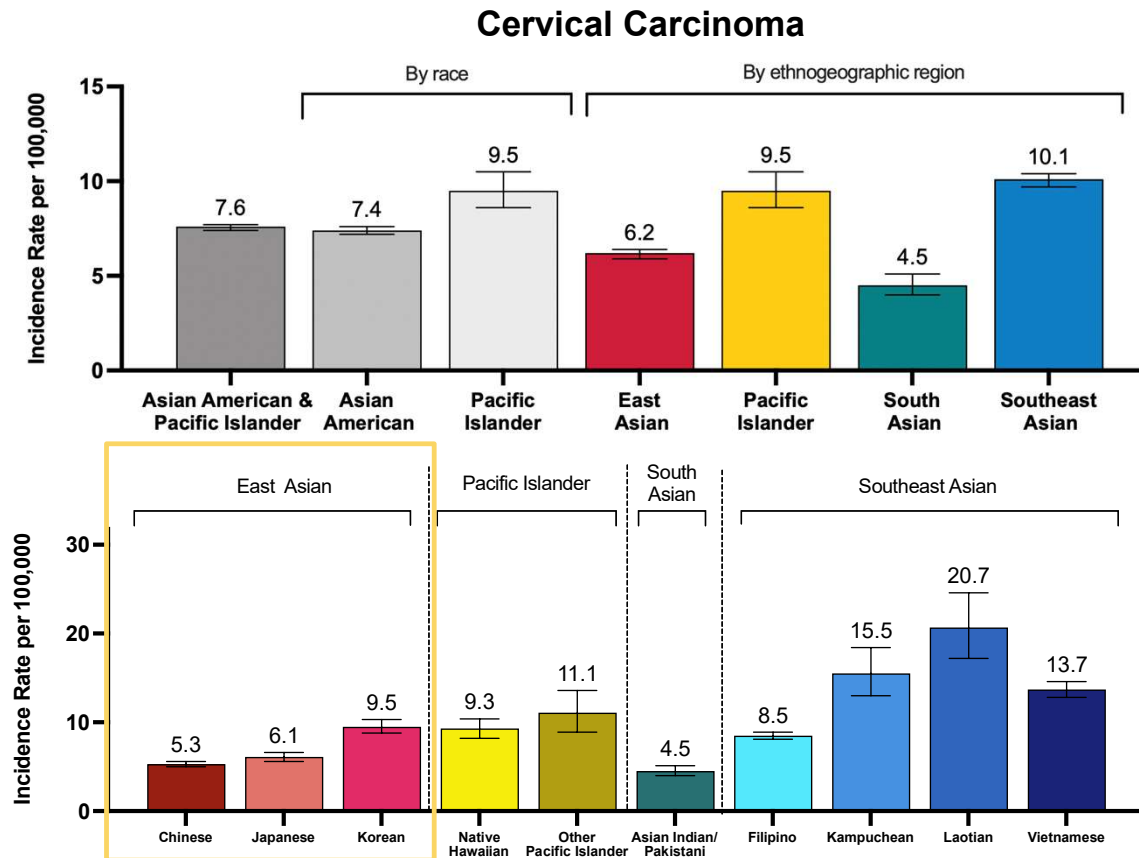


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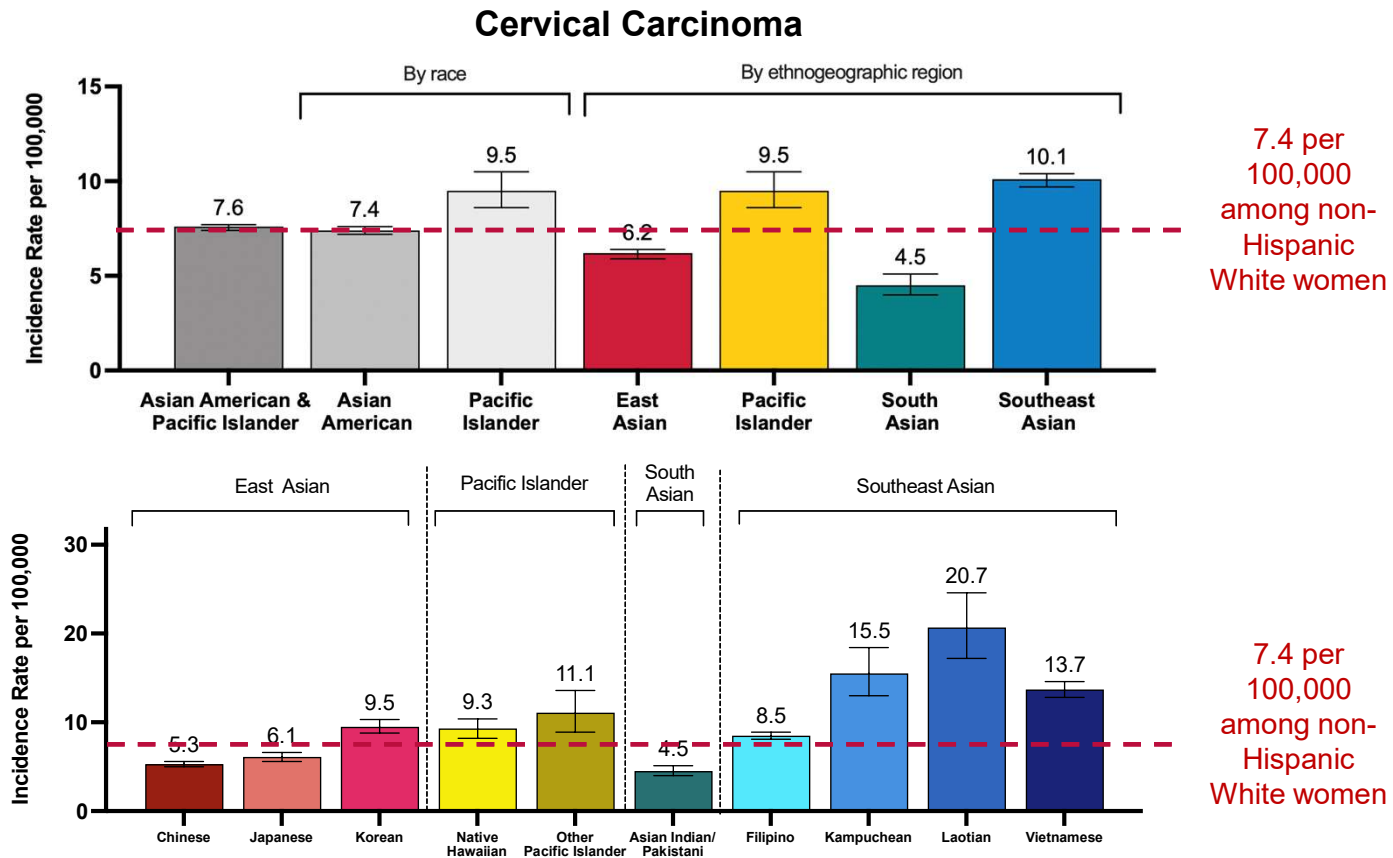
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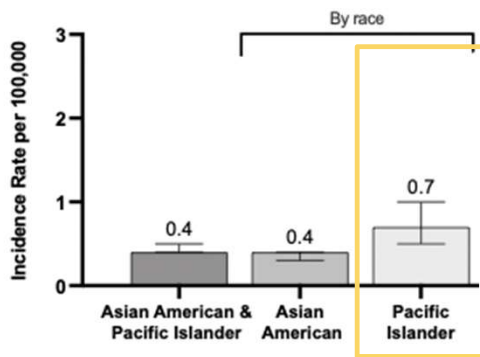
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Reference: **Shing, Corbin, et al.** JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

Differences in other HPV-related anogenital cancers also exist by Asian and Pacific Islander race and ethnogeographic region

Vulvar Squamous Cell Carcinoma



Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

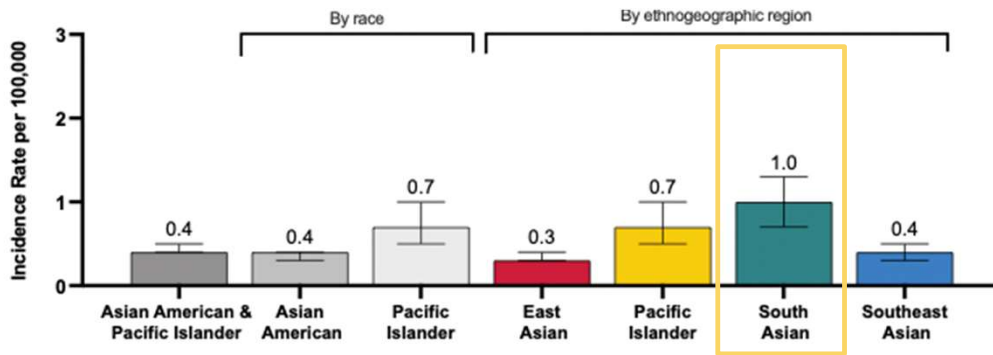
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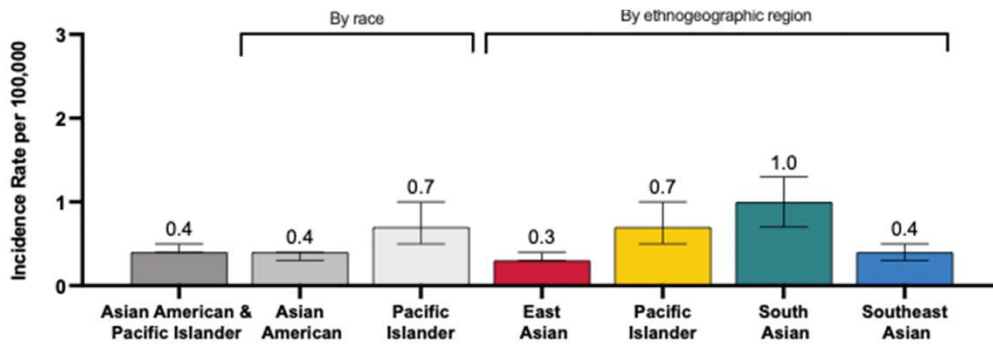
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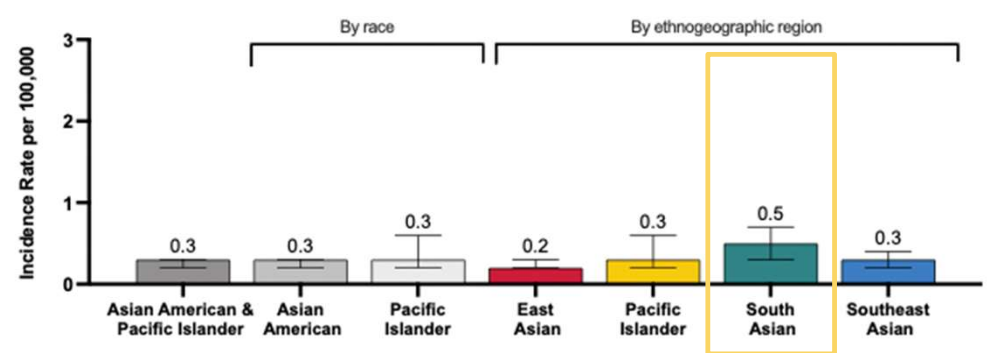
Jereme Corbin, BS
Summer Intern, 2022

Differences in other HPV-related anogenital cancers also exist by Asian and Pacific Islander race and ethnogeographic region

Vulvar Squamous Cell Carcinoma



Vaginal Squamous Cell Carcinoma



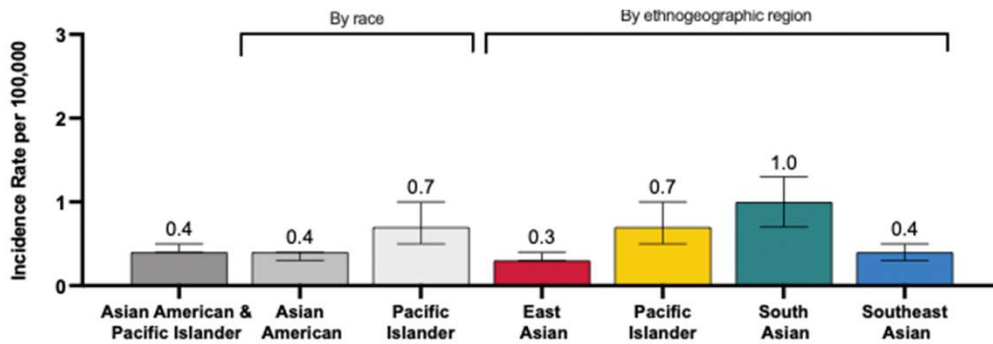
Jereme Corbin, BS
Summer Intern, 2022

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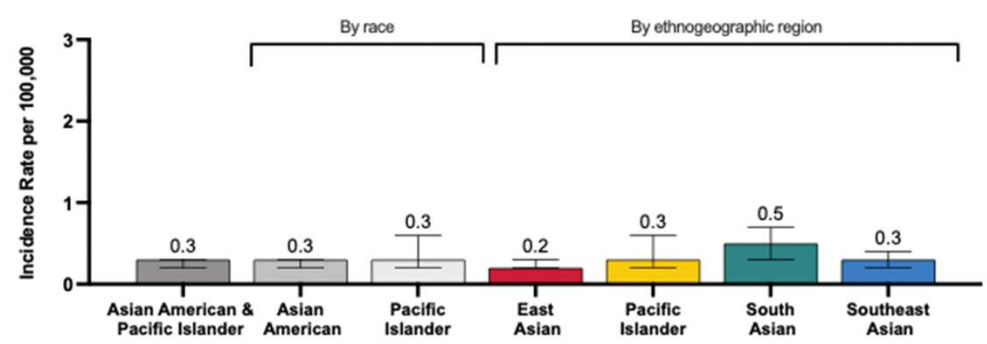
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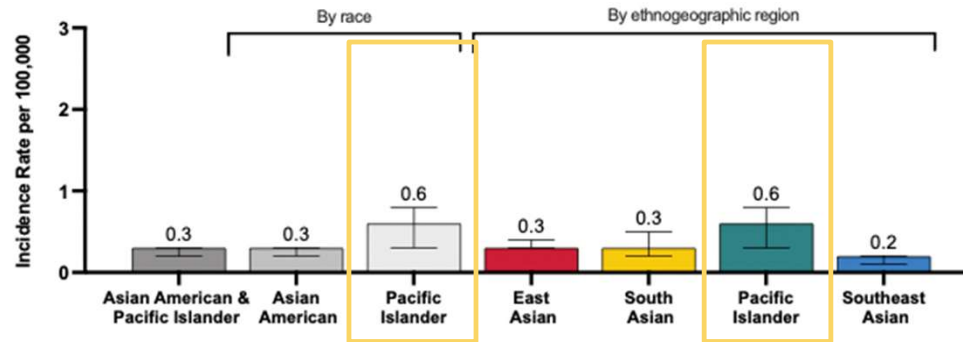
Vulvar Squamous Cell Carcinoma



Vaginal Squamous Cell Carcinoma



Anal Squamous Cell Carcinoma (Females)



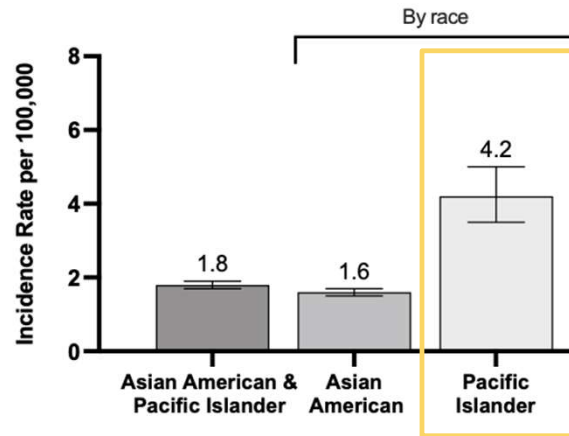
Jereme Corbin, BS
Summer Intern, 2022

Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

Oropharyngeal squamous cell carcinoma incidence is substantially higher for Pacific Islander compared with Asian American males

Oropharyngeal Squamous Cell Carcinoma (Males)

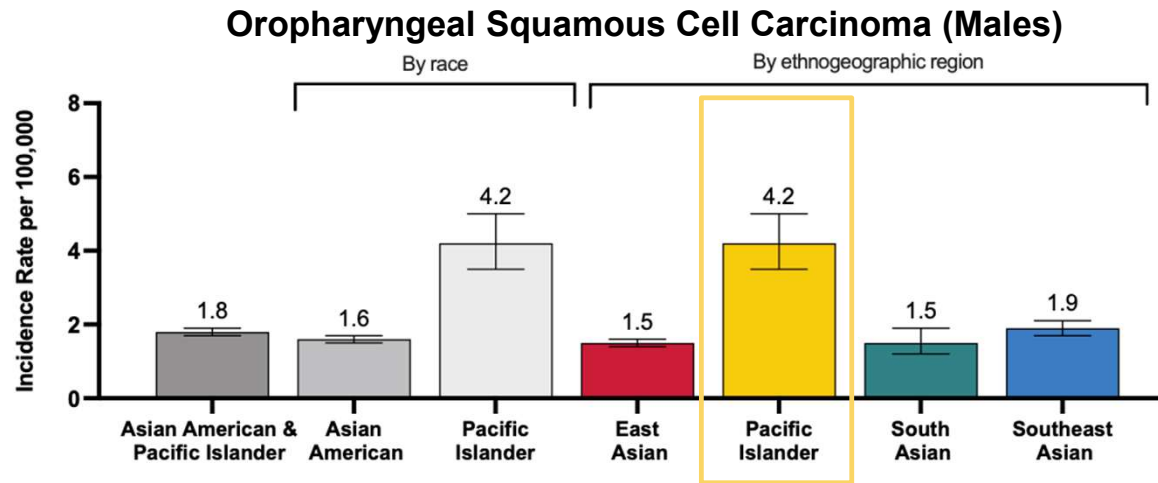


Jereme Corbin, BS
Summer Intern, 2022

Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

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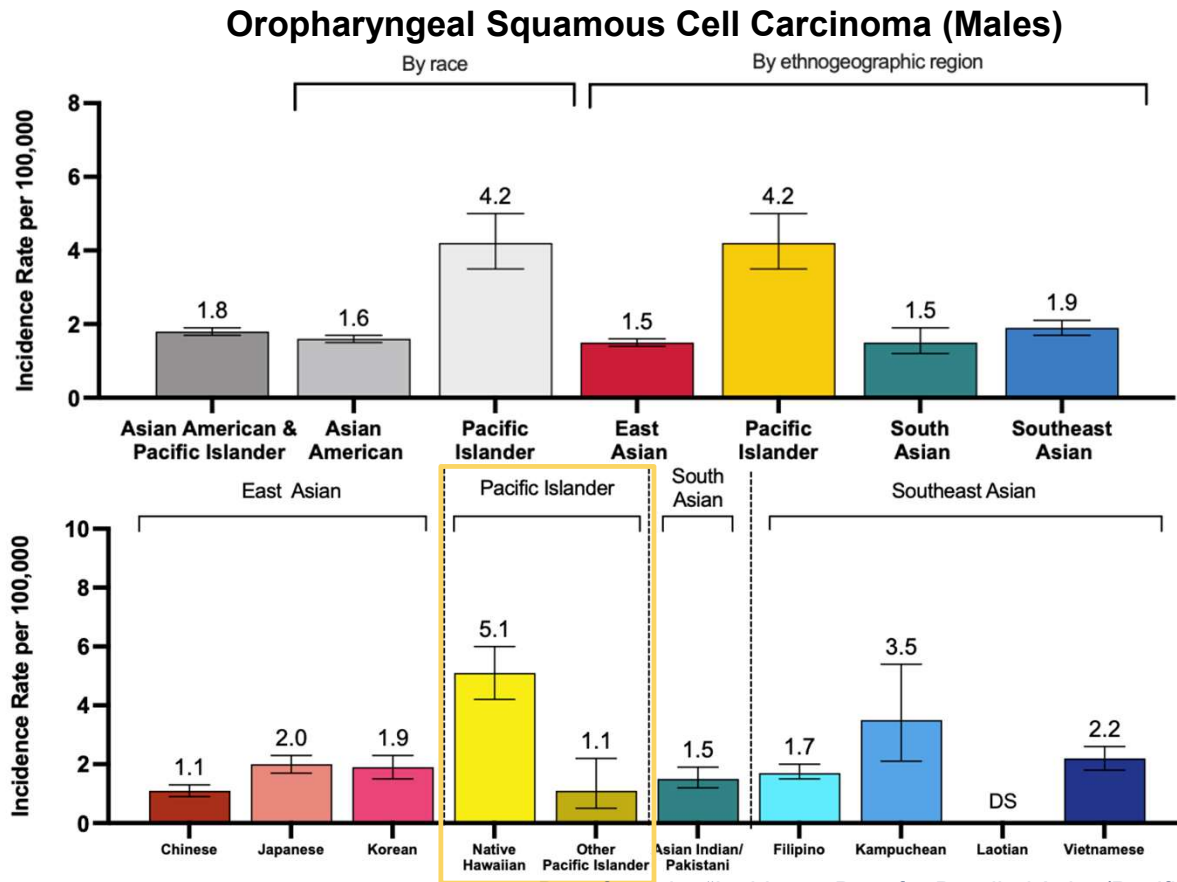


Jereme Corbin, BS
Summer Intern, 2022

Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

Oropharyngeal squamous cell carcinoma incidence among males differs by ethnicity, particularly within Pacific Islander race

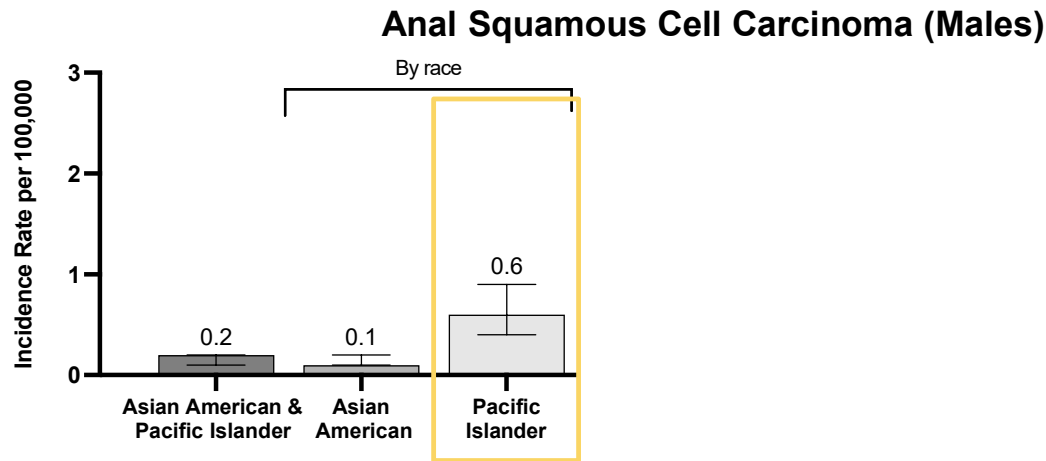


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Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

Pacific Islander males have much higher anal squamous cell carcinoma incidence compared with Asian American males

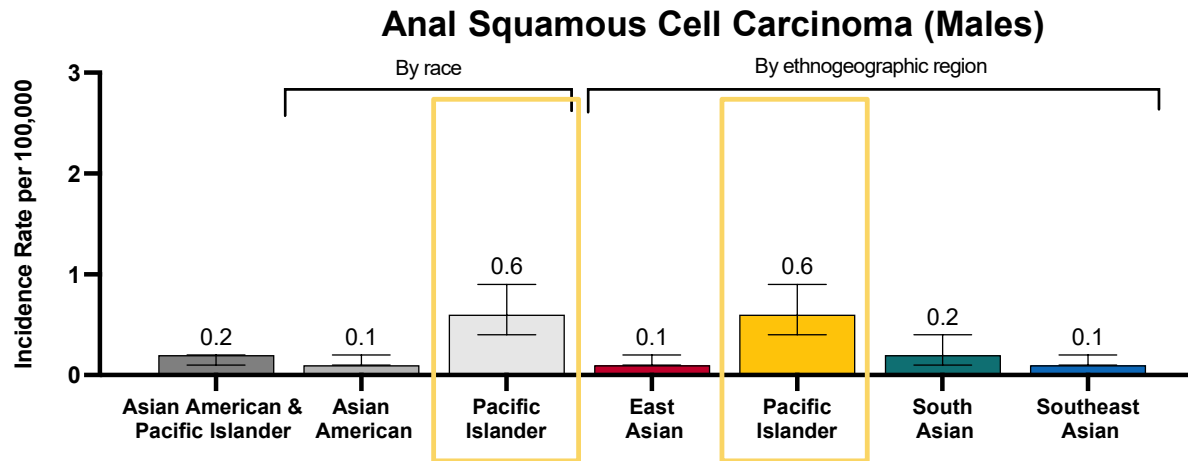


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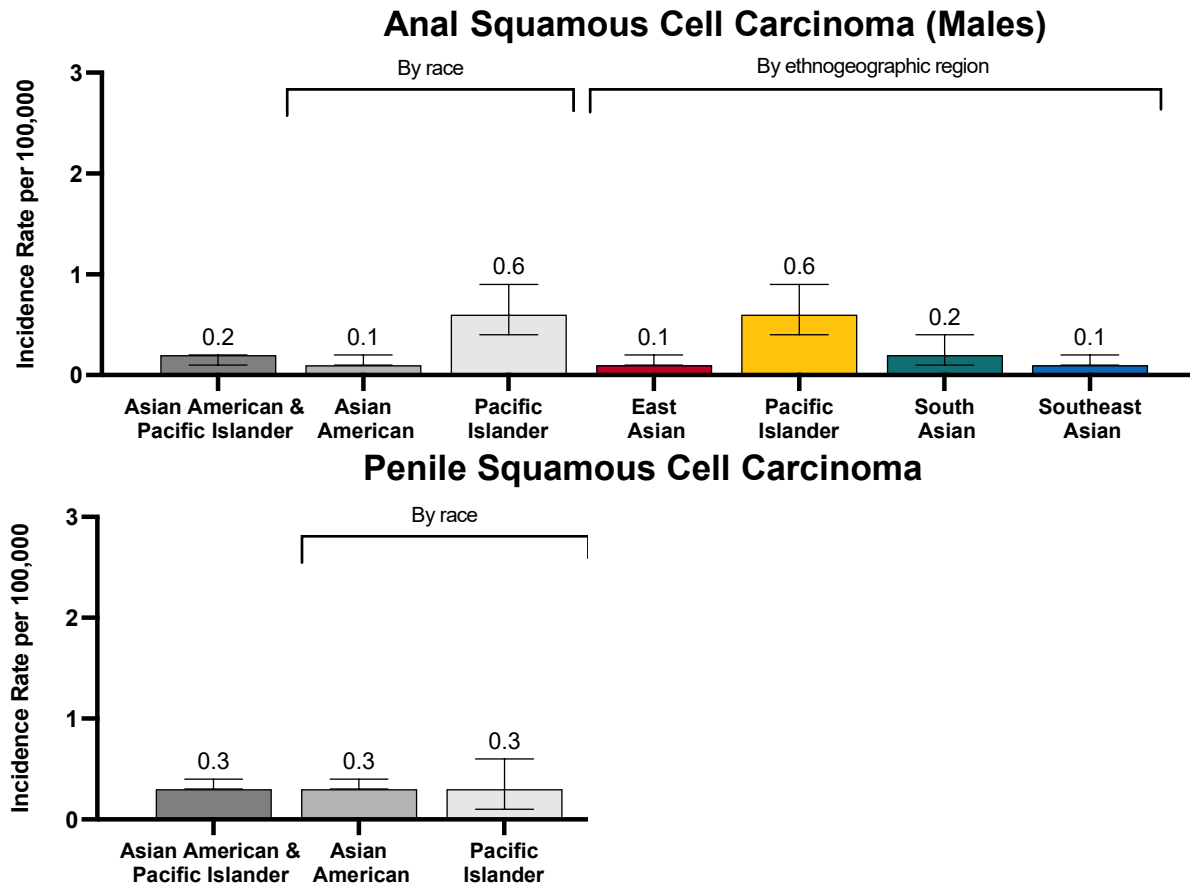
Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014



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By race, penile squamous cell carcinoma incidence is similar between Asian American and Pacific Islander males

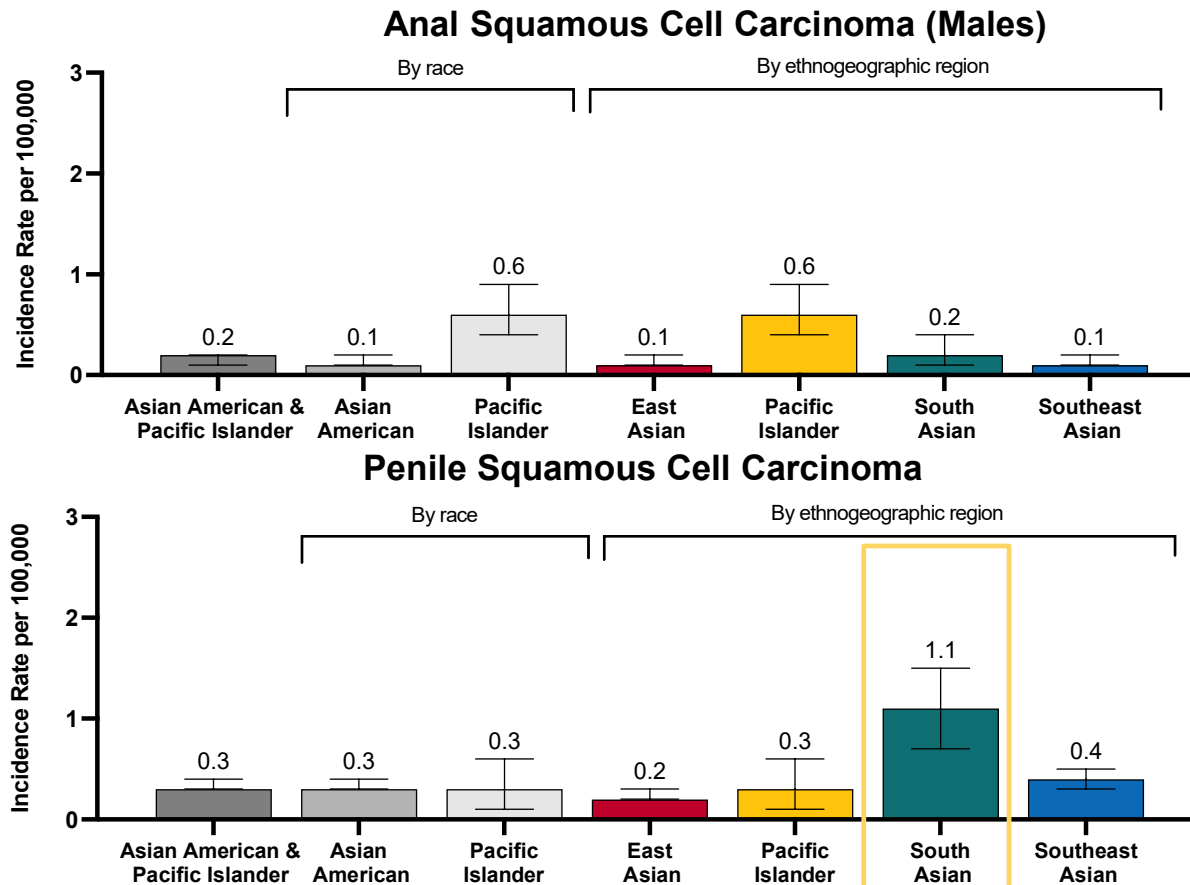


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Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

However, disaggregating by ethnogeographic region reveals higher penile squamous cell carcinoma incidence among South Asian males



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Reference: **Shing**, Corbin, et al. JNCI Cancer Spectrum, 2023.

Data from the "Incidence Data for Detailed Asian/Pacific Islander Groups" Surveillance, Epidemiology, and End Results Program (SEER) database, 1990-2014

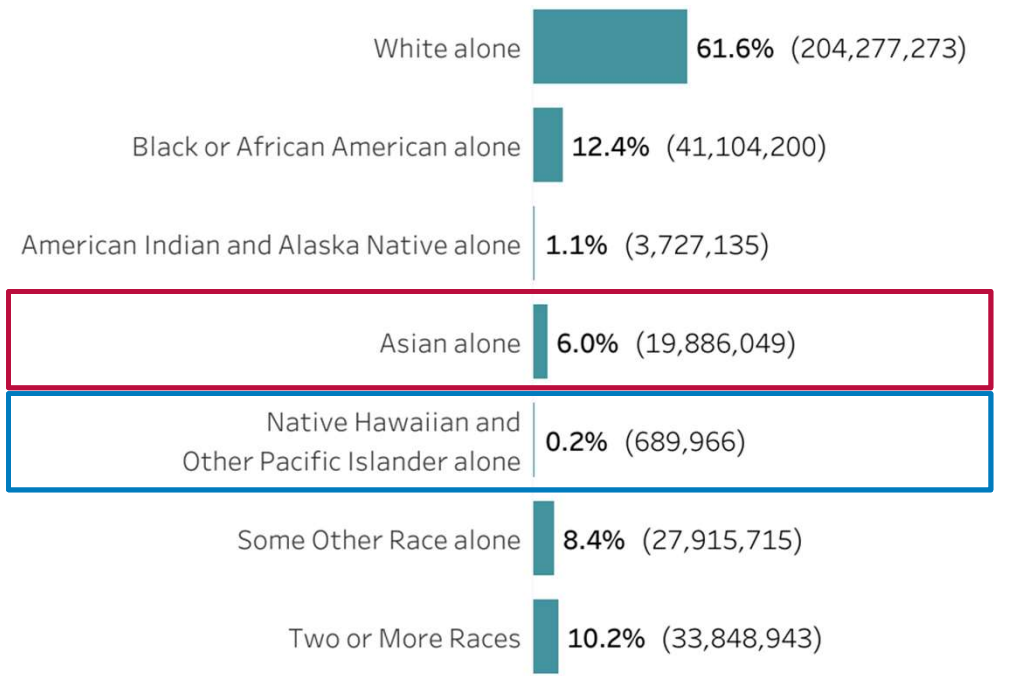


Asian American and Pacific Islander populations and the importance of disaggregated data

Background Illustrator: Loe Lee; Producer: Thuy Bui & Simon Delacroix; Client: Google Arts & Culture 2022 AAPI Heritage Month

Despite the low proportion of Asian and Pacific Islander individuals in the U.S., their populations are increasing

Percent of Total U.S. Population (2020)

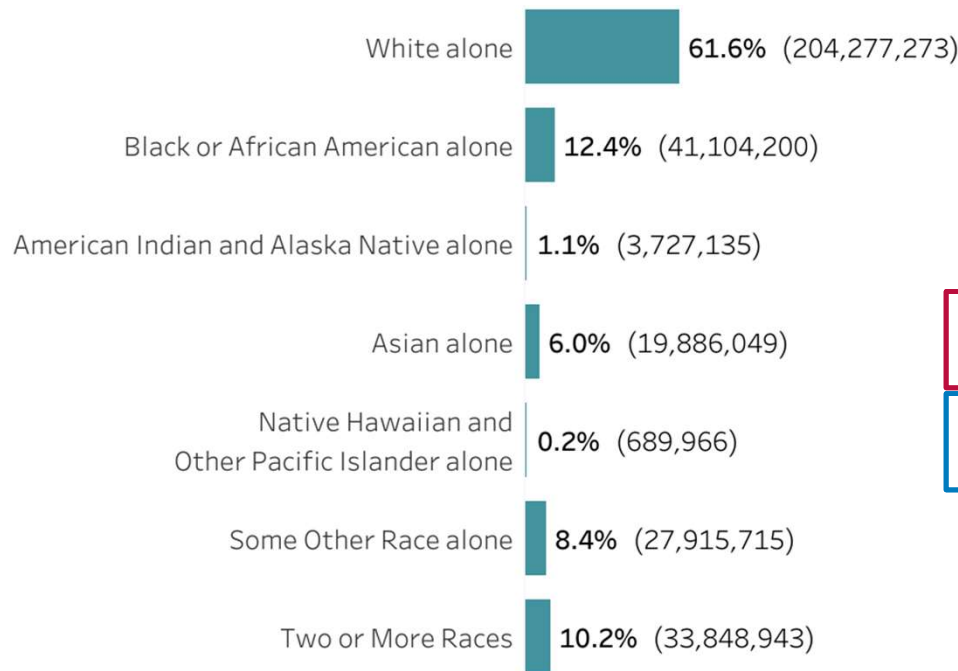


U.S. totals do not include Puerto Rico.

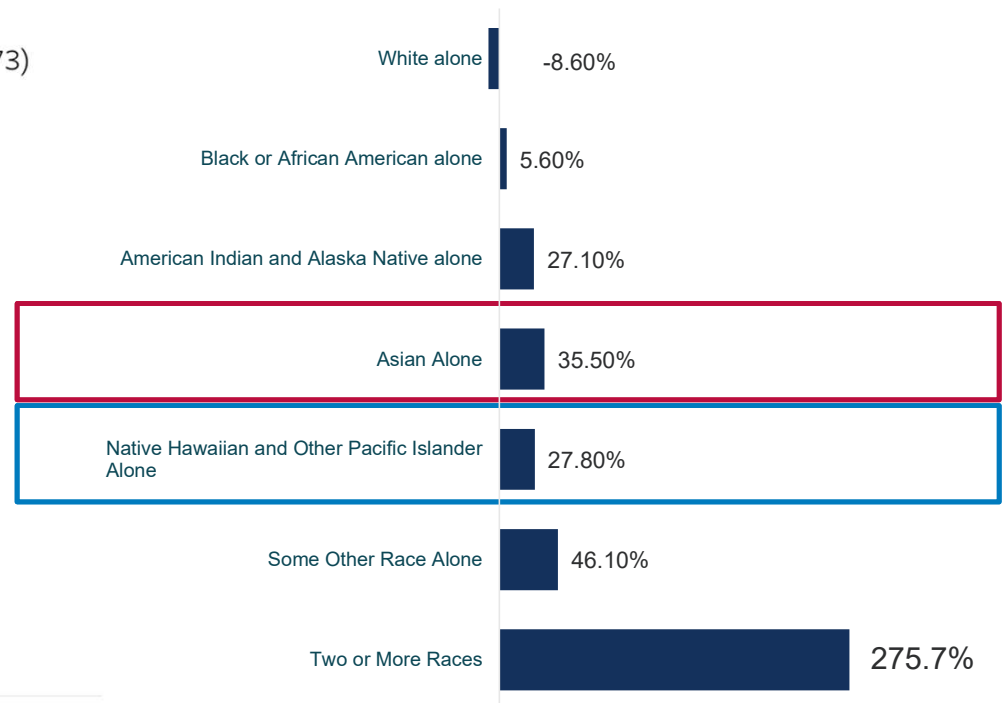
Reference: Race and Ethnicity in the United States: 2010 Census and 2020 Census Data Visualization.

Despite the low proportion of Asian and Pacific Islander individuals in the U.S., their populations are increasing

Percent of Total U.S. Population (2020)



Percent Population Change from 2010 to 2020



U.S. totals do not include Puerto Rico.

Reference: Race and Ethnicity in the United States: 2010 Census and 2020 Census Data Visualization.

Asian and Pacific Islander races are often aggregated in research, masking important differences



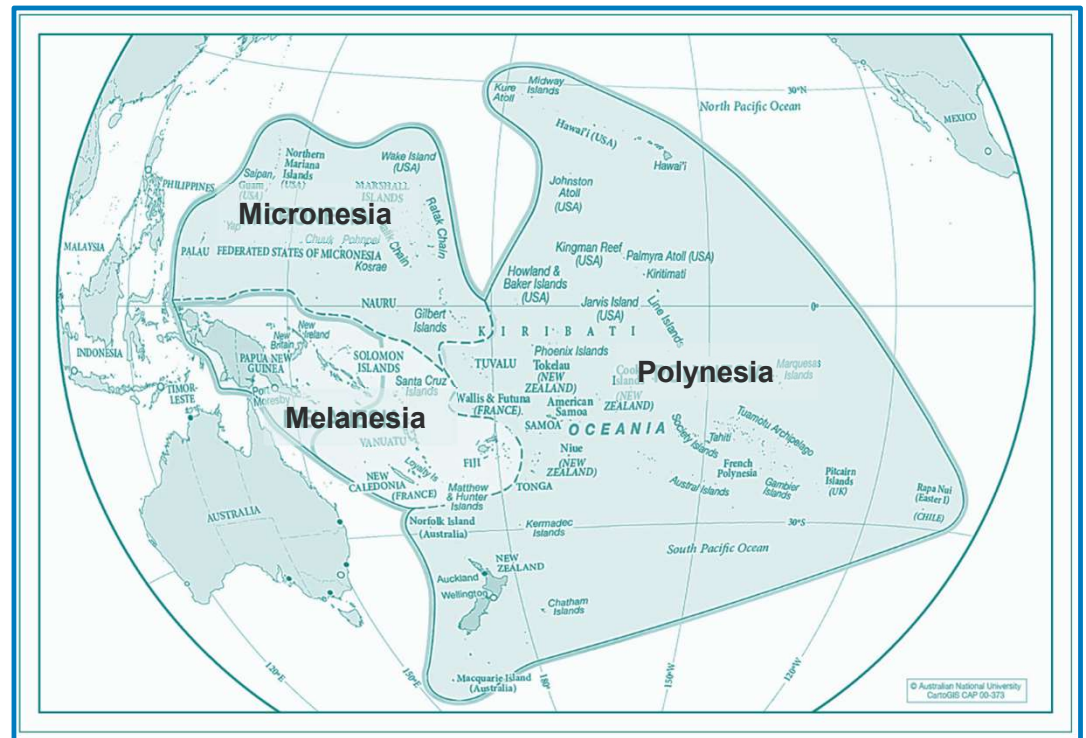
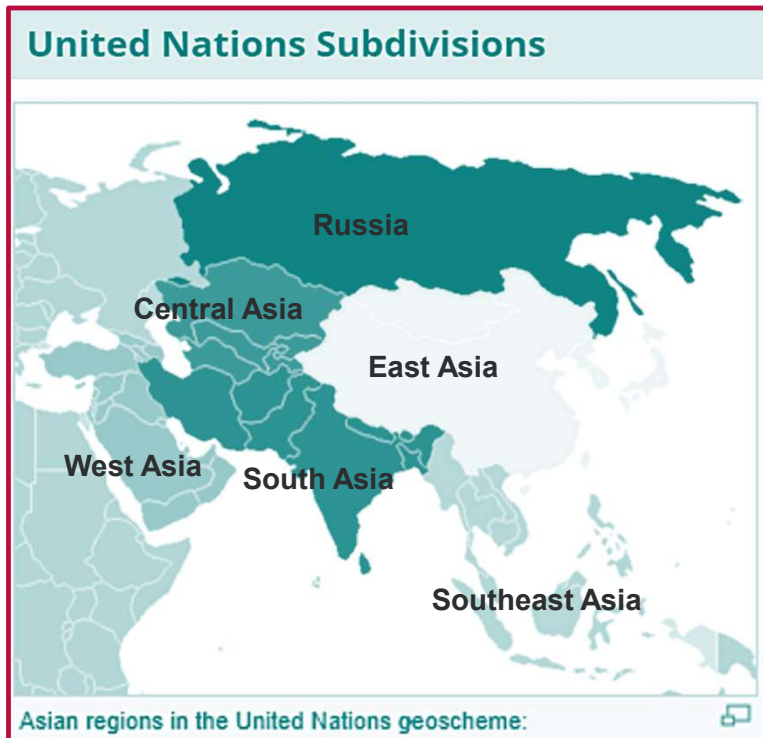
Common reasons for aggregation of Asian and Native Hawaiian and other Pacific Islander races:

- 1 Small sample sizes and underrepresentation
- 2 Lack of disaggregated data
- 3 Misconception that they are similar

Asian countries and Pacific Islander nations are in different geographic regions



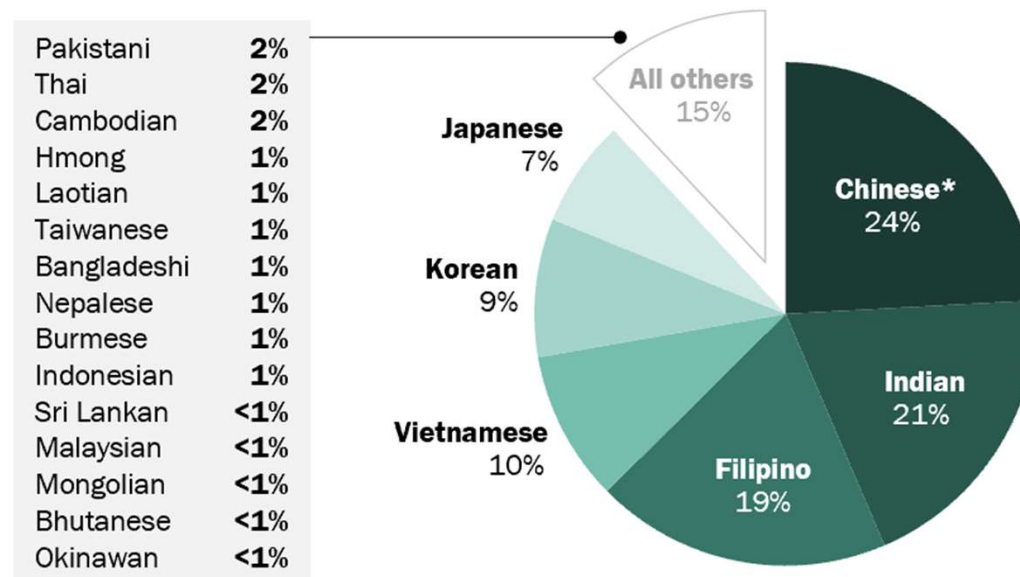
Asian countries and Pacific Islander nations are in different geographic regions



References: University of Pittsburgh Library (left figure); Tappara et al. JCO Oncology Practice, 2021 (right figure).

The Asian American population is very heterogeneous and is represented by >30 countries and >100 languages

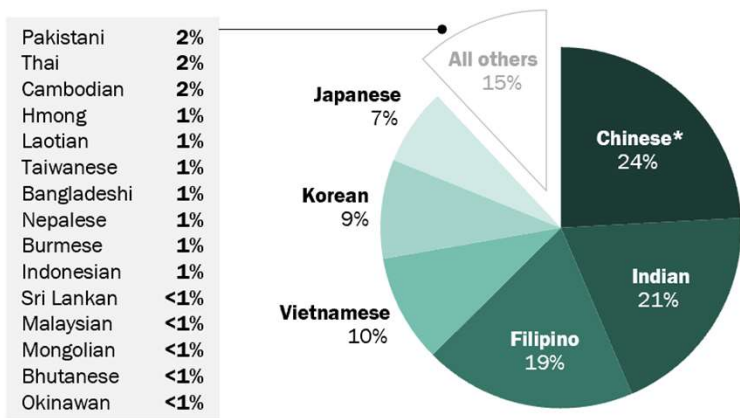
% of the U.S. Asian population that is ___, 2019



Reference: Pew Research Center.

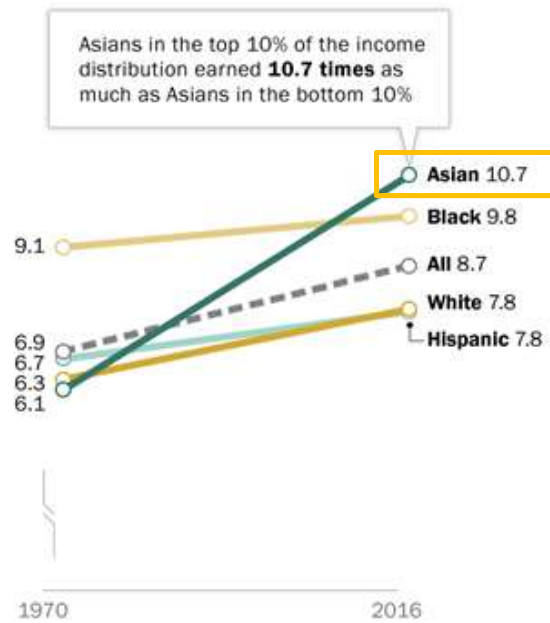
The “Model Minority” Myth is formed by misinformation

% of the U.S. Asian population that is ___, 2019



From lowest to highest: Income inequality in U.S. increased most among Asians from 1970 to 2016

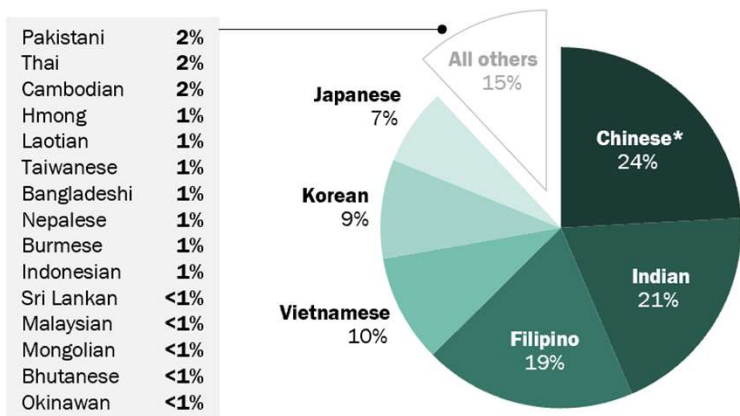
Ratio of income at the 90th percentile to income at the 10th percentile



Reference: Pew Research Center.

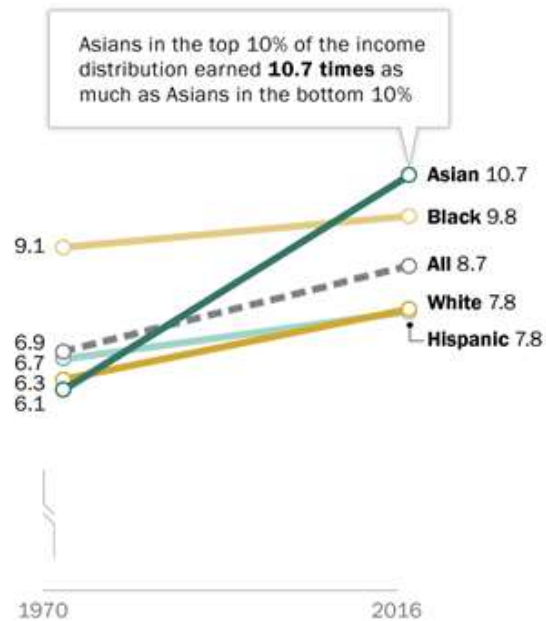
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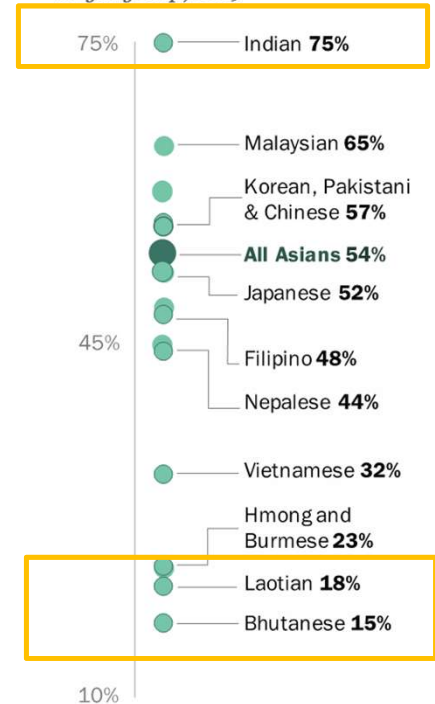
From lowest to highest: Income inequality in U.S. increased most among Asians from 1970 to 2016

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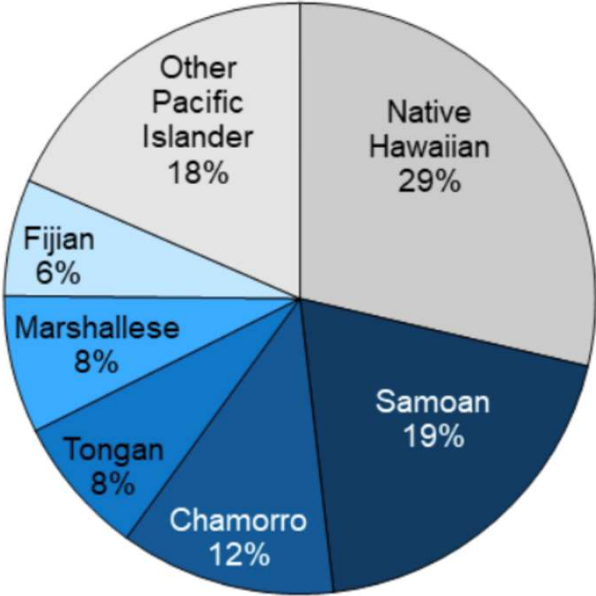
54% of U.S. Asians have a bachelor's degree or more education

% of those ages 25 and older with a bachelor's degree or more, by origin group, 2019



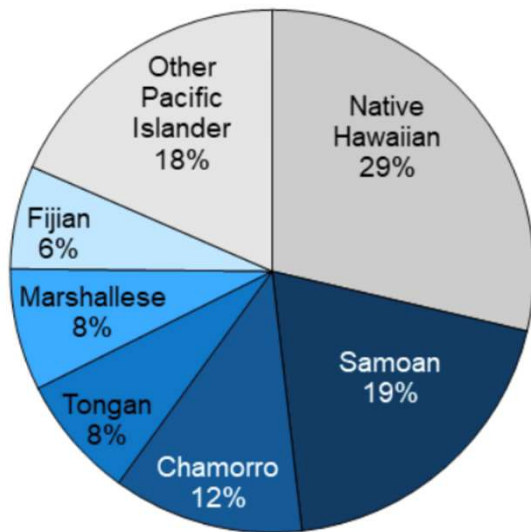
Reference: Pew Research Center.

The Pacific Islander population is very heterogeneous and is represented by >100 nations across 20,000 islands

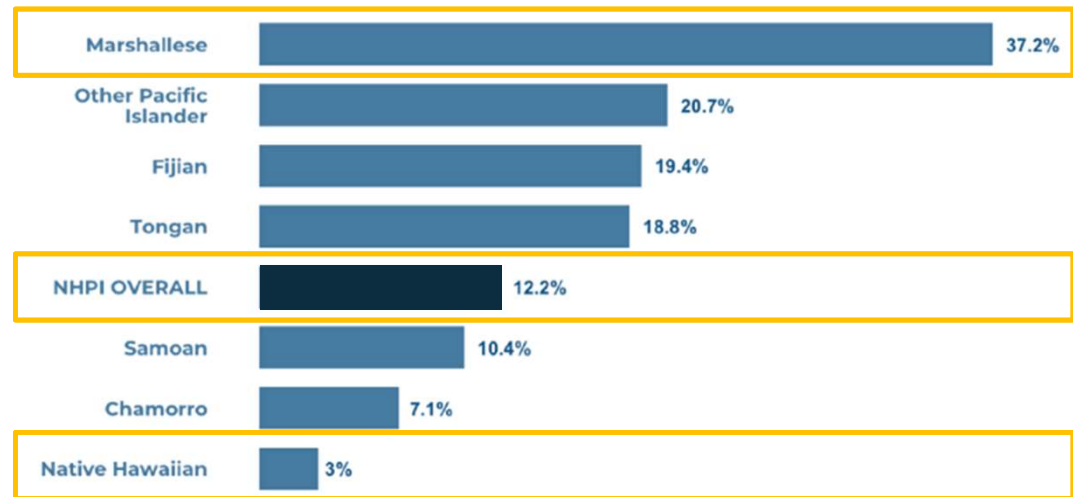


References: 2021 American Community Survey 1-year Public Use Microdata Sample; 2020 American Community Survey 5-year Public Use Microdata Sample.

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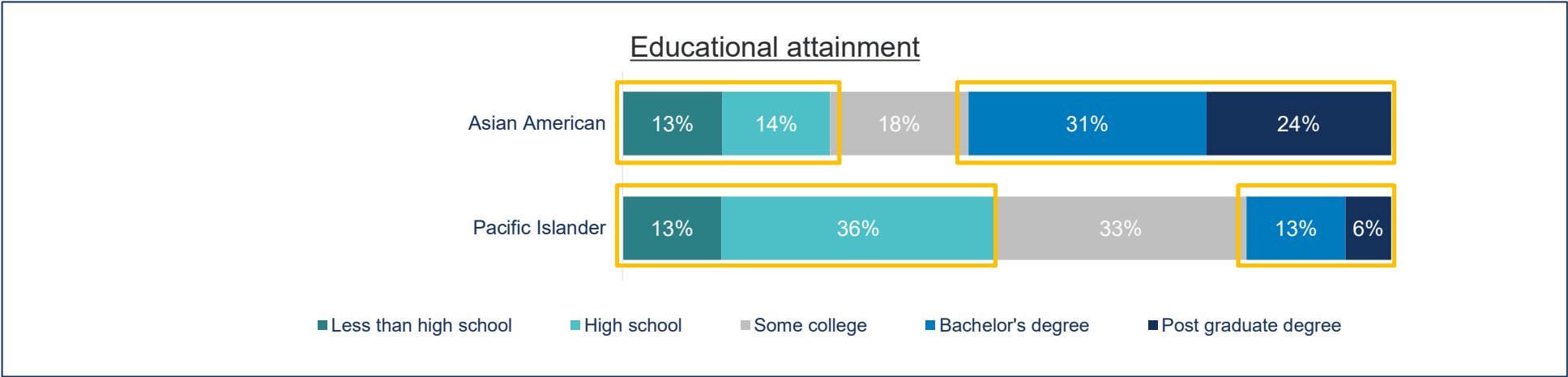


Proportion of NHPI population with limited English proficiency



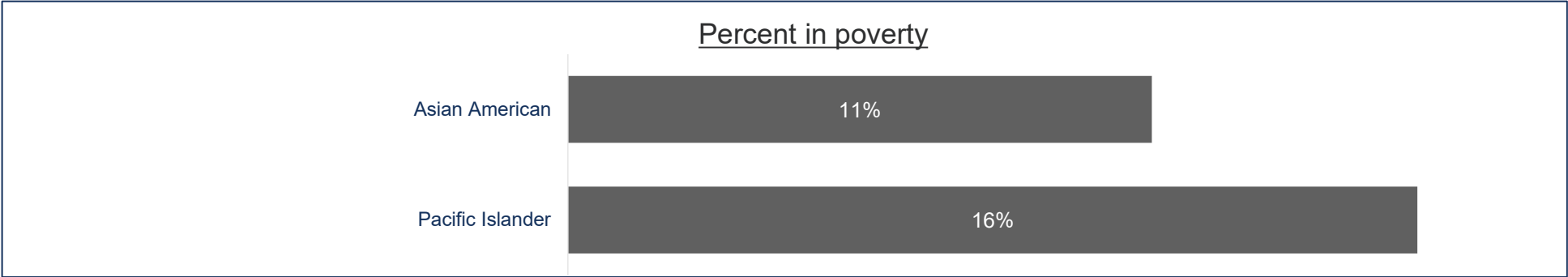
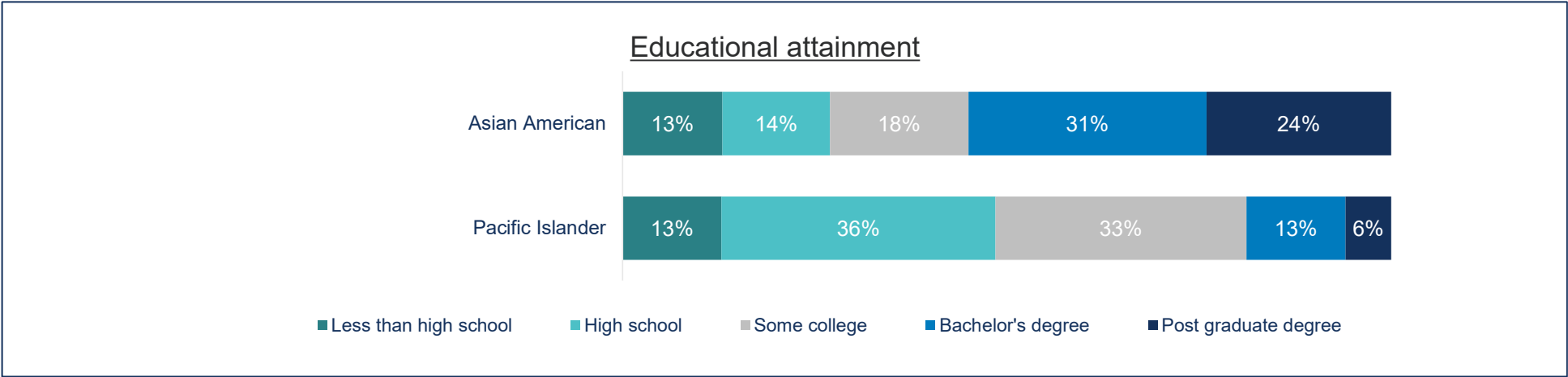
References: 2021 American Community Survey 1-year Public Use Microdata Sample;
2020 American Community Survey 5-year Public Use Microdata Sample.

Importantly, Asian American and Pacific Islander populations are distinct races with different sociodemographic characteristics



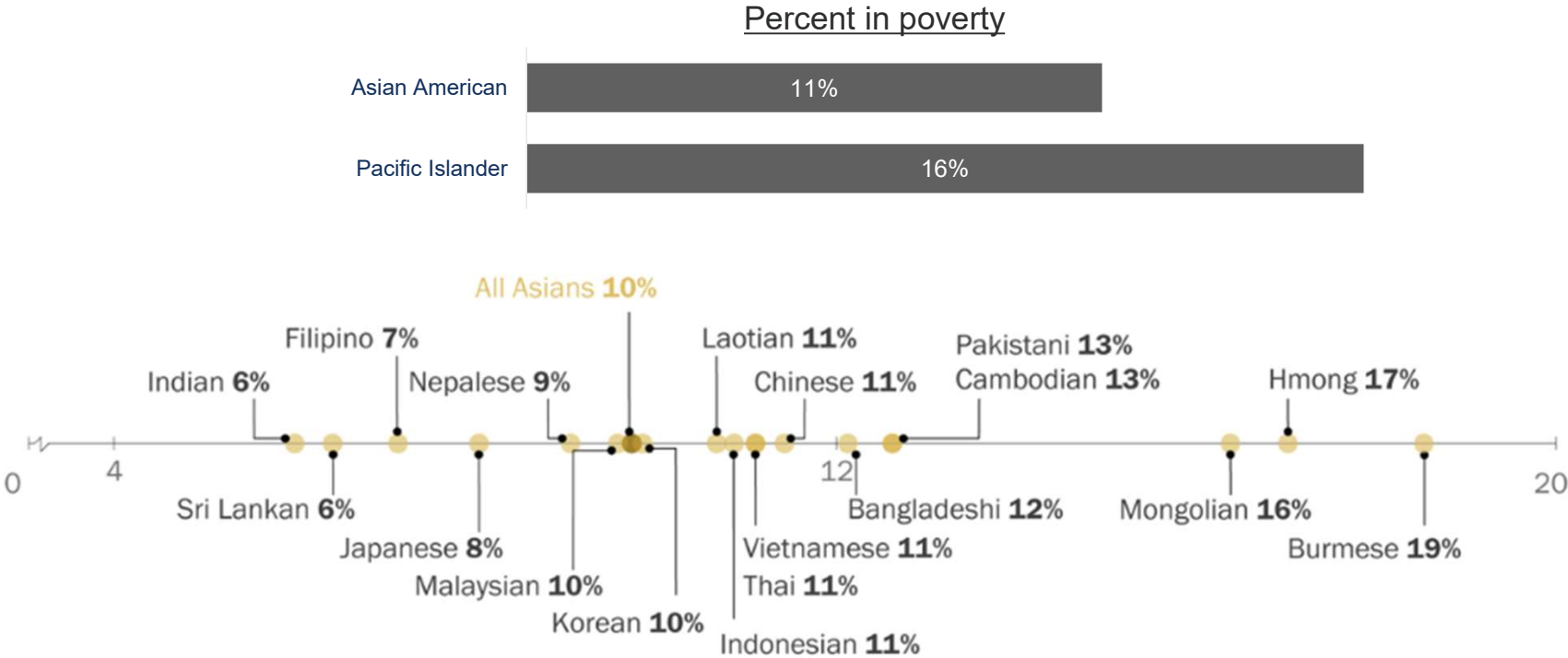
Reference: 2020 American Community Survey 5-year Public Use Microdata Sample.

Importantly, Asian American and Pacific Islander populations are distinct races with different sociodemographic characteristics



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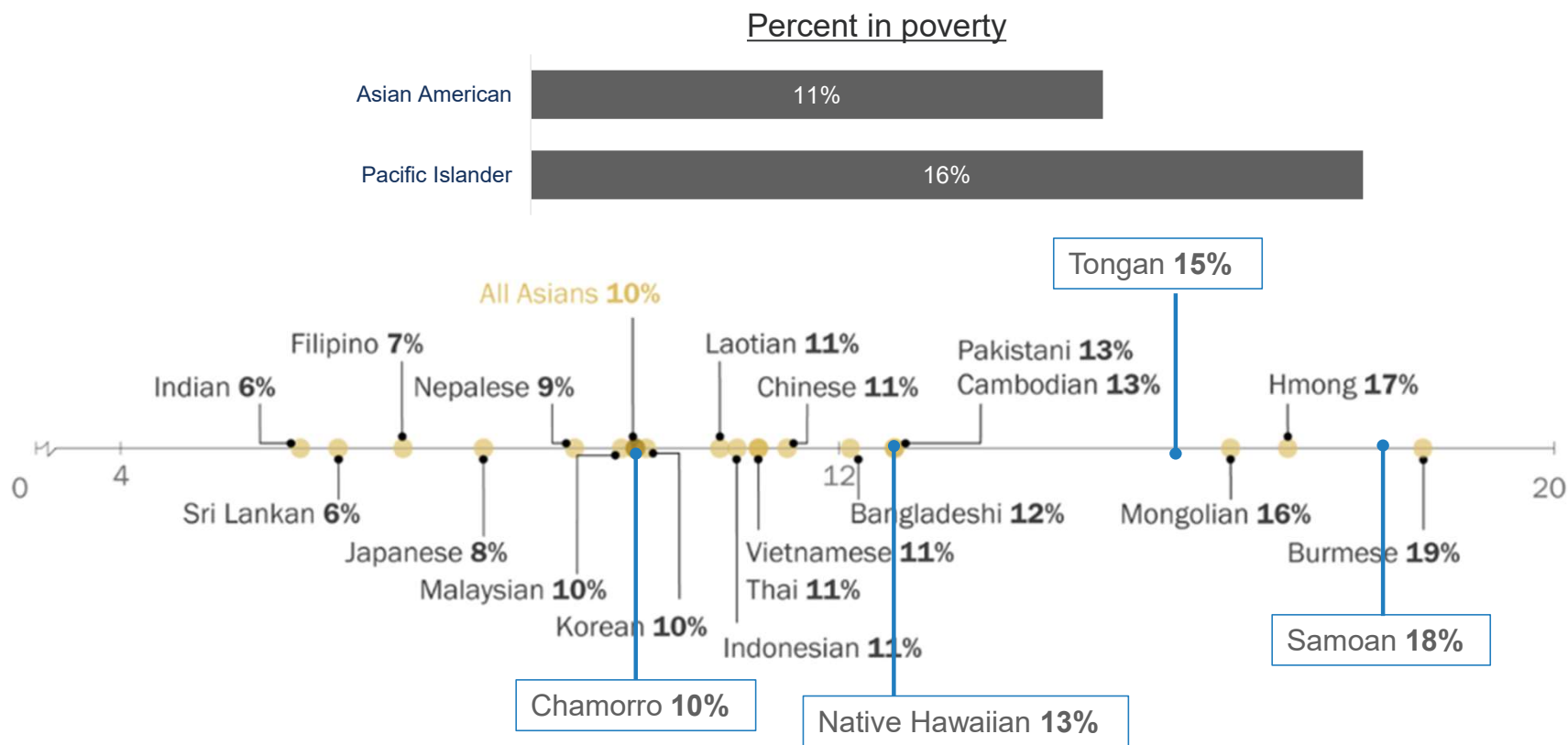
The percent of Asian American and Pacific Islander populations living in poverty varies widely by ethnicity



Note: Data for Asian ethnicities are from 2022; Data for Pacific Islander ethnicities are from 2021.

Reference: Pew Research Center, 2024; Data from 2022 American Community Survey

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Reference: Pew Research Center, 2024; Data from 2022 American Community Survey

The histories and experiences of Asian American populations differ from Pacific Islander populations

Asian American Populations

- Mid-1800s: First wave of Asian immigration
 - Chinese, Filipino, and Japanese populations
- 1950s after WWII: Second wave of Asian immigration
 - Asian Indian, Pakistani, and Korean populations
- ~1975 after Vietnam War: Third wave of Asian immigration
 - Kampuchean, Laotian, and Vietnamese populations

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Pacific Islander Populations

- 1810: Hawaiian Kingdom first united by King Kamehameha
- 1843: Recognized as a unified monarchy with full diplomatic independence in
- 1893: US armed forces held Queen Lili'uokalani captive and she abdicated the throne
- Cold War era: Nuclear bomb testing on the Marshall Islands and French Polynesia
- Post-European colonization: only ~5% of Native Hawaiians remained by the 1900s

The histories and experiences of Asian American populations differ from Pacific Islander populations

Asian American Populations

Patterns in health outcomes among Asian American populations are related to cohort effects characterized by immigration patterns

Pacific Islander Populations

Patterns in health outcomes among Pacific Islander populations are related to the effects of Western colonization and postannexation oppression

In 1997, the Office of Management and Budget released “Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity”

Figure 2.
2020 Census Race Question

Federal Register Notice
October 30, 1997

OFFICE OF MANAGEMENT AND BUDGET

Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity

AGENCY: Executive Office of the President, Office of Management and Budget (OMB), Office of Information and Regulatory Affairs

ACTION: Notice of decision.

SUMMARY: By this Notice, OMB is announcing its decision concerning the revision of Statistical Policy Directive No. 15, Race and Ethnic Standards for Federal Statistics and Administrative Reporting. OMB is accepting the recommendations of the Interagency Committee for the Review of the Racial and Ethnic Standards with the following two modifications: (1) the Asian or Pacific Islander category will be separated into two categories -- "Asian" and "Native Hawaiian or Other Pacific Islander," and (2) the term "Hispanic" will be changed to "Hispanic or Latino."

7. What is this person's race?
Mark one or more boxes **AND** print origins.

White – Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ↴

Black or African Am. – Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ↴

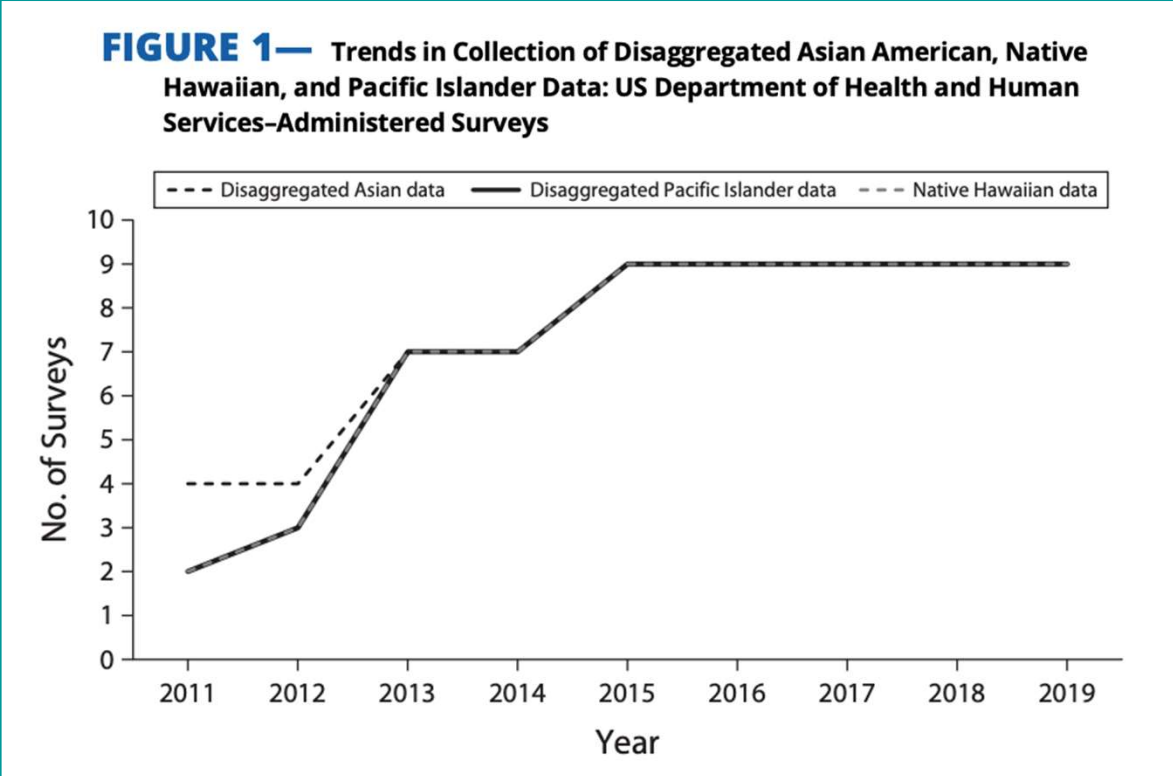
American Indian or Alaska Native – Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc. ↴

<input type="checkbox"/> Chinese	<input type="checkbox"/> Vietnamese	<input type="checkbox"/> Native Hawaiian
<input type="checkbox"/> Filipino	<input type="checkbox"/> Korean	<input type="checkbox"/> Samoan
<input type="checkbox"/> Asian Indian	<input type="checkbox"/> Japanese	<input type="checkbox"/> Chamorro
<input type="checkbox"/> Other Asian – Print, for example, Pakistani, Cambodian, Hmong, etc. ↴		<input type="checkbox"/> Other Pacific Islander – Print, for example, Tongan, Fijian, Marshallese, etc. ↴

Some other race – Print race or origin. ↴

Reference: U.S. Office of Management and Budget archives.

Population-based national surveys in the U.S. have increasingly collected disaggregated Asian American and Pacific Islander data



Reference: Nguyen et al., Am J Public Health, 2022.

However, there are still some HHS-administered surveys that do not collect disaggregated Asian and Pacific Islander data

Survey	Agency	Years of Data Collection	Disaggregated AANHPI Data Collected	Year Disaggregated AANHPI Data Collection Began
Medical Expenditure Panel Survey	AHRQ	2011-2018	Yes	2011 (Asian American), 2012 (NHPI)
Behavioral Risk Factor Surveillance System	CDC	2011-2020	Yes	2013
National Health and Nutrition Examination Survey	CDC	2011-2021	Yes	2011
National Health Interview Survey	CDC	2011-2021	Yes	2011
National Immunization Survey	CDC	2011-2021	Yes	2015
National Survey of Children's Health	CDC (2011-2012), HRSA (2016-2020)	2011-2012, 2016-2021	Yes	2016
National Survey of Family Growth	CDC	2011-2019	Yes	2013
National Youth Tobacco Survey	CDC	2011-2020	No	NA
Native Hawaiian and Pacific Islander National Health Interview Survey	CDC	2014	Yes	2014
Youth Risk Behavior Surveillance System	CDC	2011-2021	No	NA
CAHPS for Accountable Care Organizations Participating in Medicare Initiatives	CMS	2013-2021	Yes	2013
CAHPS for Merit-Based Incentive Payment System	CMS	2016-2021	Yes	2016
Fee for Service CAHPS	CMS	2011-2021	No	NA
Health Outcomes Survey	CMS	2011-2021	Yes	2013
Home and Community Based CAHPS	CMS	2017	Yes	2017
Home Health CAHPS	CMS	2011-2021	No	NA
Hospital CAHPS	CMS	2011-2019	No	NA
In-Center Hemodialysis CAHPS	CMS	2015-2021	Yes	2015
Medicare Advantage and Prescription Drug Plan Disenrollment Survey	CMS	2013-2021	No	NA
Medicare Current Beneficiary Survey	CMS	2011-2021	Yes	2015
Nationwide Adult Medicaid CAHPS	CMS	2014	Yes	2014
Outpatient and Ambulatory Surgery CAHPS	CMS	2016-2021	Yes	2016
Qualified Health Plan Enrollee Survey	CMS	2020-2021	No	NA
Health Center Patient Survey	HRSA	2014	No	NA
Health and Retirement Survey	NIH	2010-2021	No	NA
National Survey on Drug Use and Health	SAMHSA	2011-2019	Yes	2011 (Asian American), 2013 (NHPI)

Reference: Nguyen et al., Am J Public Health, 2022.

Other resources that collect disaggregated Asian and Pacific Islander race information



<https://seer.cancer.gov/>



<https://cdas.cancer.gov/plco/>



<https://www.census.gov/programs-surveys/acs>



<https://www.pewresearch.org/>



<https://hints.cancer.gov/>



<https://www.cancer.gov/connect-prevention-study/>



<https://healthpolicy.ucla.edu/our-work/california-health-interview-survey-chis>



<https://www.facs.org/quality-programs/cancer-programs/national-cancer-database/>

Research recommendations

- 1 Report Asian and Pacific Islander separately
- 2 Consider reporting disaggregated ethnicity or ethnogeographic region
- 3 When data are not available to disaggregate, **Do not:** Relabel to "Asian"
- 4 **Do:** If Asian and Pacific Islander is a critical study finding, describe limitation of inability to disaggregate these groups & report the larger % of Asian in the U.S. may reflect these findings
- 5 Consider consulting with experts and learning about lived experiences with community members/advocates

Acknowledgments

National Cancer Institute

Jacqueline B. Vo, PhD, RN, MPH

Kekoa Taparra, MD, PhD

Meredith S. Shiels, PhD, MHS

Aimée R. Kreimer, PhD, MPH

Loretto J. Carvajal, MD, MSc

Jennifer K. McGee-Avila, PhD, MPH

Jereme Corbin, BS

Erica Stephens, BA

Other

Emily Dema, MSc (University College London)



Rapid Fire Talks

Understanding and applying strategies that work to improve HPV vaccination coverage in AAPI communities.

stjude.org/hpv • [#EndHPVCancers](https://twitter.com/EndHPVCancers)





**HPV Cancer
Prevention
Program**

**Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers**

Community Engagement and Culturally-Tailored HPV Vaccine Interventions for Asian Americans

**Ha Ngan (Milkie) Vu, PhD, MA,
Assistant Professor,
Department of Preventive
Medicine, Feinberg School of
Medicine, Northwestern
University**



Community engagement and culturally-tailored HPV vaccine interventions for Asian Americans

Ha Ngan (Milkie) Vu, PhD, MA

Assistant Professor

Department of Preventive Medicine

Feinberg School of Medicine, Northwestern University

Conflict of Interest

- No COI to disclose

Research on Asian Americans

- Who are Asian Americans?
 - ~22 million in the U.S.
 - 30+ states and countries
 - 100+ languages and dialects
 - Diverse immigration histories, cultural backgrounds, and patterns of health services utilization
- Model minority myth
- Critical gaps in health data reporting for Asian Americans, especially for disaggregated origin groups



Image credit: <https://www.vox.com/identities/22380197/asian-american-pacific-islander-aapi-heritage-anti-asian-hate-attacks>

How it started

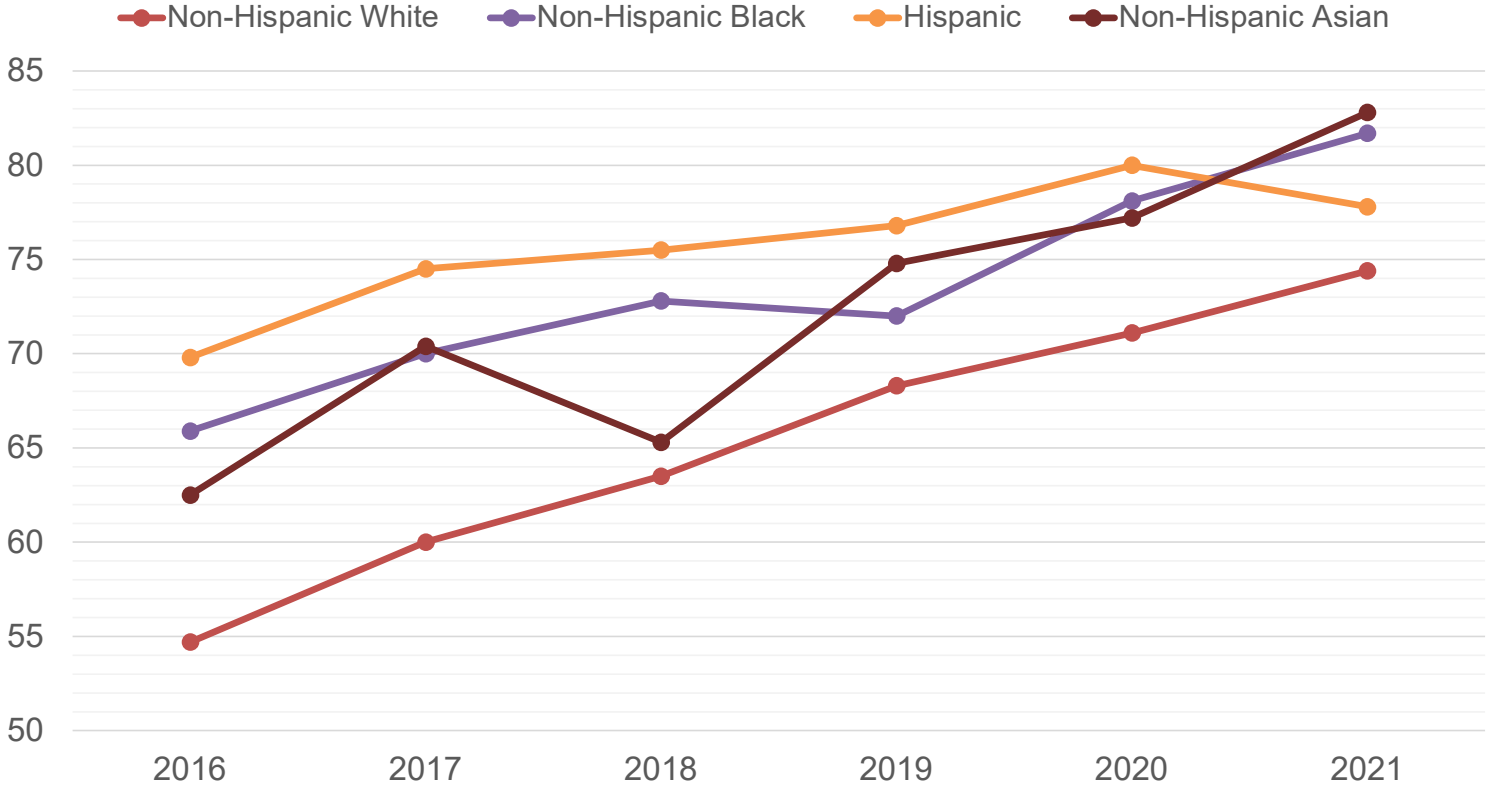
- Asian

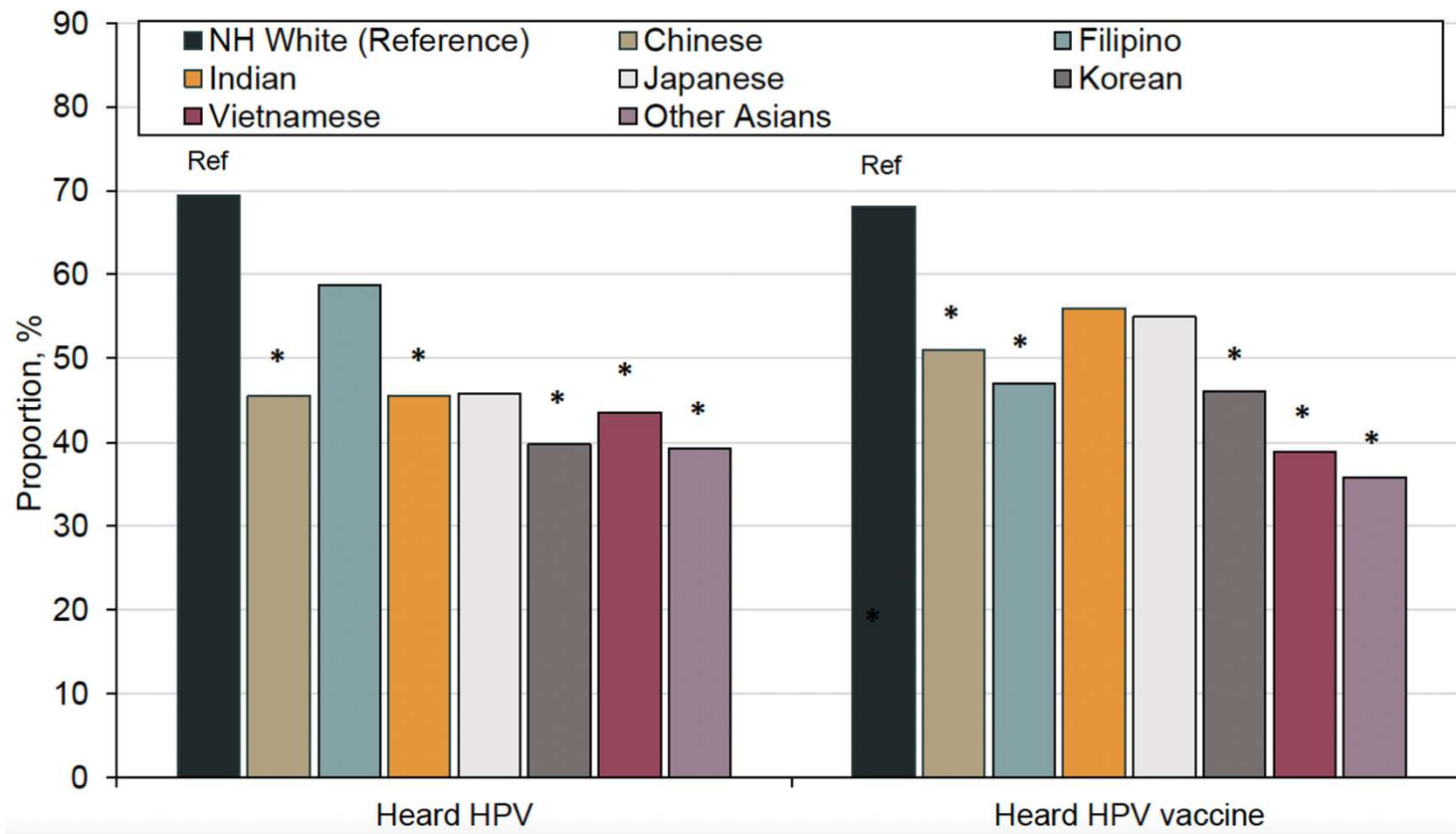


How it's going

- Asian Indian
- Chinese
- Filipino
- Japanese
- Korean
- Vietnamese
- Other

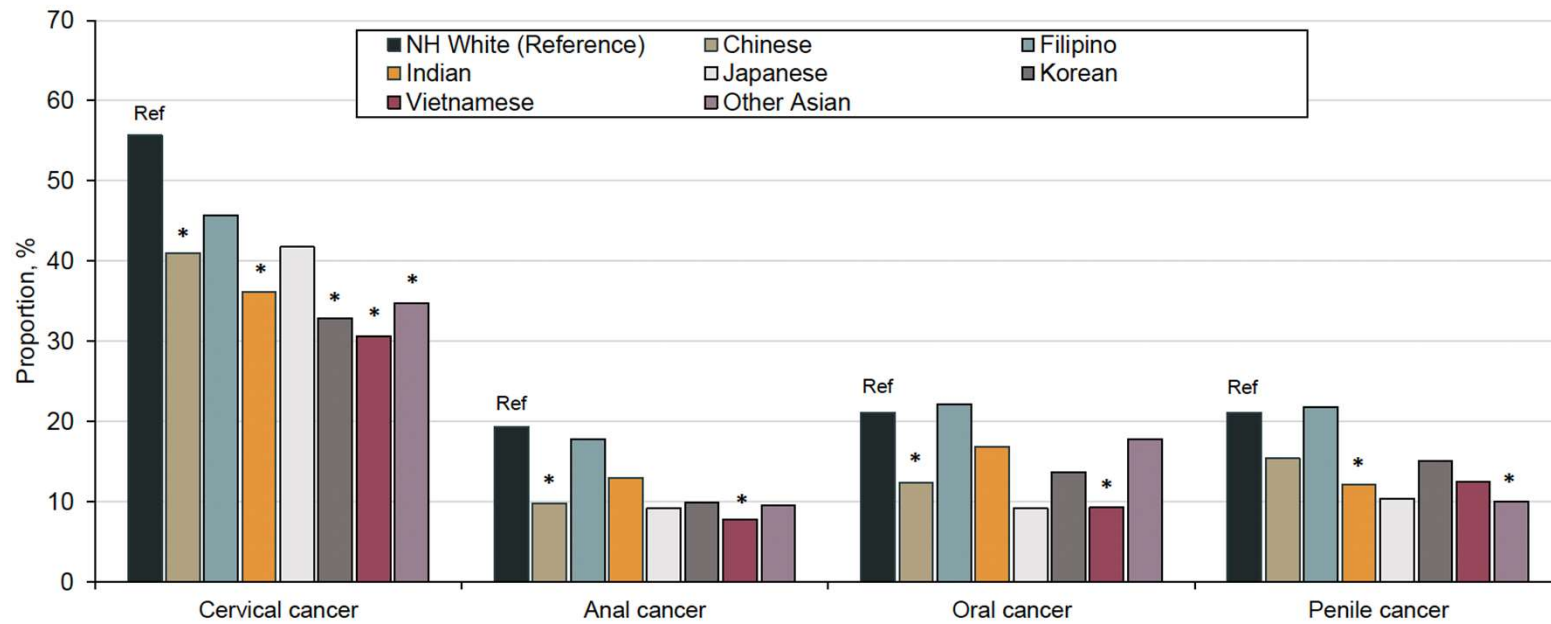
National Immunization Survey - Teen estimates of HPV vaccine initiation by race and ethnicity





Vu et al. 2023, Journal of General Internal Medicine

Figure 2



Vu et al. 2023, Journal of General Internal Medicine



Contents lists available at [ScienceDirect](#)

Vaccine

journal homepage: www.elsevier.com/locate/vaccine



Review

A systematic review of practice-, provider-, and patient-level determinants impacting Asian-Americans' human papillomavirus vaccine intention and uptake



Milkie Vu ^{a,*}, Carla J. Berg ^{b,c}, Cam Escoffery ^{a,d}, Hyun M. Jang ^e, Tien T. Nguyen ^f, Lisa Travis ^g, Robert A. Bednarczyk ^{d,h}

^a Department of Behavioral, Social, and Health Education Sciences, Rollins School of Public Health, Emory University, Atlanta, GA, United States

^b Department of Prevention and Community Health, Milken Institute School of Public Health, George Washington University, Washington, DC, United States

^c George Washington Cancer Center, George Washington University, Washington, DC, United States

^d Winship Cancer Institute, Emory University, Atlanta, GA, United States

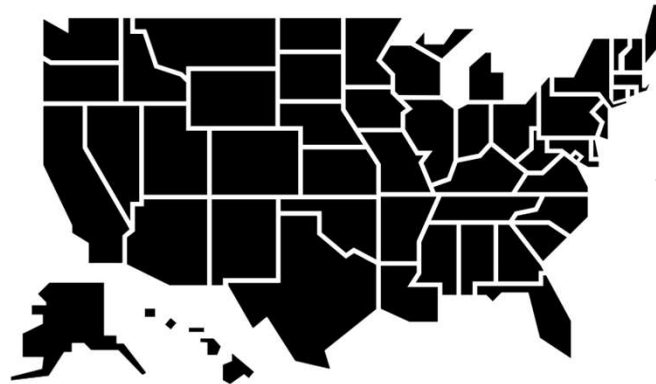
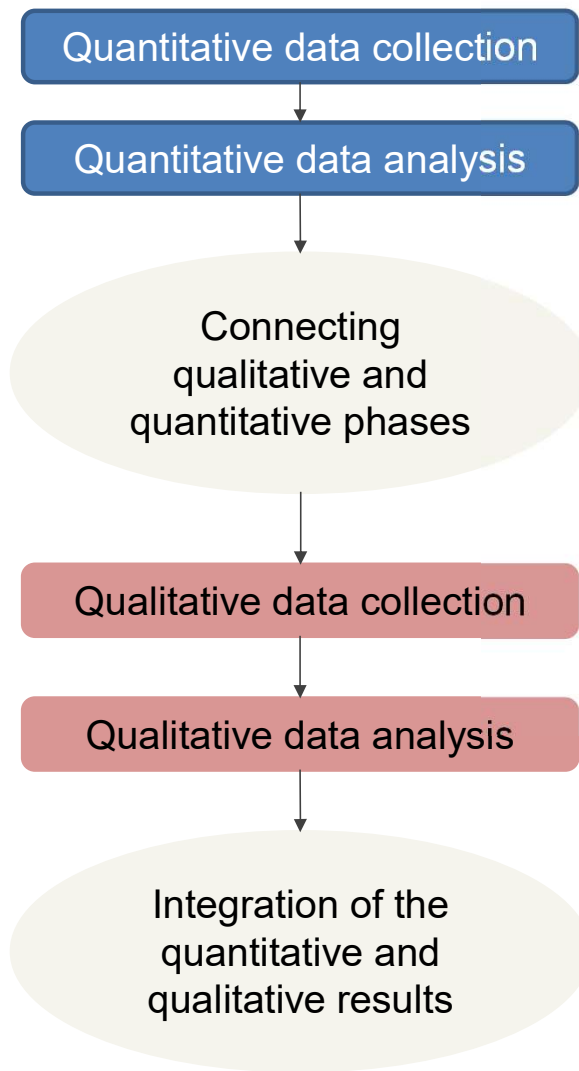
^e Emory College of Arts & Science, Emory University, Atlanta, GA, United States

^f Hanoi-Amsterdam High School for the Gifted, Hanoi, Viet Nam

^g Woodruff Health Sciences Center Library, Emory University, Atlanta, GA, United States

^h Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, GA United States

Trusted sources of information and preferences for intervention messaging about HPV vaccination among U.S. Vietnamese

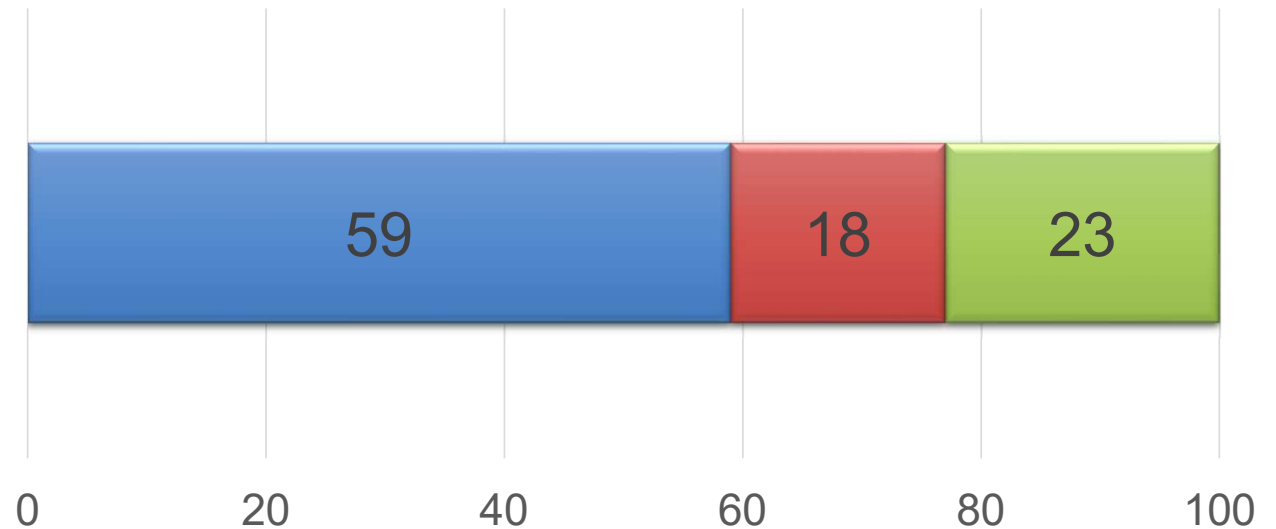


38 U.S. states

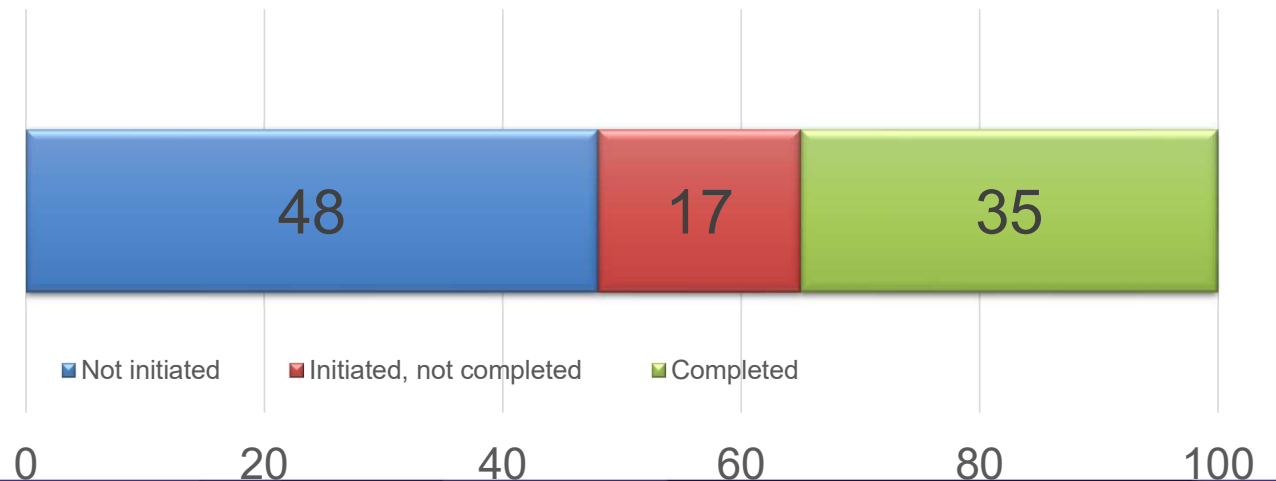
408 U.S. Vietnamese parents (survey)
32 U.S. Vietnamese mothers (interviews)

Vu et al. 2022, Journal of Behavioral Medicine
Vu et al. 2022, Journal of Health Care for the Poor and Underserved
Vu et al. 2023, PEC Innovation

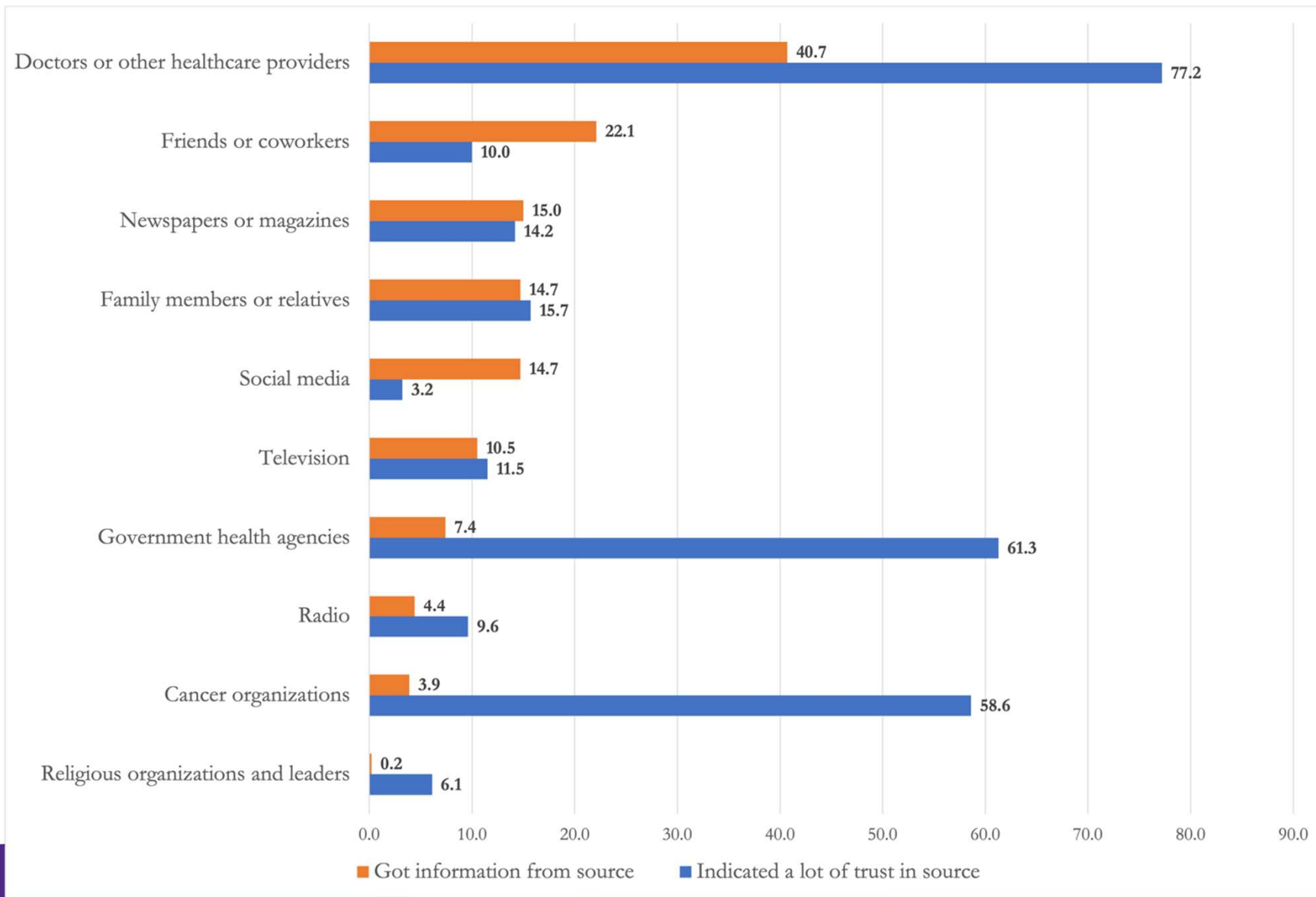
HPV vaccine coverage
in the entire sample
(n=408)



HPV vaccine coverage
among adolescents
ages 13 to 18 (n=222)



■ Not initiated ■ Initiated, not completed ■ Completed



Topics	Quantitative survey results	Qualitative interview results	Meta-inferences and implications for intervention development
Most trusted sources of information around HPV vaccination	Survey participants indicated a lot of trust in information about HPV or the HPV vaccine from doctors or other healthcare providers (77.2%), government health agencies (61.3%), and cancer organizations (58.6%).	Several interview participants mentioned that credible messengers and sources of information about HPV vaccination included physicians, U.S. hospitals, government agencies, public health organizations, and research institutes.	<p style="text-align: center;">Confirmatory</p> Qualitative findings confirmed qualitative results that Vietnamese parents indicated high trust in information about HPV vaccination from healthcare providers, hospitals, government health agencies, or public health and cancer organizations. Interventions should reference evidence-based information from these sources.

Topics	Quantitative survey results	Qualitative interview results	Meta-inferences and implications for intervention development
Effective message content around HPV vaccination	<p>Messages most commonly rated as very to extremely effective for persuading a parent to get the vaccine emphasized the safety of the HPV vaccine (74.7%), experts' endorsement of the HPV vaccine (68.1%), the importance of HPV vaccination prior to HPV exposure via sexual activity (67.7%), and the cancer prevention benefits of HPV vaccination (67.2%).</p>	<p>The majority of interview participants wanted to know about the safety and possible side effects of the HPV vaccine. Most participants voiced the desire to learn about the effectiveness of the HPV vaccine, cancers and diseases prevented by the vaccine, eligibility for vaccination (e.g., age, sex), number of required doses, costs, and access to the vaccine. Several discussed the need for health education information to be in the Vietnamese language. Participants also wanted information addressing common cultural concerns that Vietnamese parents had about HPV vaccine.</p>	<p>Expansion</p> <p>Quantitative results showed that effective messages emphasized the safety of the HPV vaccine, experts' endorsement of the HPV vaccine, the importance of HPV vaccination prior to HPV exposure via sexual activity, and cancers prevented by the vaccine. Qualitative results expanded quantitative results to show that Vietnamese parents desired information in the Vietnamese language. Topics parents wanted to learn about include eligibility and number of required doses, costs, and access. Attention needs to be paid to addressing common concerns about the HPV vaccine among Vietnamese parents, such as effectiveness or potential side effects specific to Vietnamese adolescents or whether parents should delay HPV vaccination for Vietnamese adolescents.</p>

Community Engagement



Using the Multiphase Optimization Strategy to design and test HPV Education & Resources for the U.S. Vietnamese Population (HERO) with implementation in mind

Preparation	Develop a conceptual model; form community partnerships; design four candidate HERO components through community-partnered and user-centered design
	<p>Aims 1 & 2 (conduct a pilot trial): Test individual HERO components in a MOST-guided pilot trial for feasibility, acceptability, and effects</p> <p>Aim 3 (establish the optimization objective): Explore factors influencing the future implementation of HERO</p>
Optimization; Evaluation	<p>Identify HERO component(s) meeting optimization objective; build optimized intervention</p> <p>Confirm effectiveness of the optimized intervention</p>



Acknowledgements

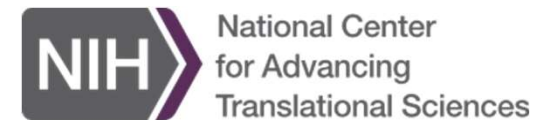
- Community partners:
 - Chinese Mutual Aid Association
 - Center for Pan Asian Community Services
 - BPSOS - Atlanta



Northwestern University
NUCATS
Clinical and Translational Sciences Institute



Healthcare Innovation
Program



Thank you!

milkie.vu@northwestern.edu



HPV Cancer Prevention Program

Empowering and Strengthening Community, Culture and Connection to Prevent HPV Cancers

Digital Storytelling Intervention to Promote Vietnamese American Youth's HPV Vaccination

Angela Chia-Chen Chen, PhD, MS, RN, PMHNP-BC, FAANP

Professor, McLaren Greater Lansing Endowed Chair for Behavioral Mental Health Nursing Education Michigan State University College of Nursing





Digital Storytelling Intervention to Promote Vietnamese American youth's HPV Vaccination

**Angela Chia-Chen Chen, PhD, MS, RN, PMHNP-BC, FAANP
Professor, McLaren Greater Lansing Endowed Chair for
Behavioral Mental Health Nursing Education**



College of Nursing
MICHIGAN STATE UNIVERSITY

This presentation will describe a two-phase research aimed at developing and pilot testing an intervention targeting Vietnamese American and Vietnamese immigrant population.

- Digital storytelling (DST) intervention development
- Pilot testing a culturally and linguistically congruent DST intervention in Vietnamese American/immigrant (VA/I) mothers to promote their children's Human Papillomavirus (HPV) vaccination.

WHY?

- ***HPV infection, the most common sexually transmitted infection in the U.S. and globally.***
 - > 42 million Americans are infected with types that cause diseases and 13 million of them, including adolescents, are infected each year (CDC, 2023)
- ***HPV infection is associated with cancers in males and females.***
 - >90% of anal and cervical cancers, 70% of vaginal and vulvar cancers, 60%-70% of oropharynx cancers, and 60% of penile cancers (CDC, 2022)
- ***Annual deaths attributed to HPV-related cancers***
 - is estimated to be over 7000
 - with a substantial economic burden (US \$3.8 billion) in the United States

WHY?

- Among Asian Am. subgroups, ***Vietnamese American/Immigrant (VA/I)*** females had the highest rates of HPV-related cervical cancer mortality compared with White counterparts (**18.9** vs. **7.1** per 100,000).
- ***Vaccination completion rate is low*** (e.g., **9%**) in VA/I females (Yi et al., 2013), substantially below the Healthy People 2030 goal of **80%**.



WHO?

- HPV vaccine is effective and safe in preventing its related cancers; it is recommended for ***boys and girls at age 11-12 years and can be started at age 9*** (CDC, 2021).
- ***Mother's role in health decision-making*** in Asian American/Immigrant population.
- Factors such as ***limited English proficiency, lack of knowledge, beliefs that vaccination would encourage children's premarital sex*** were associated with low vaccination.



HOW?

- Digital storytelling (DST), which combines ***oral storytelling with computer technology***, has been used as an innovative community-based participatory (CBPR) method tool to communicate culturally relevant health messages in health, educational, and community settings.
- DST engages a small group of participants in ***creating and sharing*** brief visual narratives incorporating photos/images, soundtrack/music, artwork, and the voice of community participants.
- Community members participating in creating digital stories have expressed ***feelings of empowerment, sense of self-efficacy, and have strengthened perceptions of social support*** to promote positive behaviors in varying health contexts.



Methods: Phase I

- **Sample:** Four VAI mothers (mean age = 50.5 years) who were born in Vietnam.
 - Have at least one child aged 11-14 who were vaccinated against HPV.
 - The mean immigration length was 24.5 years. Two mothers were more fluent in Vietnamese; the other two were more fluent in English.
 - They had family members diagnosed with cancer.
 - Source of HPV vaccine: **school nurse, daughter who is a nurse, pediatrician, media.**



Methods: Phase I

- **Procedure:** two-day DST workshop
 - Preparation
 - Workshop: Day 1 & 2
 - Each mom received \$150 and stories file for their contribution.
- **Outcome:** 4 culturally congruent, first-person, audiovisual digital stories about HPV vaccination with mothers of vaccinated children. The stories (2-3 minutes each) were produced in both English and Vietnamese.



Methods: Phase II

- A quasi-experimental single-group pre-posttest design to examine feasibility, acceptability and preliminary effect of the DST intervention on VA/I mother's attitudes toward vaccination, intention to vaccinate the child, and child's vaccine uptake among their unvaccinated children.
- Mothers viewed the stories and filled out an anonymous online survey immediately before (T0) and after the intervention (T1), and at the 2-month follow-up (T2). All procedures were conducted online.
- Each mom received \$40 gift card for the time and efforts.



Measures

CONSTRUCT	ITEMS	SCORING
Sociodemographics ^{1,2}	mother's age, birthplace, immigration/language, education, employment, child receives free/reduced-price lunch in school, health insurance, cancer history (self and family), source of HPV information	varies
Narrative quality ²	Two 6-item subscales: identification (with characters, story, and cultural elements) and transportation (emotional engagement).	1 (disagree a lot) to 5 (agree a lot); a higher score in subscales indicates stronger identification and higher level of transportation
HPV Attitudes ²	6 Likert scale items: e.g., If nothing is physically wrong, then my child does not need the vaccines; It's shameful to have my child vaccinated because people may think they're already sexually active in this young age	1 (strongly disagree) to 5 (strongly agree). Mean score ranges 1 to 5, with a lower score indicating more positive attitudes toward HPV vaccination . Alpha: 0.78 - 0.81
Vaccine intention ²	Do you plan to vaccinate your child against HPV?	No = 0, Yes = 1
Child vaccine uptake ²	Has your child received the first dose of HPV vaccine?	No = 0, Yes = 1

Note: 1 = DST participants; 2 = survey participants. All materials were available in English and Vietnamese



Sample Characteristics

- N=114 VAI mothers (mean age = 41.5 years; SD = 5.4)
- 34.2% were born outside of the United States; mean length of immigration was 26.2 years (SD = 9.1).
- 51% of the mothers reported their highest education level as high school or below, 58% were not working
- 51% reported having a child who received free or reduced-price lunch at school.
- Cancer history: 12% of mothers had been diagnosed with cancer, 37% reported having one or more family members diagnosed with cancer.
- HPV information: 60% learned about HPV and vaccine; 31% identified health care provider was one of the learning sources.



Statistical Analysis

- *Power*: At $\alpha=0.05$, $N = 114$ affords 0.80 power to detect small to moderate standardized within-person differences (Cohen $d \geq 0.27$) for continuous measures and moderate effects ($OR \geq 2.55$; Cohen $g \geq 0.22$) for binary outcomes.
- *Univariate* (e.g., means, frequencies) & *correlation* analyses to describe distributions of, and association among, key variables
- *Paired-sample t tests* to examine changes in attitudes from pre- to post-intervention.
- *McNemar test* for binary repeated measurements to examine changes in vaccination intention from pre- to post-intervention.
- Examined moderating effect of *target child's sex* (boy vs. girl) in change in attitudes and intentions in generalized linear mixed models.



Results

A 3D graphic showing the number '80' in red and the percentage symbol '%' in yellow, with a shadow underneath.

✓ *Feasible?*

- Participation rate (% eligible individuals agreeing to participate) = 100%
- Retention rate (proportion retained through 2-mo follow up) = 88.4%

✓ *Acceptable?*

- 86.8% would recommend it to others



Results

Table 1.

	Mean/Freq.	SD/%	Range	
N=114				
Outcome (0=no, 1=yes)				
HPV vaccine intention (T0)		53%	0-1	OR = 9.12 Cohen's g = 0.40
HPV vaccine intention (T1)		74%	0-1	$\chi^2(1, N = 114) = 17.63,$ $p < 0.001$
Child received the 1 st dose (2 mo f/u)		56%	0-1	
Attitudes (1=strongly disagree; 5=strongly agree)				
If nothing is physically wrong, then my child does not need the vaccines	Pretest M = 2.32 Posttest M = 2.07		1-5	$t(113) = -2.11, P = 0.037$
It's shameful to have my child vaccinated because people may think they're already sexually active at this young age	Pretest M = 2.31 Posttest M = 1.99		1-5	$t(113) = -2.60, P = 0.011$
Narrative Quality Assessment (T1 only)	3.90	1.0	1-5	
Identification	3.87	1.0	1-5	
transportation	4.06	1.0	1-5	
I would recommend the digital stories to their relatives, friends, or colleagues to learn more about HPV and vaccine		86.8%		

Results

- ❖ **Attitudes:** “If nothing is physically wrong, then my child does not need the vaccines.” Mothers of boys showed a significant improvement ($M0 = 2.58$ vs. $M1 = 1.99$; $p=0.002$)
- ❖ **Mother’s intention to vaccinate children:** not differed by child’s biological sex.



Discussions

- ✓ **The increase in mothers' intention to vaccinate their children provided preliminary support for the effectiveness of using digital stories as an intervention to promote HPV vaccination in the VA/I population including financially disadvantaged families.**
 - codeveloped with VA/I mothers who shared similar cultural norms and values with our target population.
 - stories were highly engaging and held their attention
 - 86.8% would recommend it to relatives, friends, and colleagues.
- ✓ **At 2-month follow up, 56% reported that the child had received the 1st shot (no evidence to compare with).**



Limitations

- Lack of a control group
- Self-reported vaccine uptake data
- Longer follow up for vaccination completion
- The findings reported here may not generalize beyond VAI mothers who share similar characteristics.



Implications

- ***Preliminary support for the effect*** of a culturally and linguistically congruent DST intervention on VAI mother's vaccine intention and child's 1st dose intake.
- The ***unique barriers of language and culture*** for VAI population may be mitigated by a DST intervention that describes scenarios using voices from their community in an easily delivered and highly accessible digital video format.
- This ***low-cost*** DST intervention is ***easy and feasible to deliver*** and can be ***scaled quickly***.



Acknowledgement



- We thank VA/I mothers who co-developed the stories and participated in our study; our community partners who helped coordinate the activities.
- Interdisciplinary team: Drs. Kim, Todd, Larkey
- Funding: American Nurses Foundation & Oncology Nursing Foundation

Photo source: Taiwan Health Promotion Administration Ministry of Health and Welfare



ASK ME: chenang6@msu.edu



Moderated Discussion

Empowering and Strengthening Community, Culture
and Connection to Prevent HPV Cancers



**Angela Chia-Chen Chen, PhD,
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Anna Ogo,
Cervivor Ambassador and
Cervivor Japan Liaison



**Jaimie Z. Shing, PhD,
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Medicine, Northwestern
University

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Closing Remarks

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Resources



HPV Cancer Prevention Program

PATH to prevention

Empowering and Strengthening Community, Culture and Connection to Prevent HPV Cancers

Focus on Asian American and Pacific Islander Communities

People who identify as Asian American and/or Pacific Islander have lower rates of HPV cancers overall and also lower HPV vaccination coverage overall. However, aggregated data limit interpretation of important differences that may require urgent action. Using disaggregated data to understand how individual racial, ethnic, and cultural identity contributes to thriving communities and connections across communities, can be important to help us understand differences in HPV vaccination coverage and rates of HPV cancers. By empowering and strengthening community, culture, and connections, these strengths can be leveraged to prevent cancers with Asian American and Pacific Islander communities through tailored outreach and approaches.

HPV Vaccination Rates for 13-17-Year-Olds Identifying as Asian American or Pacific Islander as of 2022

	>1 HPV	HPV vaccine UTD
United States Overall ages 13-17	76%	63%
Asian, non-Hispanic by age 13	58-77%	49-59%
Asian, non-Hispanic by age 14	73-80%	58-67%

Note: No data provided for adolescents identified as Pacific Islander due to small sample size.

HPV vaccination coverage, based on available data, show some Asian American populations with low coverage. Future efforts should be made to achieve the Healthy People 2030 goal of 80% vaccination among all adolescents and address gaps observed among Asian American populations. Disaggregated HPV vaccination data are needed to better align intervention efforts.

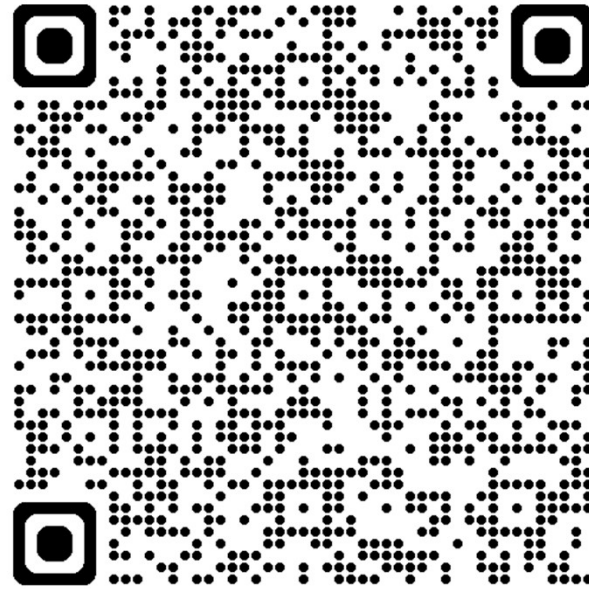
HPV Vaccination Rates for 13-17-Year-Olds Identifying as Asian American or Pacific Islander as of 2022

U.S. Overall >1 HPV	76%	U.S. Overall HPV UTD	63%
Asian American >1 HPV	69%	Asian American HPV UTD	TBD

Pacific Islander unavailable due to small sample size

For more information visit stjude.org/hpv or email PreventHPV@stjude.org.

New AAPI Factsheet Now Available!



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Empowering and Strengthening Community, Culture and Connection to Prevent HPV Cancers

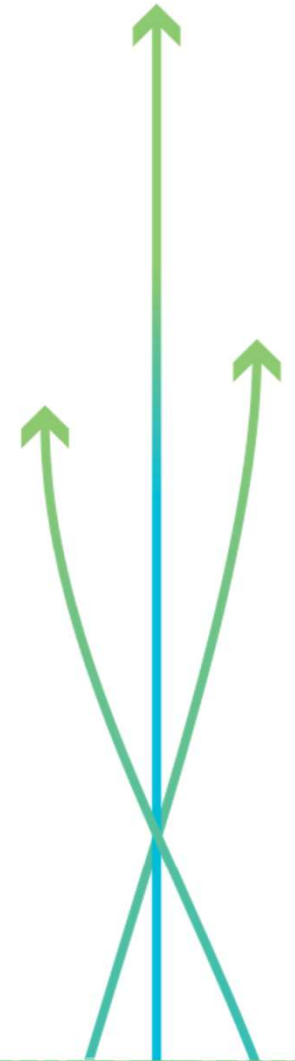
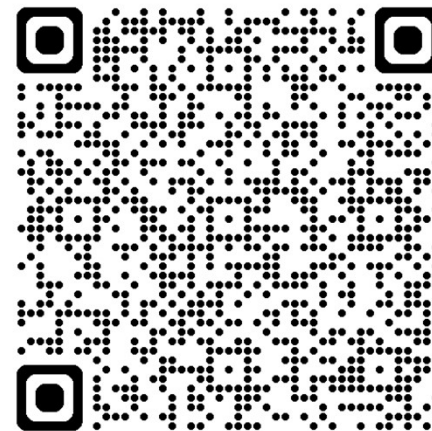
Please consider joining us for upcoming seminars in this series.

Vacunación Sin Barreras: Addressing HPV Vaccination Inequities and HPV Cancer Disparities in Hispanic and Latino Communities

October 2, 2024, 12:00 – 1:15 pm CT

Empowering American Indian and Alaskan Native Communities: Bridging Gaps in HPV Vaccination and Cancer Prevention

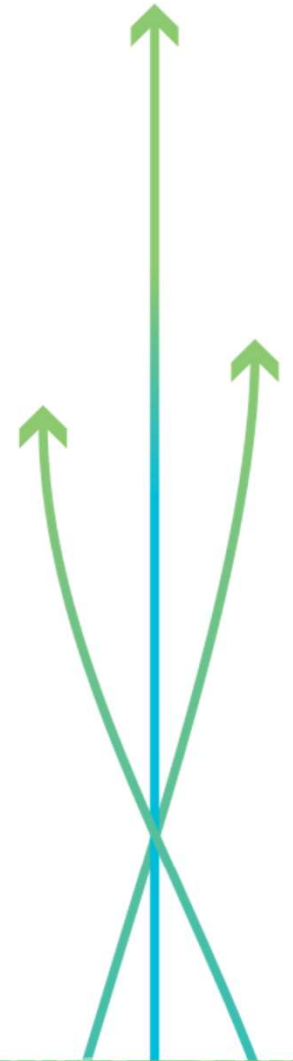
November 6, 2024, 12:00 – 1:15 pm CT



Evaluation

We hope you enjoyed this seminar, and we would like to ask for your feedback.

Please take a few minutes now to complete a brief evaluation.



Thank you for attending!

For more information, please
email PreventHPV@stjude.org
or visit stjude.org/hpv.

