

Cancer Surveillance Research in Asian Americans

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CANCER PREVENTION INSTITUTE
OF CALIFORNIA

Preventing Cancer. Promoting Life.

Was planning to present...

Cancer incidence trends among Asian American populations in the United States, 1990-2008

Cancer incidence trends among Native Hawaiian and Pacific Islander populations in the United States, 1990-2008

- Soon to published in the Journal of the National Cancer Institute (JNCI)
- Collaborative effort between SEER and multiple SEER registries (GBACR, LA, CCR, Hawaii)

Outline

- Overview of CPIC, cancer registries, and cancer surveillance research
- Selected highlight of research in Asians:
 - Breast cancer incidence & survival
 - Prostate cancer risk profiles



Who is CPIC?

- Started in 1974 to support clinical trials
- Up until 2010, called the Northern California Cancer Center
- Today, independent non-profit cancer research, education, outreach organization
 - Research in population-based cancer research focusing on prevention (risk & adverse outcomes)
 - Every Woman Counts Cancer Detection Program
 - Community Education Program
- www.cpic.org



CPIC's Mission

The mission of the Cancer Prevention Institute of California (CPIC) is to prevent cancer and to reduce its burden where it cannot *yet* be prevented.

The Cancer Prevention Institute of California works across all communities to:

- *Explore* the causes of cancer by studying the genetic, environmental, and viral origins of cancers, and, once these causes have been established,
- *Aid* prevention by identifying where appropriate intervention can stop cancer before its starts
- *Ensure* that cancer prevention and treatment strategies benefit all people everywhere by
 1. monitoring the incidence of cancer among the general public,
 2. investigating racial or ethnic based disparities in cancer prevention tactics or care options,
 3. educating the public about cancer prevention, treatment, and survivorship options, and
 4. reaching out to underserved populations to ensure that they have equal access to these advances.



CPIC's Research

- Population-based, epidemiological
- Major programs:
 - Breast Cancer Family Registry
 - California Teachers Study
 - Environmental research
 - Childhood cancers
 - Survivorship research
 - Community-based participatory research
 - Vietnamese nail salon workers
 - Cancer surveillance
 - Breast cancer, lymphomas, melanoma
 - Hispanics, disparities
 - Asians



Cancer registry overview



What is a cancer registry?

- Repository of information about cancers
 - Tumor level, patient level
 - Patient demographics, tumor characteristics, diagnostic and treatment specifics
- Types of cancer registries
 - Hospital
 - Report its data to accrediting organizations, central registry
 - Central (population-based)



What is a “population-based” cancer registry?

- Repository of information that includes all newly diagnosed tumors
 - Defined time period
 - Defined geographic area
 - e.g., county, counties, state, country
 - Defined population
 - Residents of area at diagnosis



Why is being “population-based” important?

- Cancer burden is not equally distributed
 - age, sex, race/ethnicity, social class, geography, etc.
- Population-based cancer data are complete
 - for given population groups/regions, etc.
- Because everyone is included, findings from population-based cancer data are representative & generalizable

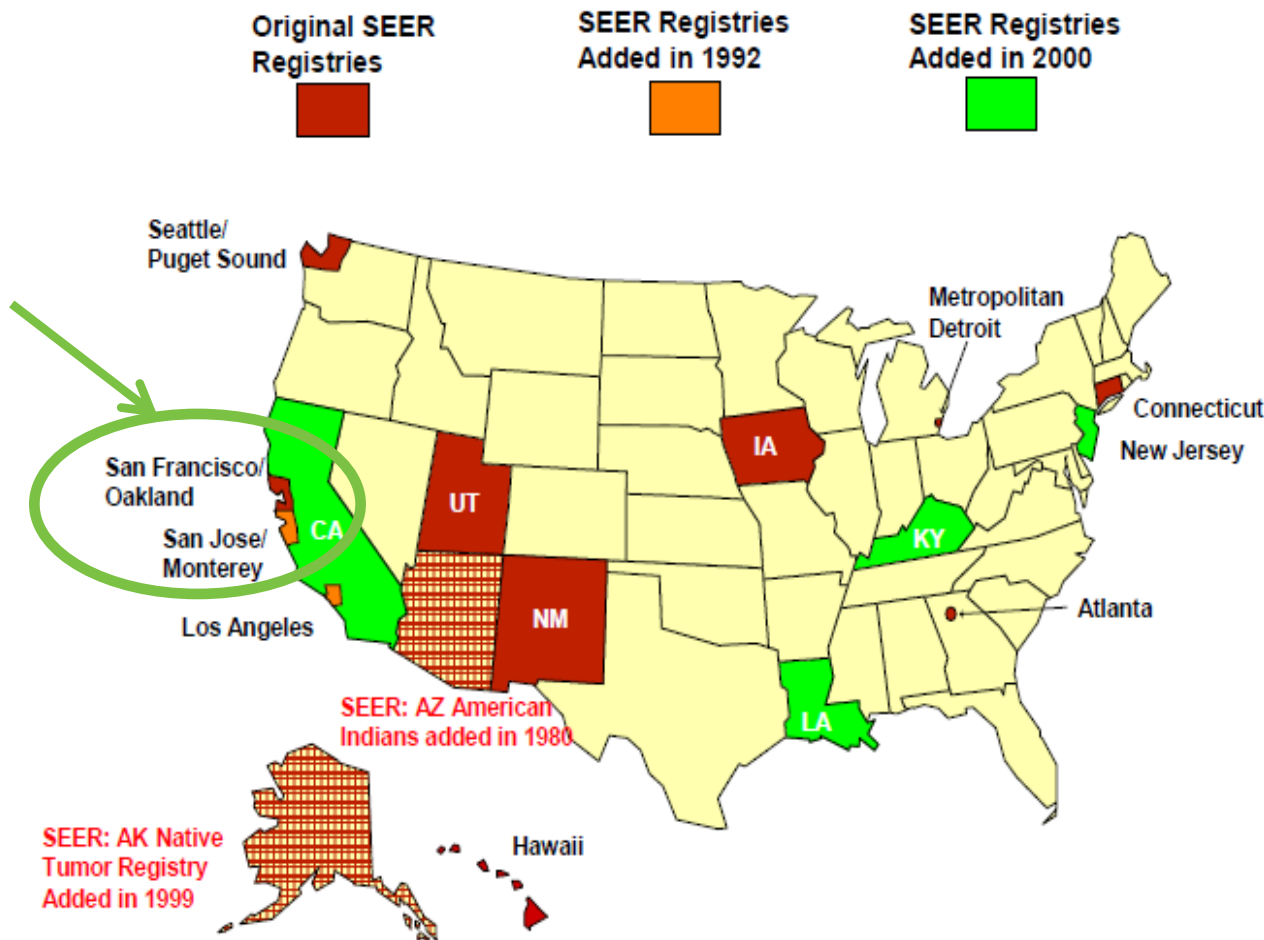


How is population-based cancer registration possible?

- Mandated by state laws
 - Cancer is a reportable disease
 - All states in US
- Careful establishment of data and data collection standards
 - National standard-setting organizations
 - Training



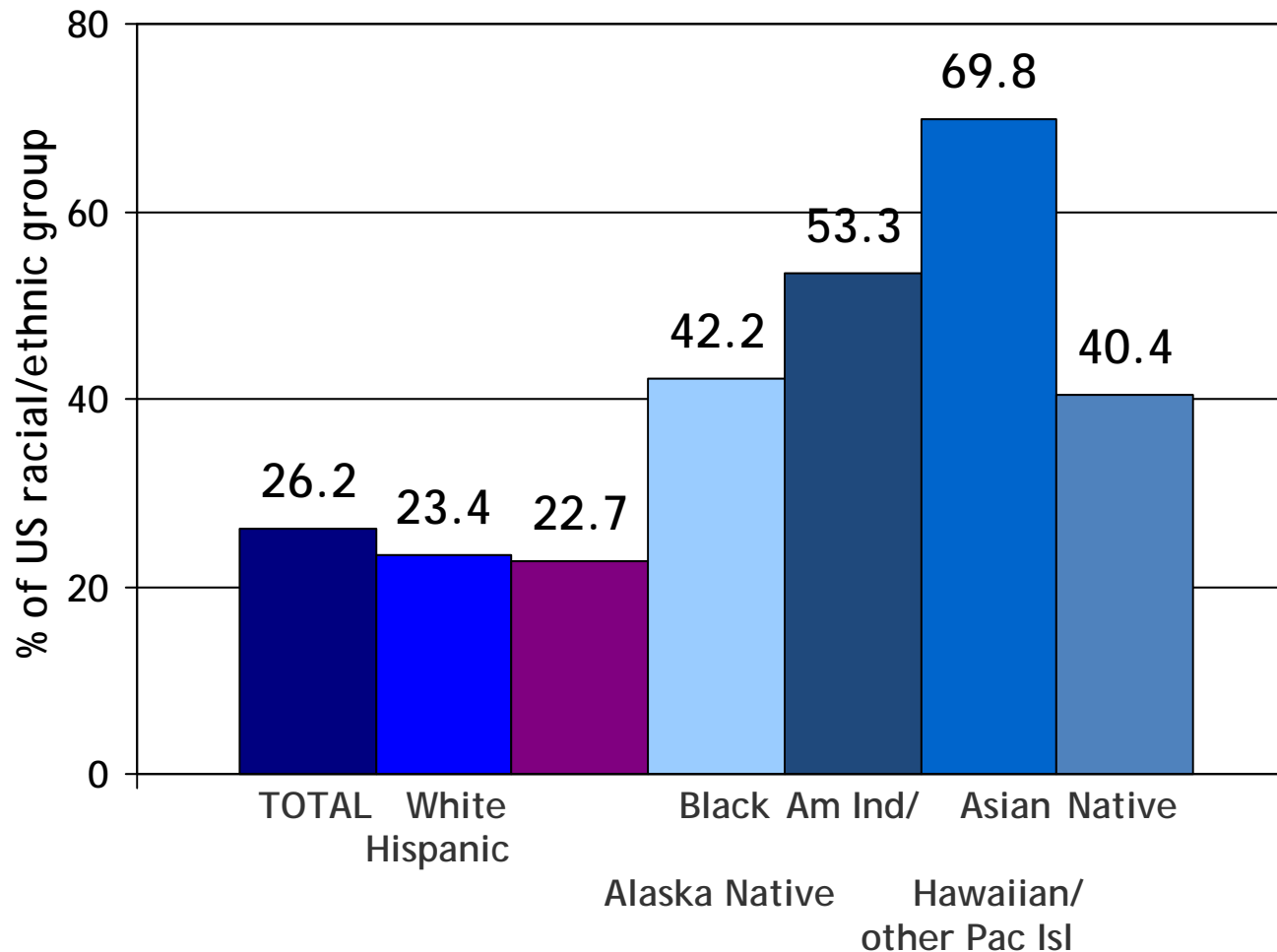
Surveillance, Epidemiology and End Results (SEER) program



- 9 regions with coverage from 1973-2007
- All 18 regions with coverage 1992-2007
- Now 26% of the total US population

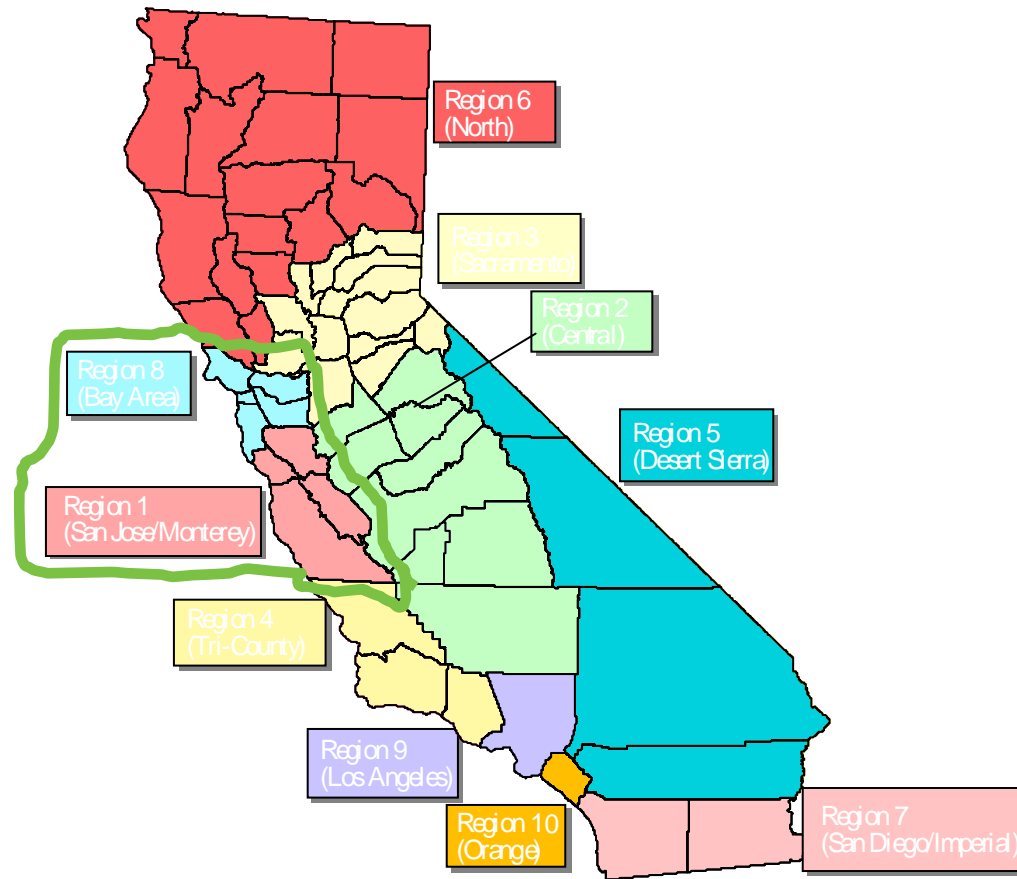


Coverage by race/ethnicity in SEER regions



California Cancer Registry (CCR)

- 1985
 - Cancer Reporting Law
 - CCR established
 - Cancer reportable
- 1988
 - Reporting statewide
 - 10 regional registries
- 1988-2007
 - >3.4 M cancer cases
 - >162,000 new cases annually
- 2001
 - 3 SEER programs
 - Greater Bay Area, Los Angeles, all else (Greater CA)



What data items are collected?

- Patient demographic information
 - Name, social security number, address at diagnosis, date of birth, race, ethnicity, gender, marital status, birthplace
- Tumor information
- Anatomic site, histology, detailed extent of disease (stage: tumor size, tumor extension, lymph nodes, metastasis at diagnosis, etc.), new site-specific factors
- Treatment information (first course only)
- Surgery, chemotherapy, radiation therapy, hormone therapy, immunotherapy
- Survival information
- *All patients followed for vital status for life*
- *Recurrence, metastatic disease NOT reported*



Data resources

- Registry data as is - cancer patients & survivors
- Registry data + census/population data - rates
- Linked to other databases, e.g.,
 - SEER-Medicare
 - Claims data for persons ≥ 65 from before, during and after initial cancer diagnosis and treatment
 - CCR-California OSHPD (Office of Statewide Health and Policy Development) claims data
 - Hospital characteristics
 - SEER linked to other registries
 - HIV/AIDS, transplant database, cosmetologist
 - California Neighborhoods Data System (numerous measures on the social and built environments in California)



Cancer Surveillance Disparities Research Program



Cancer surveillance research

- Subdiscipline of cancer research “in which systematically collected data on cancer patients and population characteristics are analyzed and interpreted to examine and test hypotheses about cancer predictors, incidence, and outcomes in geographically defined populations over time” (Glaser et al. CCC 2005)
- Primary resource = cancer registry data

CPIC Surveillance Disparities Research Program

Overall objective:

To optimize cancer surveillance data resources for identifying detailed population subgroups experiencing disparities in cancer incidence, diagnosis, treatment, and outcomes.



Surveillance Disparities Research Program

- Optimize =
 - To understand quality of registry data
 - Race & ethnicity - extent of misclassification
 - Birthplace - bias in completeness
 - Individual SES - availability in medical records
 - Language - availability & accuracy in medical records
 - To enhance data
 - Immigration
 - Social & built environment
 - Institutional environment, access to care



Surveillance Disparities Research Program

- Detailed subgroups = groups defined by:
 - Detailed race/ethnicity (e.g., Asian populations)
 - Nativity, age/year of immigration
 - Contextual environment:
 - Social
 - Built
 - Immigration
 - Institutional



Breast Cancer in Asian Women



“I was diagnosed with breast cancer 5 years ago. When the doctor told me that I had breast cancer I was in shock because I thought this is a white women/old people disease. Later, I was even more surprised to find out that many of the Asian women I knew had breast cancer, but nobody talked about it.”

(personal communication from a breast cancer survivor)



*Breast cancer disparities in Asian women
- incidence*



Background

- Prior study (Stanford et al., Epidemiology 1994):
 - Compared incidence rates among US Asians by nativity
 - Chinese, Japanese, Filipina; Seattle, Bay Area, LA; 1973-1986; Ages 20-79
 - Unknown birthplace:
 - Chinese = 22%
 - Japanese = 13%
 - Filipina = 20%
 - Assumed same distribution of nativity among cases w/unknown birthplace



Breast cancer incidence rates*, California, 1988-2004

Race/Ethnicity	Rate (95% CI)
N-H White	146.1 (145.5-146.7)
Asian **	82.7 (81.6-83.8)

* Rates, per 100,000, adjusted to the US 2000 standard

** Asian = Chinese + Japanese + Filipina + Korean + Vietnamese + South Asian



Breast cancer incidence rates*, California, 1988-2004

Race/Ethnicity	Rate (95% CI)
N-H White	146.1 (145.5-146.7)
Asian **	82.7 (81.6-83.8)
Chinese	73.5 (71.6-75.4)
Japanese	102.5 (99.3-105.9)
Filipina	100.4 (98.1-102.8)
Korean	46.3 (43.8-49.0)
South Asian	77.0 (72.1-82.1)
Vietnamese	59.9 (56.7-63.1)

* Rates, per 100,000, adjusted to the US 2000 standard

** Asian = Chinese + Japanese + Filipina + Korean + Vietnamese + South Asian



Breast cancer incidence rates*, California, 1988-2004

Race/ ethnicity	Combined (US+foreign born)	US-born	Foreign- born	Rate ratio (95% CI) (US/foreign)
N-H White	146.1	-	-	-
Asian**	82.7	120.6	76.3	1.6 (1.5-1.6)
Chinese	73.5	122.1	66.3	1.8 (1.7-2.0)
Japanese	102.5	106.1	103.1	1.0 (1.0-1.1)
Filipina	100.4	129.5	98.2	1.3 (1.2-1.4)

* Rates, per 100,000, adjusted to the US 2000 standard

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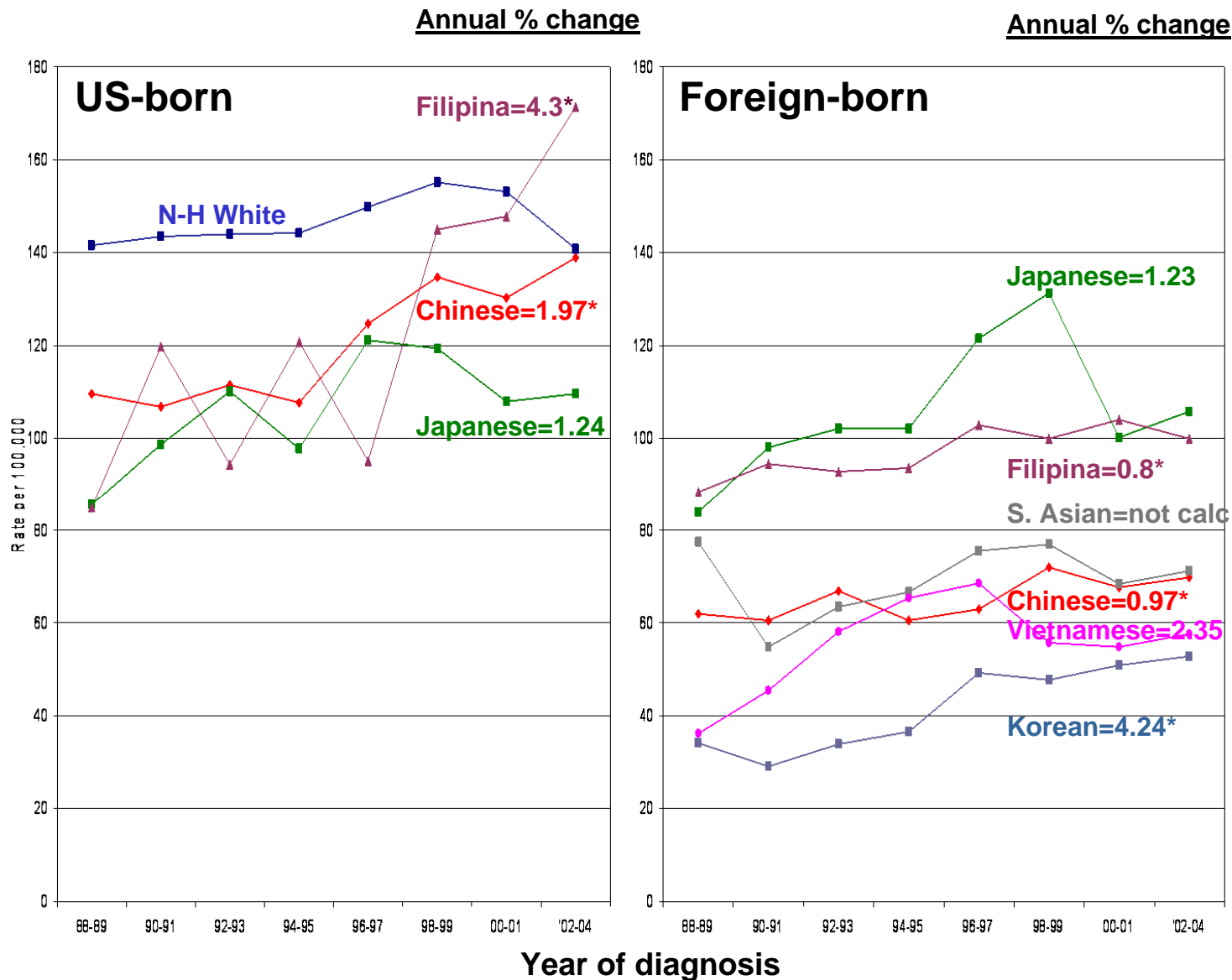
Breast cancer incidence rates* by age, California, 1988-2004

Race/ethnicity	≤44 yrs	45-54 yrs	≥55 yrs
N-H White	27.1	240.7	449.2
US-born			
Chinese	39.8	276.9	275.6
Japanese	23.9	205.8	294.2
Filipina	43.1	334.3	263.8
Foreign-born			
Chinese	18.9	161.2	167.9
Japanese	24.8	196.0	283.6
Filipina	25.9	215.1	245.0

* Rates, per 100,000, adjusted to the US 2000 standard



Breast cancer trends by immigrant status, California



Conclusions

- Rates among US-born about 60% higher than foreign-born, with exception of Japanese
- Pre-menopausal rates among US-born Chinese & Filipinas higher than Whites
- Large increase in rates over time among US-born Filipinas and foreign-born Koreans
- Rate among US-born in 2000-2004 exceeded (Filipinas) and equal to (Chinese) that of Whites

Burden of breast cancer is not low among Asians!



Conclusions

- Implications:
 - targeted cancer control, increased awareness and clinical education, to high-risk groups
 - age-specific patterns provide clues to novel risk factors associated with immigration patterns



*Breast cancer disparities in Asian women
- survival*

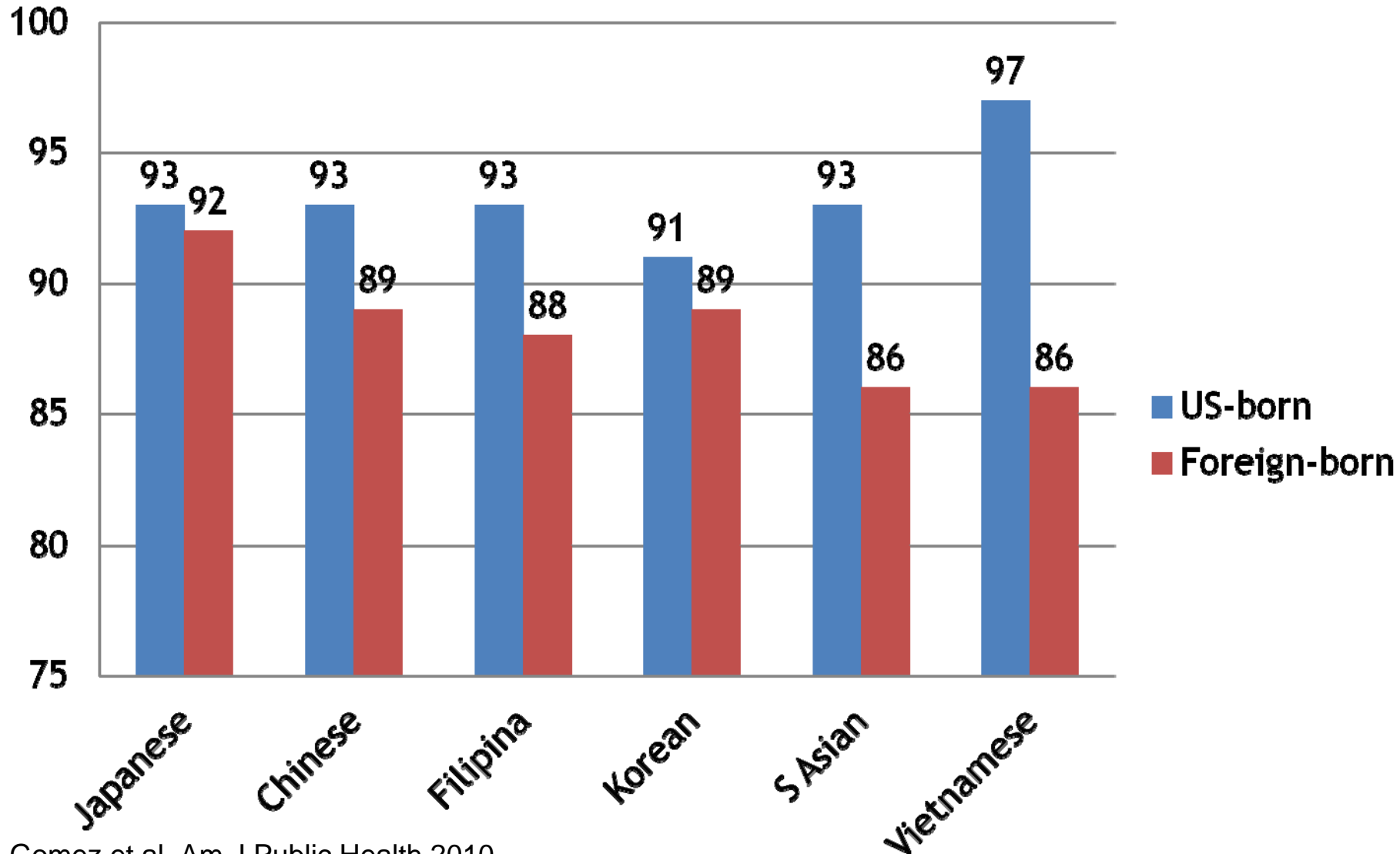


What we used to know about survival after breast cancer in AA & NHPI women

- Survival after breast cancer most favorable among AAs & NHPIs of all racial/ethnic groups
relative risk of death (relative to non-Hispanic White women):
 - = **0.87** (SEER-wide, Clegg et al. Arch Int Med 2002)
 - = **0.97** (GBACR, O'Malley et al. Cancer 2003)

Adjusted for stage and other patient sociodemographic and clinical factors

Unadjusted 5-year survival after breast cancer in AAs, California, 1998-2005



Relative death rates after breast cancer among AA ethnic groups, California, 1998-2005

Nativity	Japanese (N=3586)	Chinese (N=5654)	Filipina (N=7428)	Korean (N=1337)	South Asian (N=1158)	Vietnamese (N=1584)
US-born	1.0	1.0	1.0	1.0	1.0	1.0
Foreign-born	1.1 (0.9-1.4)	1.6 (1.3-1.9)	1.3 (1.0-1.7)	1.1 (0.5-2.1)	1.4 (0.7-2.5)	3.9 (1.4-10.6)

Adjusted for stage, histology, ER status, grade, marital status, neighborhood socioeconomic status
Follow-up through 2007
Gomez et al. Am J Public Health 2010

Dissemination and impact

- Reported in several news releases
- Covered in Cantonese & Mandarin evening news (KTSF)
 - calls to state Every Woman Counts screening program increased 10-fold
- Presentation at National Press Club, Washington DC
- Published in first issue of AJPH devoted to Asian American, Native Hawaiian, & Pacific Islander health
- “2010 Author of the Year” (Am Journal of Public Health)

"The implications of this research for public health are profound. That survival after breast cancer is poorer among foreign- than US-born Asian women speaks volumes about who is screened and who receives appropriate care in this country. Because little of this variation was explained by differences in disease characteristics, attention must focus instead on increasing awareness among affected communities and their providers and targeting cancer control programs and policies to address these documented disparities.

Never again should we overlook the grave health disparities that exist in our heterogeneous Asian communities or potential strategies that might alleviate needless pain and suffering."

(Mary Northridge, Editor-in-Chief, American Journal of Public Health, Dec 2010)



Current Work

- Identify underlying factors
 - Survivorship studies
 - “Equality in Breast Cancer Care”
 - to evaluate impact of factors at multiple levels on cancer care & quality of life
 - California Breast Cancer Survivorship Consortium
 - to pool data from seven breast cancer studies to examine what factors explain racial/ethnic differences in stage-specific breast cancer survival
 - Etiology studies
 - Asian Community Health Initiative (Asian CHI)
 - Pilot case-control study to identify novel risk factors
 - Partnership with Asian Pacific Islander American Health Forum (APIAHF), Asian Health Services (AHS), and Asian Americans for Community Involvement (AACI)
 - We are recruiting controls!
 - www.asianchi.org

Prostate Cancer Risk Profiles



The Team...

- Gem Le
- Thu Quach
- Laura Allen
- Helen Chen
- Thu Quach
- Kathie Lau
- Mei-Chin Kuo
- Zinnia Loya
- Lavetta Cross
- Shyanne Reese
- Alene Pham
- Karen Llagas
- Jolyn Smith
- Kristine Winters
- Katie Barends
- Sally Glaser
- Tina Clarke
- Theresa Keegan
- Rita Leung
- Daphne Lichtensztajn
- Li Tao
- David Press
- Cammie d'Entremont
- Esther John
- Pam Horn-Ross
- Dave Nelson
- Salma Shariff-Marco
- Clayton Schupp
- Andrew Hertz
- Jocelyn Koo
- Meera Sangaramoorthy
- Juan Yang

...plus many more collaborators!

Look out for...

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Thank you!

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