Comparison of Maternal Characteristics and Low Birthweight Among Asian Subgroups in California

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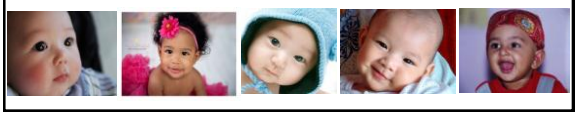
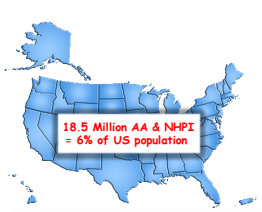
Study Objective

This study sought to describe maternal characteristics and differences in the risk of delivering a low birthweight (LBW) infant among eight Asian subgroups living in California.



There are 18.5 million Asian Americans, Native Hawaiian, and Pacific Islanders (AA, NHPI) in the U.S.



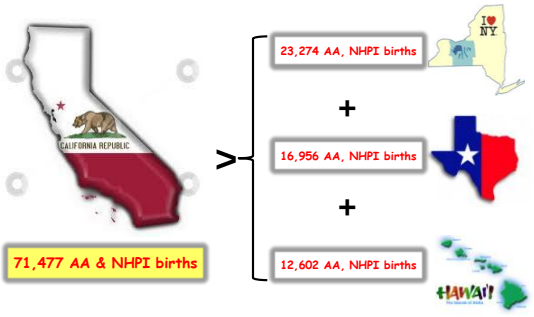
The AA and NHPI community is very diverse with more than 50 race/ethnic groups who speak over 100 different languages.

Data source: U.S. Census Bureau, Overview of Race and Hispanic Origin: 2010, March 2011. http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf

Nearly one-third of the Asian, Native Hawaiian, and Pacific Islanders live in California.

Data source: U.S. Census Bureau, Overview of Race and Hispanic Origin: 2010, March 2011. http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf

In 2009, the largest number of births to Asian American, Native Hawaiian, and Pacific Islander women occurred in California followed by New York, Texas and Hawaii.



Data Source: Martin JA, Hamilton BE, Ventura SJ, Osterman MJK, Kirmeyer S, Mathews TJ, Wilson EC. Births: Final data for 2009. National vital statistics reports; vol 60 no 1. Hyattsville, MD: National Center for Health Statistics. 2011.

Factors facing the Asian American, Native Hawaiian, Pacific Islander Community

- Disparities in access to quality care and use of health care exist for Asian American, Native Hawaiian, and Pacific Islander women and their infants.
- Family characteristics, socioeconomic and geographic contexts, as well as social factors may also account for variation in outcomes.
- Individual, familial, and cultural traditions surrounding pregnancy and childbirth are important to providing services that are culturally and linguistically meaningful.

Source: Asian & Pacific Islander American Health Forum, Maternal and Child Health of Asian Americans, Native Hawaiians, & Pacific Islanders. Available at: http://www.apiahf.org/sites/default/files/APIAHF%20Maternal%20and%20Child%20Health%20of%20AANHPI.pdf

Methods

California live-born, singleton births between 2009 and 2010

Birthweight ≤ 227 grams
Birthweight ≥ 8165 grams
Unknown birthweight

Exclusion Criteria

Self-reported maternal race/ethnicity Code

RACE-ETHNICITY OF MOTHER (CODE 1)

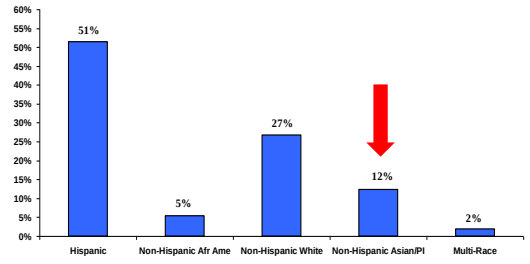
10 = WHITE	46 = ASIAN-CAMBODIAN	55 = GUAMANIAN
20 = BLACK	47 = ASIAN-THAI	56 = SAMOAN
30 = AMERICAN INDIAN	48 = ASIAN-LAOTIAN	57 = ESKIMO
40 = ASIAN-UNSPECIFIED	49 = ASIAN-HMONG	58 = ALEUT
41 = ASIAN-SPECIFIED	51 = OTHER-SPECIFIED	59 = PACIFIC ISLANDER
42 = ASIAN-CHINESE	52 = INDIAN (EXCL. AMER INDIAN, ALEUT & ESKIMO)	(EXCL. HAWAIIAN, GUAMANIAN, SAMOAN)
43 = ASIAN-JAPANESE		
44 = ASIAN-KOREAN	53 = FILIPINO	98 = REFUSED TO STATE
45 = ASIAN-VIETNAMESE	54 = HAWAIIAN	99 = UNKNOWN

Methods (Cont'd)

Age: <20, 20-34, 35+ years
Education: < High School, High School, Some College, College +
Parity: one, >1
1st Trimester Prenatal Care: Yes, No
Delivery Method: Vaginal, Cesarean
Delivery Payer: Private, Medi-Cal, Other
Maternal Place of birth: US Born, Foreign Born

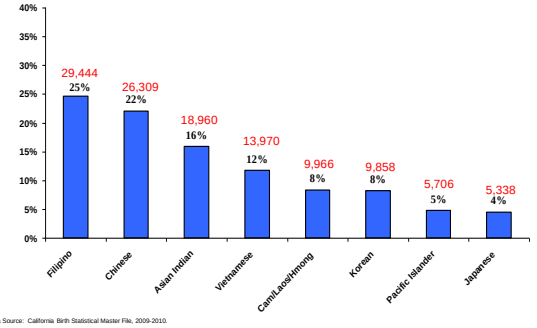
- **Low birthweight (LBW) was examined outcome measure**
- **LBW defined as birthweight <2500 g**

Approximately 12.4% (or 124,092) of births in 2009-2010 were to Asian/Pacific Islander mothers.



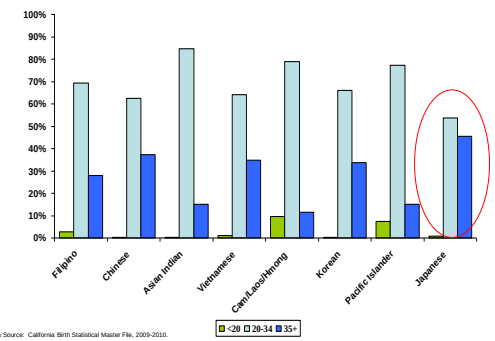
Data Source: California Birth Statistical Master Files, 2009-2010.

Asian subgroups that had the most births in 2009-2010.



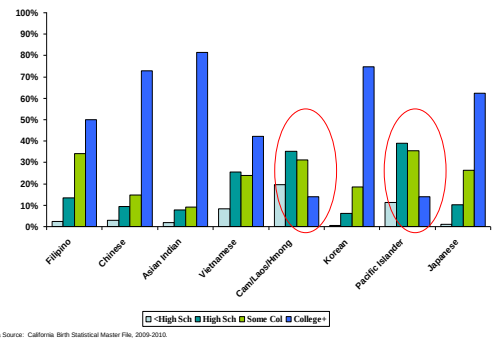
Data Source: California Birth Statistical Master File, 2009-2010.

Maternal age by Asian subgroups, California singleton live births, 2009-2010



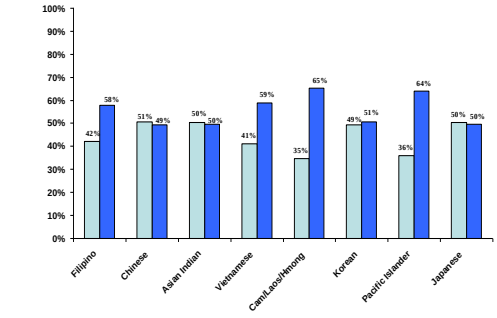
Data Source: California Birth Statistical Master File, 2009-2010.

Maternal education by Asian subgroups, California singleton live births, 2009-2010



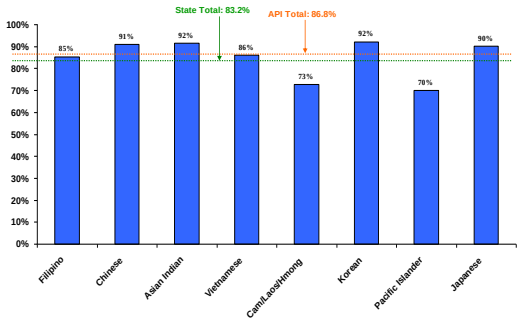
Data Source: California Birth Statistical Master File, 2009-2010.

Parity by Asian subgroups, California singleton live births, 2009-2010



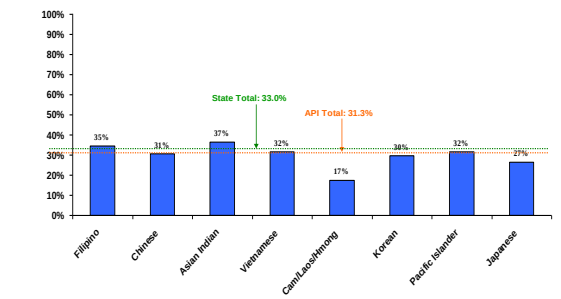
Data Source: California Birth Statistical Master File, 2009-2010.

1st Trimester prenatal care initiation by Asian subgroups, California singleton live births, 2009-2010



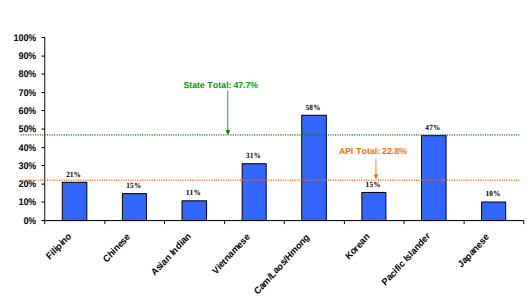
Data Source: California Birth Statistical Master File, 2009-2010.

Percent cesarean delivery by Asian subgroups, California singleton live births, 2009-2010



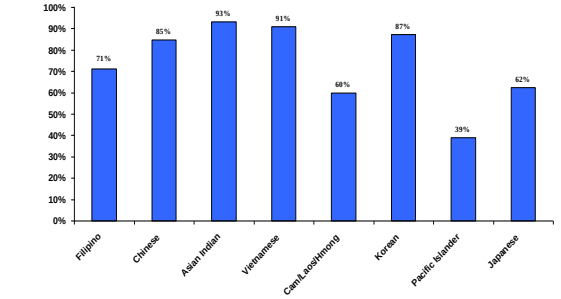
Data Source: California Birth Statistical Master File, 2009-2010.

Percent Medi-Cal delivery payer by Asian subgroups, California singleton live births, 2009-2010



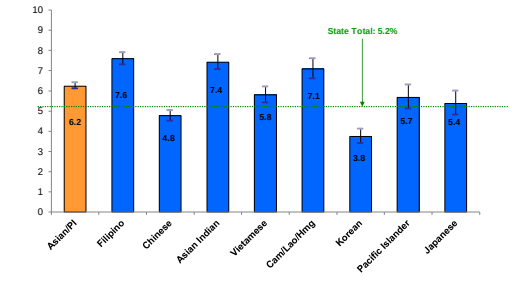
Data Source: California Birth Statistical Master File, 2009-2010.

Percent foreign-born moms by Asian subgroups, California singleton live births, 2009-2010



Data Source: California Birth Statistical Master File, 2009-2010.

Low birthweight (<2500 g) rate by Asian subgroups, California singleton live births, 2009-2010



Data Source: California Birth Statistical Master File, 2009-2010.

Multivariate Logistic Regression Analysis: Asian Indian and Filipinos are twice as likely to have LBW infants.

	Adjusted Odds Ratio	95% Confidence Interval	
		Lower	Upper
Asian Subgroups (reference = White)			
Chinese	1.35	1.25	1.45
Cambodian/Lao	1.91	1.75	2.08
Filipino	2.18	2.06	2.31
Asian Indian	2.32	2.17	2.50
Japanese	1.56	1.36	1.79
Korean	1.08	0.96	1.21
Pacific Islander	1.39	1.22	1.59
Vietnamese	1.60	1.47	1.73

Controlling for: maternal age, education, parity, 1st trimester prenatal care, delivery payer, maternal place of birth, and delivery method.

Data Source: California Birth Statistical Master File, 2009-2010.

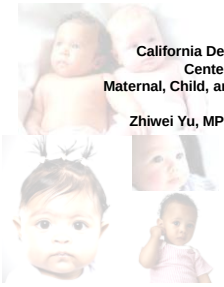
Conclusion & Public Health Implications

- Maternal characteristics vary greatly across the different Asian American, Native Hawaiian, and Pacific Islander subgroups.
- When possible, Asian subgroups should NOT be grouped into a single category for health outcome analyses.
- Heterogeneity should be considered when developing clinical and public health intervention efforts that target Asian subgroups.

Limitations and Next Steps

- Absence of some data, and the quality of data in the birth file.
- Further analyses with more detailed survey instrument, such as the California Maternal Infant Health Assessment (MIHA) could improve our knowledge of subgroup variation in risk factors.
- Linking the birth file with hospital discharge data could also help understand maternal health at the time of delivery which may impact birth outcomes.

Contact Information



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